COLORADO
Water Quality
Control Commission
Department of Public Health & Environment

NOTICE OF PUBLIC RULEMAKING HEARING
BEFORE THE
COLORADO WATER QUALITY CONTROL COMMISSION

SUBJECT:

For consideration of the adoption of revisions to the Basic Standards and Methodologies for Surface Water, Regulation #31 (5 CCR 1002-31) and the Discharge Permit System Regulations, Regulation #61 (5 CCR 1002-61).

Proposed revisions and proposed statement of basis and purpose language have been submitted by the following:

- Exhibit 1, Regulation #31 – Water Quality Control Division
- Exhibit 2, Regulation #31 – Metro Wastewater Reclamation District
- Exhibit 3, Regulation #61 – Water Quality Control Division

In these attachments, proposed new language is shown with double-underlining and proposed deletions are shown with ~~strikeouts~~. Any alternative proposals related to the revisions proposed in Exhibits 1 through 3 and developed in response to those proposals will also be considered.

SCHEDULE OF IMPORTANT DATES:

Proponents' prehearing statements due	March 9, 2016 5 pm	Additional information below.
Party status requests due	March 30, 2016 5 pm	Additional information below.
Responsive prehearing statements due	April 20, 2016 5 pm	Additional information below.
Rebuttal statements due	May 23, 2016 5 pm	Additional information below.
Last date for submittal of motions	May 25, 2016 5 pm	Additional information below.
Notify commission office if participating in prehearing conference by phone	May 27, 2016 noon	Send email to cdphe.wqcc@state.co.us with participant(s) name(s)
Prehearing conference (mandatory for parties)	May 31, 2016 1:00 pm	Florence Sabin Conference Room Department of Public Health and Environment 4300 Cherry Creek Drive South Denver, CO 80246
Non-party written comment	June 1, 2016	Additional information below.
Rulemaking hearing	June 13, 2016 9:30 am	Florence Sabin Conference Room Department of Public Health and Environment 4300 Cherry Creek Drive South Denver, CO 80246

TRIENNIAL REVIEW PROCESS OVERVIEW:

This rulemaking hearing is the third and final step in a three-step process for triennial review of water quality classifications and standards in Colorado. The first step is an issues scoping hearing which provides an opportunity for early identification of potential issues that may need to be addressed in the next major rulemaking hearing, and for identification of any issues that may need to be addressed prior to that time. The issues scoping hearing for this regulation was held in October 2014. The second

step in the triennial review process, the issues formulation hearing, results in the identification of specific issues to be addressed in the next major rulemaking. The issues formulation hearing for this regulation was held in November 2015. The third step is the rulemaking hearing where any revisions to the water quality classifications and standards are formally adopted. Information regarding triennial reviews of water quality classifications and standards is provided on the commission's website.

HEARING SUBMITTALS:

For this hearing, the commission will receive all submittals electronically. Submittals must be provided as PDF documents, except for raw data exhibits which may be provided as Excel workbooks. Submittals may be emailed to cdphe.wqcc@state.co.us, provided via an FTP site, CD or flash drive, or otherwise conveyed to the commission office so as to be received no later than the specified date.

PARTY STATUS:

Party status requests must be in writing and must provide:

- the organization's name,
- one contact person,
- a mailing address,
- a phone number, and
- email addresses of all individuals associated with the party who wish to be notified when new submittals are available on the commission's website.

In accordance with section 25-8-104(2)(d), C.R.S., any person who believes that the actions proposed in this notice have the potential to cause material injury to his or her water rights is requested to so indicate, along with an explanation of the alleged harm, in their party status request.

The commission encourages informal discussions among the parties, the division and other interested persons prior to the hearing in an effort to reach consensus or to develop proposed resolutions of issues and/or narrow the issues potentially in dispute. **The commission strongly encourages that any multi-party/division proposals for the resolution of issues (including proposed statement of basis and purpose language whenever feasible) be submitted as part of the administrative record as early as possible, but at least by the prehearing conference.**

PREHEARING AND REBUTTAL STATEMENTS:

Each party that has proposed revisions must submit a proponent's prehearing statement.

Each prehearing and rebuttal statement must be provided as a separate PDF document from any accompanying written testimony or exhibits.

Following the rebuttal statement due date, no other written materials will be accepted from parties except for good cause shown.

Oral testimony at the hearing should primarily summarize written material previously submitted. The hearing will emphasize commission questioning of parties and other interested persons about their written prehearing submittals. Introduction of written material at the hearing by those with party status will not be permitted unless authorized by the commission.

PREHEARING CONFERENCE:

Attendance at the prehearing conference is mandatory for all persons requesting party status. Parties needing to participate by telephone can call 1-857-216-6700 and enter the conference code 425132.

Following the cut-off date for motions, no motions will be accepted, except for good cause shown.

PUBLIC PARTICIPATION ENCOURAGED:

The commission encourages input from non-parties, either orally at the hearing or in writing prior to or at the hearing. Written submissions should be emailed to cdphe.wqcc@state.co.us by June 1, 2016.

SPECIFIC STATUTORY AUTHORITY:

The provisions of sections 25-8-202(1)(b) and (d); 25-8-204; 25-8-402; 25-8-501; and 25-8-504, C.R.S., provide the specific statutory authority for consideration of the regulatory amendments proposed by this notice.

Should the Commission adopt the regulatory language as proposed in this notice or alternative amendments, it will also adopt, in compliance with section 24-4-103(4) C.R.S., an appropriate Statement of Basis, Specific Statutory Authority, and Purpose.

Dated this 8th day of February, 2016 at Denver, Colorado.

WATER QUALITY CONTROL COMMISSION

Trisha Oeth, Administrator

EXHIBIT 1
WQCD PROPOSAL

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

WATER QUALITY CONTROL COMMISSION

REGULATION NO. 31

THE BASIC STANDARDS AND METHODOLOGIES FOR SURFACE WATER (5 CCR 1002-31)

31.1 AUTHORITY AND SCOPE

This regulation is promulgated pursuant to 25-8-101 et seq., and in particular, 25-8-203 and 25-8-204, C.R.S. It provides basic standards, an antidegradation rule and implementation process, and a system: for classifying state surface waters; for assigning water quality standards; for granting temporary modifications and for periodic review of the classifications and standards.

31.2 PURPOSE

This regulation establishing basic standards and an antidegradation rule and implementation process and establishing a system for classifying state surface waters, for assigning standards, and for granting temporary modifications (hereinafter referred to as "Regulation") is the foundation for the classification of the state surface waters of Colorado, as prescribed by the Colorado Water Quality Control Act.

It is intended to implement the state Act by maintaining and improving the quality of the state surface waters. This regulation is based on the best available knowledge to insure the suitability of Colorado's waters for beneficial uses including public water supplies, domestic, agricultural, industrial and recreational uses, and the protection and propagation of terrestrial and aquatic life.

It is further intended to be consistent with the 1983 and 1985 goals and objectives of the federal Act. This regulation shall be constructed in a manner consistent with these purposes and shall be considered part of the implementation of the 1983 and 1985 goals and objectives.

31.3 INTRODUCTION

This regulation presents a classification system which establishes beneficial use categories together with basic standards (section 31.11), an antidegradation rule (section 31.8), and numeric tables which define the conditions generally necessary to maintain and attain such beneficial uses. In addition, it establishes procedures for classifying the waters of the state, for assigning water quality standards, and for continued review of the classifications and standards.

The classifications set forth in section 31.13 will be assigned by applying the system to specific state surface waters, in accordance with proper procedures, including public hearings. The basic standards and the antidegradation rule will apply to all state surface waters at the effective date of this regulation. Whenever a specific stream segment or body of water receives a classification for one or more of the uses, additional numeric standards may be assigned. When appropriate, achieving water quality standards through innovative solutions or management approaches may be implemented through control regulations, TMDLs Waste Load Allocations, antidegradation reviews and permits. All classified uses will

be protected. This does not mean that any entity has the right to rely on the presence of specific pollutants in the stream even though those pollutants may be utilized by the entity.

In assigning classifications and standards, the Commission shall take into consideration the water quality classifications and standards of downstream waters and shall ensure that as implemented through its policies, the water quality classifications and standards of downstream waters will be attained and maintained.

Water quality standards, temporary modifications of numeric standards, and classifications shall be reviewed at least once every three (3) years and revised where appropriate. No provisions of this regulation shall be interpreted so as to supercede, abrogate, or impair rights to divert water and apply water to beneficial uses.

31.4 DELETED

31.5 DEFINITIONS

See the Colorado Water Quality Control Act, section 25-8-101 et seq., C.R.S., and the codified water quality regulations additional definitions.

(1) "ACT" means the Colorado Water Quality Control Act, section 25-8-101 et seq., C.R.S..

(2) "ACUTE STANDARD" means the level not to be exceeded by the concentration for either a single sample or calculated as an average of all samples collected during a one-day period, except for temperature, which shall be based on the DM (see DM definition). As used in tables II and III, acute represents one-half of the LC-50 that protects 95 percent of the genera in a waterbody from lethal effects. The acute standard is implemented in combination with a selected duration and frequency of recurrence (section 31.9(1)). In determining attainment of the applicable acute standard, the representative nature of the data must be considered.

(3) "ANTIDEGRADATION RULE" means the rule established in section 31.8.

(4) "BASIC STANDARDS" means those standards as established in section 31.11.

(5) "BENEFICIAL USES" means those uses of state surface waters to be protected such as those identified in the classification system.

(6) "BMP" (Best Management Practices) means a practice or a combination of practices that is determined by a governmental agency after problem assessment, examination of alternative practices, and appropriate public participation, to be the most effective, practicable (including technological, economic; and institutional considerations) means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with quality goals.

(7) "CHRONIC STANDARD" means the level not to be exceeded by the concentration for either a single representative sample or calculated as an average of all samples collected during a thirty-day period, except for temperature, which shall be based on the WAT (see WAT definition). As used in tables II and III, chronic represents the level that protects 95 percent of the genera from chronic toxic effects. Chronic toxic effects include, but are not limited to, demonstrable abnormalities and adverse effects on survival, growth, or reproduction. The chronic standard is implemented in combination with a selected duration and frequency of recurrence (section 31.9(1)). In determining attainment of the applicable chronic standard, the representative nature of the data must be considered.

(8) "COLD WATER BIOTA" means aquatic life, including trout, normally found in waters where the summer weekly average temperature does not frequently exceed 20 ºC.

(9) "COMMISSION" means the Colorado Water Quality Control Commission.

(10) "COMPENSATORY WETLANDS" means wetlands developed for mitigation of adverse impacts to other wetlands (e.g. wetlands developed pursuant to section 404 of the federal Act).

(11) "CONSTRUCTED WETLANDS" means those wetlands intentionally designed, constructed and operated for the primary purpose of wastewater or stormwater treatment or environmental remediation provided under CERCLA, RCRA, or section 319 of the federal Act, if (a) such wetlands are constructed on non wetland sites that do not contain surface waters of the state, or (b) such wetlands are constructed on previously existing wetland sites, to the extent that approval or authorization under section 404 of the federal Act has been granted for such construction or it is demonstrated that such approval or authorization is not, or was not, required. This term includes, but is not limited to, constructed swales, ditches, culverts, infiltration devices, catch basins, and sedimentation basins that are part of a wastewater or stormwater treatment system or a system for environmental remediation mandated under CERCLA or RCRA. Compensatory wetlands shall not be considered constructed wetlands. Constructed wetlands are not state waters.

(12) "CREATED WETLANDS" means those wetlands other than compensatory wetlands created in areas which would not be wetlands in the absence of human modifications to the environment. Created wetlands include, but are not limited to wetlands created inadvertently by human activities such as mining, channelization of highway runoff, irrigation, and leakage from man-made water conveyance or storage facilities. Wetlands resulting from hydrologic modifications such as on-channel reservoirs or on-channel diversion structures that expand or extend the reach of adjacent classified state waters are not considered created wetlands.

(13) "DAILY MAXIMUM TEMPERATURE (DM)" means the highest two-hour average water temperature recorded during a given 24-hour period.

(14) "DISSOLVED METALS" means that portion of a water and suspended sediment sample which passed through a 0.40 or 0.45 um (Micron) membrane filter. Determinations of "Dissolved" constituents are made using the filtrate. This may include some very small (Colloidal) suspended particles which passed through the membrane filter as well as the amount of substance present in true chemical solution.

(15) "DIVISION" means the Division of Administration of the Colorado Department of Public Health and Environment of which the Water Quality Control Division is a part.

(16) "*E.coli*" means *Escherichia coli*.

(17) "EFFLUENT-DEPENDENT STREAM" means a stream that would be ephemeral without the presence of wastewater effluent, but has continuous or periodic flows for all or a portion of its reach as the result of the discharge of treated wastewater.

(18) "EFFLUENT-DOMINATED STREAM" means a stream that would be intermittent or perennial without the presence of wastewater effluent whose flow for the majority of the time is primarily attributable to the discharge of treated water (i.e. greater than 50 percent of the flow consists of treated wastewater for at least 183 days annually, for eight out of the last ten years).

(19) "EPHEMERAL STREAM" means a stream channel or reach of a stream channel that carries flow during, and for a short duration as the result of, precipitation events or snowmelt. The channel bottom is always above the groundwater table.

(20) "EXISTING QUALITY" means the numeric value that represents the quality of a water body and is generally used for comparison with the water quality standard. Existing quality shall be calculated as:

- Total ammonia, nitrate, and the dissolved metals: 85th percentile ~~of the data for total ammonia, nitrate, and the dissolved metals,~~
- ~~the 50th percentile for t~~Total recoverable metals:~~,~~ 50th percentile ~~for~~
- ~~the 15th percentile of such data for d~~Dissolved oxygen: ~~,~~ 15th percentile
- ~~the geometric mean of such data for~~ *E. coli:* geometric mean~~and~~
- pH: the range between the 15th and 85th percentiles ~~for pH~~
- ~~F~~or tTemperature~~,~~: for the purposes of implementing the acute and chronic standard, "existing quality" means the maximum ~~WAT in a three year period.~~ DM and WAT in a period of record which corresponds to a once in 3 year allowable exceedance frequency as presented in the following table:

Years of Data	Existing Quality MWAT or DM
1	Highest annual MWAT or DM
2	Highest annual MWAT or DM
3	Highest annual MWAT or DM
4	2nd highest annual MWAT or DM
5	2nd highest annual MWAT or DM
6	2nd highest annual MWAT or DM
7	3rd highest annual MWAT or DM
8	3rd highest annual MWAT or DM

For monthly analysis, the monthly MWAT is the highest WAT observed in each month or the Existing Quality MWAT, whichever is smaller. The monthly DM is the highest DM observed in each month or the Existing Quality DM, whichever is smaller.

(21) "FEDERAL ACT" means the Clean Water Act, U.S.C. Section 1251 et seq., as amended.

(22) "FIRST (1st) ORDER STREAM" means a stream that has no tributaries, based on USGS mapping at 1:100,000 scale.

(23) "FLOODPLAIN" means any flat or nearly flat lowland that borders a stream, a lake, or an on-channel reservoir and that may be covered by its waters at flood or high stage as described by the parameter of the probable maximum flood or probable maximum high stage.

(24) "HIGHEST ATTAINABLE USE" means the modified use that is both closest to the uses specified in section 31.13 and attainable based on the evaluation of the factors in 31.6(2)(b) that preclude attainment of the use and any other information or analyses that were used to evaluate attainability.

(~~24~~25) "LC-50" means the concentration of a parameter that is lethal to 50% of the test organisms within a defined time period.

(~~25~~26) "MAXIMUM WEEKLY AVERAGE TEMPERATURE (MWAT)" ~~means an implementation statistic that is calculated from field monitoring data.~~means ~~calculated as~~ the largest ~~mathematical mean~~

~~of multiple, equally spaced temperatures over a seven-day consecutive period, with a minimum of three data points spaced equally through the day.~~WAT in the period of interest. For lakes and reservoirs, the summertime MWAT is assumed to be equivalent to the maximum WAT from at least three profiles distributed throughout the growing season (generally July-September).

(~~26~~27) "MIXED LAYER" means that part of a lake that is well-mixed by wind action and can be expected to have relatively homogeneous physical and chemical conditions. In a thermally stratified lake, the mixed layer corresponds to the *epilimnion*; in an unstratified lake, the mixed layer extends to the bottom. The vertical extent of the mixed layer usually is determined by inspection of a vertical profile of temperature.

(~~27~~28) "MIXING ZONE" means that area of a water body designated on a case-by-case basis by the Division which is contiguous to a point source and in which certain standards may not apply.

(~~28~~29) "NUMERIC VALUE" means the measured concentration of a parameter.

(~~29~~30) "PARAMETER" means the chemical constituents or other characteristics of the water such as algae, *E. coli*, total dissolved solids, dissolved oxygen, or the magnitude of radioactivity levels, temperature, pH, and turbidity, or other relevant characteristics.

(~~30~~31) "PERMIT" means a National Pollutant Discharge Elimination System (NPDES) permit, a Colorado Discharge Permit System (CDPS) permit, or other state water quality permit.

(~~31~~32) "POTENTIALLY DISSOLVED METALS" means that portion of a constituent measured from the filtrate of a water and suspended sediment sample that was first treated with nitric acid to a pH of less than 2.0 and let stand for 8 to 96 hours prior to sample filtration using a 0.4 or 0.45 μm membrane filter. Note the "Potentially Dissolved" method cannot be used where nitric acid will interfere with the analytical procedure used for the constituent measured.

(~~32~~33) "PRIMARY CONTACT RECREATION" means recreational activities where the ingestion of small quantities of water is likely to occur. Such activities include but are not limited to swimming, rafting, kayaking, tubing, windsurfing, water-skiing, and frequent water play by children.

(~~33~~34) "REGIONAL WASTEWATER MANAGEMENT PLAN" means a water quality planning document prepared pursuant to section 208 of the federal Act, sometimes referred to as "208 Plans" or "Water Quality Management Plans."

(~~34~~35) "REPRODUCTIVE SEASON" means the portion of the year when fish migration, spawning, egg incubation, fry rearing or other reproductive functions occur.

(~~35~~36) "SALINITY" means total dissolved solids (TDS).

(~~36~~37) "SECOND (2nd) ORDER STREAM" means a stream which begins downstream of the confluence of two first (1st) order streams and ends downstream of the confluence of two second (2nd) order streams, based on USGS mapping at 1:100,000 scale.

(~~37~~38) "STANDARD" means a narrative and/or numeric restriction established by the Commission applied to state surface waters to protect one or more beneficial uses of such waters. Whenever only numeric or only narrative standards are intended, the wording shall specifically designate which is intended.

(~~38~~39) "STATE WATERS" means any and all surface and subsurface waters which are contained in or flow in or through this state, but does not include waters in sewage systems, waters in treatment works of disposal systems, waters in potable water distribution systems, and all water withdrawn for use until use and treatment have been completed.

(~~39~~40) "TABLES" means tables I, II, and III, appended to this regulation, which set forth accepted levels for various parameters which will generally protect the beneficial uses of state surface waters.

(~~40~~41) "THIRD (3rd) ORDER STREAM" means a stream which begins at the confluence of two second (2nd) order streams and ends downstream of the confluence of two third (3rd) order streams, based on USGS mapping at 1:100,000 scale.

(~~41~~42) "TOTAL RECOVERABLE METALS" means that portion of a water and suspended sediment sample measured by the total recoverable analytical procedure described in "Methods for Chemical Analysis of Water and Wastes," U.S. Environmental Protection Agency, March, 1979, or its equivalent.

(~~42~~43) "TRIBUTARY WETLANDS" means wetlands that are the head waters of surface waters or wetlands within the floodplain that are hydrologically connected to surface waters via either surface or ground water flows. The hydrologic connection may be intermittent or seasonal, but must be of sufficient extent and duration to normally reoccur annually. Tributary wetlands do not include constructed or created wetlands.

(~~43~~44) "USE ATTAINABILITY ANALYSIS" means an assessment of the factors affecting the attainment of aquatic life uses or other beneficial uses, which may include physical, chemical, biological, and economic factors.

(~~44~~45) "USES" see Beneficial Uses.

(~~45~~46) "WARM WATER BIOTA" means aquatic life normally found in waters where the summer weekly average temperature frequently exceeds 20 ° C.

(~~46~~47) "WATER QUALITY-BASED DESIGNATION" means a designation adopted by the Commission for specific state surface waters pursuant to section 31.8(2), to identify which level of water quality protection such waters will receive under the Antidegradation Rule in section 31.8(1). Such designations are adopted pursuant to the Commission's authority to classify state waters, as set forth in section 25-8-203, C.R.S., and the procedural requirements for classifying state waters shall be applied in adopting such designations.

(~~47~~48) "WATER EFFECT RATIO" means a ratio that is computed as a specific pollutant's acute or chronic toxicity value measured in water from the site covered by a standard, divided by the respective acute or chronic toxicity value in laboratory dilution water, as more specifically defined in 40 C.F.R. subsection 131.36(c) (1993).

(~~48~~49) "WATER QUALITY STANDARD" see Standard.

(~~49~~50) "WEEKLY AVERAGE TEMPERATURE (WAT)" means the average of ~~a mathematical mean of multiple, equally spaced,~~ daily average temperatures over a seven-day consecutive period, with a minimum of three data points spaced equally through ~~the~~ each day. For lakes and reservoirs, the WAT is assumed to be equivalent to the average temperature of the mixed layer. The average temperature of the mixed layer is determined from a vertical profile of equally-spaced temperature measurements, separated by not more than one meter.

(~~50~~51) "WETLANDS" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

31.6 PROCESS FOR ASSIGNING CLASSIFICATIONS

The Commission is responsible for classifying state waters as set forth in sections 25-8-202(1)(a), and 25-8-203, C.R.S. All state surface waters may be classified in one or more of the use classifications as set forth in section 31.13.

Waters shall be classified for the present beneficial uses of the water, or the beneficial uses that may be reasonably expected in the future for which the water is suitable in its present condition or the beneficial uses for which it is to become suitable as a goal. The assignment of one or more classifications to a portion of the state surface waters is based upon its current suitability for the designated uses or goals for future uses. Where the use classification is based upon a future use for which the waters are to become suitable, the numeric standards assigned to such waters to protect the use classification may require a temporary modification to the underlying numeric standard and an implementation plan for eliminating the temporary modification.

When assigning classifications to waters of a given area, the Commission will consider the goals, objectives, and requirements of federal and state statutes and regulations, recommendations of the regional wastewater management plans (208 plans); 208 plans of adjoining regions; testimony, comments, and documents presented at public hearings on the issue; and other relevant information.

(1) Considerations in Assigning Classifications

The following will serve to guide the Commission in assigning classifications:

(a) Classifications should be directed towards the realization of the water quality goals as set forth in the federal and state Acts.

(b) It is state law and policy to prevent any water quality degradation that can interfere with present uses.

(c) Upstream classifications must not jeopardize downstream classifications or actual uses.

(d) Classification must protect all current classified and actual uses, unless it is determined after a public hearing that downgrading is justifiable. (See section 31.6(2)(b)).

(e) Classifications should be for the highest water quality attainable. Attainability is to be judged by whether or not the use classification can be attained in approximately twenty (20) years by any recognized control techniques that are environmentally, economically, and socially acceptable as determined by the Commission after public hearings. At a minimum, uses are deemed attainable if they can be achieved by the imposition of effluent limits required under the federal Act for point sources and cost-effective and reasonable best management practices for nonpoint source control, in accordance with duly adopted regulations.

(f) Relevant physical, chemical and biological characteristics are valid water quality concerns that may be taken into account in the classification process.

(2) Upgrading and Downgrading

(a) Upgrading

The state shall maintain those water use classifications which are currently being attained. Where existing classifications specify fewer designated water uses than those which are presently being attained, the Commission shall upgrade the designated classification to reflect the uses actually being attained.

(b) Downgrading

At a minimum, the state shall maintain those water use classifications currently designated, unless it can be demonstrated that the existing classification is not presently being attained and cannot be attained within a twenty (20) year time period. Nonattainability must be due to at least one or more of the following conditions:

(i) Naturally occurring pollutant concentrations prevent the attainment of the use within a twenty (20) year period; or

(ii) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating state water conservation requirements to enable uses to be met; or

(iii) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied within a twenty (20) year period or would cause more environmental damage to correct than to leave in place; or

(iv) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment ~~or~~of the use; or

(v) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or

(vi) Controls more stringent than those required by section 301(b) and 306 of the federal Act would result in substantial and widespread economic and social impact; or

(vii) Agricultural practices which are considered satisfactory for the locality. It must be demonstrated that these agricultural practices preclude the present classifications. Satisfactory practices will be approved by the Commission based on evidence from areawide 208 agencies, soil conservation districts, agricultural extension services and other public input.

An additional reason for revising classifications will be where previous classifications had no basis in fact and did not reflect actual beneficial uses. Such corrections to classifications shall not be considered downgrading. See e.g., section 31.6(3)(b) regarding hearings pursuant to section 25-8-207, C.R.S.

(3) Procedures for Assigning or Changing Classifications

(a) General

(i) Assigning or changing a classification shall be accomplished by rule after a rulemaking hearing. Rulemaking hearings to consider a classification will be conducted according to the Procedural Regulations of the Commission. At a minimum, the Commission shall review classifications once every three years. Any interested person have shall have the right to petition the Commission to assign or change a stream classification. Such petition shall be open to the public inspection. Except as provided below, pursuant to section 24-4-103(7), C.R.S., action on such petition shall be within the discretion of the Commission. The Commission may also decide to consider a classification on its own motion.

(ii) In making a decision regarding a proposed classification, the Commission will consider the principles set forth in this regulation. The decision will be made by the Commission applying its expertise after analyzing the evidence presented at public hearing and

considering the requirements of law, its own policies, and all other matters deemed pertinent in the discretion of the Commission.

(iii) Where the classifications of a water body segment do not include an aquatic life classification or recreation class E, P, or U, as a part of the triennial review of the segment the Division shall review any prior use attainability analyses or other basis for omission of one or more of the above classified uses. If the justification for the omission is determined not to be consistent with accepted use attainability procedures, the Division or other party, if any, advocating the omission shall perform a supplemental analysis to provide a basis for a Commission determination whether such uses are attainable. When the Commission wishes to remove an aquatic life class 1 or 2 or recreation class E, P, or U classification, the Division shall conduct or the Commission shall require the petitioner to conduct, in consultation with the Division, a use attainability analysis to justify the proposed change.

(b) Section 25-8-207

(i) Procedural requirements relating to reviews pursuant to section 25-8-207, C.R.S., are set forth in the Procedural Regulations, Regulation No. 21, 5 CCR 1002-21.

(ii) The Commission shall, upon petition, or upon its own motion, review existing stream standards, classifications or water quality designations in subsection (iii) below. The Commission may revise stream standards, classifications and designations pursuant to the criteria listed in subsection (iv) below.

(iii) The Commission shall make a finding of inconsistency, taking into account sections 25-8-102 and 25-8-104, C.R.S., if a water quality designation does not conform with the provisions of section 25-8-209 or if the existing use classification(s) or water quality standards:

(A) are more stringent than is necessary to protect fish life, shellfish life, and wildlife in water body segments which are reasonably capable of sustaining such fish life, shellfish life, and wildlife from the standpoint of physical, streambed, flow, habitat, climatic and other pertinent characteristics. Where such characteristics are adequate to support the use, use classifications shall be adopted or retained to protect aquatic life which constitutes a significant source of food supply for the fish, shellfish, or wildlife that is the basis for the classified use; or

(B) were adopted based upon material assumptions that were in error or no longer apply.

(iv) As a result of any hearing held pursuant to this section, the Commission may revise or change use classifications, water quality standard(s) or water quality designations in accordance with the criteria contained in the Act or whenever necessary to insure compliance with the other provisions of this regulation.

(v) Where the Commission determines that an inconsistency exists, it shall declare the inconsistent classification, standards or designations void ab initio and shall simultaneously establish appropriate classifications, standards or designations.

(4) Segmentation

(a) For purposes of adopting site-specific classifications and water quality standards, the streams and other surface water bodies shall be identified according to river basin and/or subbasin and specific water segments.

(b) Segments may constitute a specified stretch of a river mainstem, a specific tributary, a specific lake or reservoir, or a generally defined grouping of waters within the basin (e.g., a specific mainstem segment and all tributaries flowing into that mainstem segment).

(c) Segments shall generally be delineated according to the points at which the use, physical characteristics or water quality characteristics of a watercourse are determined to change significantly enough to require a change in use classifications and/or water quality standards. In many cases, such transition points can be specifically identified from available water quality data. In other cases, however, the delineation of segments shall be based upon best judgments of where instream changes in uses, physical characteristics or water quality occur, based upon upstream and downstream data.

(d) Segment descriptions, unless specified by the Commission, are to mean that any boundary reference other than those that begin at the "source" means to be "immediately above" that reference.

31.7 PROCESS FOR ASSIGNING STANDARDS AND GRANTING, EXTENDING, OR REMOVING TEMPORARY MODIFICATIONS AND VARIANCES

Overview: Assigning or changing a standard or granting, removing before its expiration, or extending a temporary modification or variance shall be accomplished by a rule after a rulemaking hearing. The procedures for taking such action shall be the same as the procedures for assigning or changing classifications. See section 31.6(3)(a)(i).

(1) Assigning Standards

The Commission is responsible for promulgating water quality standards as set forth in section 25-8-204, C.R.S. Standards may be narrative and/or numeric and include the following:

(a) Basic Standards

The basic standards in section 31.11 shall apply to all state surface waters at the effective date of the regulation.

(b) Numeric Standards

A numeric standard may be assigned by the Commission either to apply on a statewide basis or to specific state surface waters. A numeric standard will be assigned by the Commission when it is presented with evidence that a particular numeric level for a parameter is the suitable limit for protecting the classified use. A numeric standard consists of a numeric level and may include a description as to how that numeric level is to be measured. Numeric standards will include appropriate averaging periods and appropriate frequencies of allowed excursions. A numeric standard may be exceeded due to temporary natural conditions such as unusual precipitation patterns, spring runoff or drought. Such uncontrollable conditions are not cause for changing the numeric standard.

A temporary modification of a numeric standard may be granted by the Commission if the numeric standard is not being met at the present time, but such numeric standard is necessary to allow the full attainment of the classified use.

Numeric standards will be assigned based on the evidence presented at the classification and numeric-standard-setting hearings. Numeric standards may not necessarily be assigned for all constituents listed in the tables. In making this determination, the Commission will consider the likelihood of such constituents being present in the waters in question naturally or due to point or nonpoint sources, and shall consider the significance of the constituents with respect to protection

of the classified uses. Entities having specific water quality data for the waters being classified, such as 208 agencies, local municipalities and industries, and citizens' groups, the Water Quality Control Division, state and federal agencies, environmental organizations, and other interested persons are encouraged to present such information.

The Commission may use any of the following approaches to establish site-specific numeric standards, as it determines appropriate with respect to specific state surface waters. Existing site-specific standards shall remain in effect until superceded by revised standards promulgated pursuant to this section:

(i) Table Value Standards

The Commission may apply the numeric levels set forth in tables I, II, and III as site-specific standards when those levels are determined to be appropriate to protect the applicable classified uses, and the available site-specific information does not indicate that one of the following alternative approaches to numeric standards would be more appropriate. Acute and chronic standards may be adopted. Numeric standards may not necessarily be assigned for all constituents listed in the tables. Standards for metals may be established by site-specific adoption of the hardness-dependent equations in table III, instead of single-value numeric standards. The numeric levels for various parameters in tables I, II, and III, are levels determined by the Commission after careful analysis of all available information and are generally considered to protect the beneficial use classifications. They are intended to guide the Commission and others at the use classification and numeric-standard-setting hearings.

(ii) Ambient Quality-Based Standards

(A) ~~For state surface waters~~ ~~w~~Where ~~evidence has been presented that~~ the natural or irreversible man-induced ambient water quality levels are ~~higher~~ worse than specific numeric levels contained in tables I, II, and III, but are determined adequate to protect ~~classified~~ the highest attainable uses, the Commission may adopt one of the two following types of site-specific ambient quality-based standards:

(I) Feasibility-based Ambient Standard: Where water quality can be improved, but not to the level required by the current numeric standard, a feasibility-based numeric ambient standard may be adopted.

(II) Natural quality-based Ambient Standard: Where no improvement is feasible, or sources and causes are natural, a site-specific numeric standard may be adopted at existing quality.

(B) ~~chronic standards equal to the existing quality of the available representative data. Site-specific acute standards for parameters in Table III shall be based on the 95th percentile value of the available representative data.~~ Ambient-based standards shall generally include two numeric values corresponding to acute (short duration) and chronic (longer duration) water quality conditions, and both values shall identify an allowable exceedance frequency.

(C) Ambient quality-based standards are authorized only where a comprehensive analysis and review is conducted:

(I) Which identifies the sources and causes of the elevated levels and characterizes existing conditions, including spatial and temporal variation;

(II) Where sources and causes are not natural, a comprehensive alternatives analysis identifies the improved water quality conditions (if any) that could result from feasible pollution control alternatives;

(III) Where the supporting analysis includes a rationale for either retaining or revising the current use classification(s); and

(IV) Which characterizes the highest attainable use.

(iii) Site-Specific-Criteria-Based Standards

For state surface waters where an indicator species procedure (water effects ratio), recalculation procedure, use attainability analysis or other site-specific analysis has been completed in accordance with section 31.16(2)(b), or in accordance with comparable procedures deemed acceptable by the Commission, the Commission may adopt site-specific standards as determined to be appropriate by the site-specific study results. For segments assigned aquatic life classifications, where factors other than water quality substantially limit the diversity and abundance of species present, the Commission may adopt site-specific acute or chronic standards as determined to be appropriate based upon available information regarding the waters and the habitat. Recurrence intervals for site-specific-criteria-based standards may be determined on a site-specific basis.

Site-specific-criteria-based standards and ambient quality-based standards for metals shall be based on dissolved metals whenever the Commission determines that the evidence presented is adequate to justify such standards. Site-specific standards for metals in effect prior to July 31, 1988 were generally based on total recoverable metals. Those standards shall remain in effect until superceded by revised standards promulgated pursuant to this section.

(iv) Standards For Surface Waters In Wetlands

(A) Tributary wetlands to which the interim classifications referenced in section 31.13(1)(e)(iv) apply, shall be subject to the following interim standard:

(1) Until such time as the Commission adopts site-specific standards for the tributary wetland, water quality in the wetland shall be maintained for each parameter at whichever of the following levels is less restrictive:

(a) ambient quality, or

(b) that quality which meets the numeric standards (except for numeric standards for pH, dissolved oxygen, and any standard established for the protection of a domestic water supply use) of the tributaries of the surface water segment to which the wetland is most directly hydrologically connected. Where the applicable numeric standard is based on section 31.16, table III, of this regulation, the numeric standard applicable to the wetland may be implemented taking into account the water effect ratio of the pollutant.

(2) Ambient quality shall be determined in accordance with section 31.7(1)(b)(ii) and shall take into account the location, sampling date, and quality of all available data. Ambient quality shall be determined as of the time the first regulatory action is undertaken which requires the identification of water quality standards for wetlands. If available

information is not adequate to otherwise determine or estimate ambient quality, the interim standard set forth in section 31.7(1) (b) (iv) (A) (1) (b) shall apply.

(B) Wetlands for which the Commission has adopted a site-specific "wetlands" classification described in section 31.13(1)(e)(v), shall be subject to numeric standards and designations adopted by the Commission. The Commission shall adopt any numeric standards and designations determined to be appropriate in view of the functions and values to be protected for the wetlands in question.

(C) Created wetlands, shall be subject only to the narrative standards set forth in section 31.11, unless the Commission has adopted the wetlands classification and appropriate numeric standards. All created wetlands will have a use-protected designation unless determined otherwise as a result of a site-specific hearing.

(D) Compensatory wetlands shall be subject to the standards of the segment in which they are located, unless the Commission adopts a wetlands classification and appropriate numeric standards.

(E) All other wetlands which are state waters shall be subject only to the narrative standards set forth in section 31.11, unless the Commission has adopted the wetlands classification and appropriate numeric standards.

(F) The issuance and use of site-specific or individual permits under section 404 of the Clean Water Act, is not precluded by the provisions of sections 31.7, 31.11 or 31.13, except as provided in the 401 certification process under section 25-8-302, C.R.S.

(G) Wetlands water quality standards and classifications shall not be interpreted or applied in a manner that is inconsistent with sections 25-8-102(5) and 25-8-104, C.R.S.

(c) Site-Specific Narrative Standards

(i) Narrative standards may be assigned by the Commission to apply on a specific state surface water where numeric criteria are not required under federal law. Narrative standards will be assigned based on the evidence presented at the classification and numeric-standards-setting hearings, and must protect the classified uses.

(ii) The Commission may adopt a site-specific narrative standard where water quality currently is degraded as a result of historical mining activities and improvement is likely within 20 years, if it determines that such a standard is the most appropriate option to protect existing uses and to promote water quality improvement efforts for the segment(s) in question due to uncertainty regarding what water quality is attainable. Unless the Commission determines that a different approach is appropriate on a site-specific basis, it shall use a statement that the standard(s) for the pollutant(s) in question shall be the chemical concentrations, biological conditions, and/or physical conditions identified by a structured scientific use attainability analysis, or table value standards, if the use attainability analysis is not completed and submitted by a specified date and approved by the Commission. Generally, a numerical temporary modification based on existing ambient quality will also be adopted for the segment(s) and pollutant(s) in question.

(2) Considerations in Assigning Standards

In promulgating water quality standards, the Commission shall consider:

(a) The need for standards which regulate specified pollutants;

(b) Such information as may be available to the Commission as to the degree to which any particular type of pollutant is subject to treatment; the availability, practicality, and technical and economic feasibility of treatment techniques; the impact of treatment requirements upon water quantity; and the extent to which the discharge to be controlled is significant;

(c) The continuous, intermittent, or seasonal nature of the pollutant to be controlled;

(d) The existing extent of pollution or the maximum extent of pollution to be tolerated as a goal;

(e) Whether the pollutant arises from natural sources;

(f) Beneficial uses of water; and

(g) Such information as may be available to the Commission regarding the risk associated with the pollutants including its persistence, degradability, the usual or potential presence of the affected organism in any waters, the importance of the affected organisms, and the nature and extent of the effect of the pollutant on such organisms.

(3) Granting, Extending, and Removing Temporary Modifications to Numeric Standards

Where non-attainment of underlying standards has been demonstrated or predicted the Commission may grant a temporary modification to a numeric standard upon a showing that the conditions in subsection (a), below, exist. The presence of a modification will be indicated by adding the words "Temporary Modification" in the Temporary Modifications and Qualifiers column, and listing the parameter, the operative value and the expiration date. A temporary modification may be granted to an entire stream or water body or to any portion thereof. It may be granted at the time a numeric standard is assigned or at any later time. When the temporary modification expires or is removed by the Commission, the underlying numeric standard will be in full effect. In every case, the modification to the numeric standard shall be temporary. All temporary modifications must be re-examined not less than once every three (3) years.

In general, requests for a temporary modification are preferred over a more permanent downgrading of a present classification where it appears that the conditions causing the lower water quality might be temporary within a twenty (20) year time frame. The adoption of a temporary modification recognizes current conditions while providing an opportunity to resolve the uncertainty. Retaining a classification higher than the present usage will serve as a reminder that the conditions are correctable and may increase the priority for funding to attain the classified use.

(a) Conditions Justifying a Temporary Modification

The Commission may grant a temporary modification if:

(i) an existing permitted discharge has a demonstrated or predicted water quality-based effluent limit compliance problem, and

(ii) one of the following is shown to exist:

(A) there is significant uncertainty regarding the water quality standard necessary to protect current and/or future uses.

(B) there is significant uncertainty regarding the extent to which existing quality is the result of natural or irreversible human-induced conditions.

~~(C) there is significant uncertainty regarding the timing of implementing attainable source controls or treatment (this subsection C is repealed effective 10/01/2013).~~

(b) Adequate Supporting Information

Adequate supporting information must be submitted including a justification for the interim narrative or numeric value, wherever possible raw data describing effluent and ambient quality, a plan for eliminating the need for the temporary modification, and a justification for the proposed expiration date.

(c) Eliminating the Need for A Temporary Modification

Regional wastewater management plans (208 plans) and plan updates, discharge permits, wasteload allocations, planning, design, and construction of new enlarged, or improved facilities, management practices, and other water quality controls and actions shall be geared toward fully attaining the classified use and underlying numeric standard and assist in eliminating the need for the temporary modification, in a manner consistent with the provisions of subsection 31.~~14~~9.

(d) Operative Value During the Time of the Temporary Modification

In order to protect existing uses, the operative value during the time of the temporary modification will be set to represent the current condition of the waterbody by either:

(i) a numeric value representing the existing quality at the time of adoption, or

(ii) a narrative "current condition" that assures existing uses are protected and that the status quo is preserved during the term of the temporary modification.

(~~d~~e) Duration of a Temporary Modification

When a temporary modification is granted, the duration of the temporary modification will be set by the Commission. The duration of a temporary modification shall be determined on a case-by-case basis, based upon all relevant factors, including how soon resolving the issues that necessitated adoption of the temporary modification is deemed feasible. In making a decision as to whether a temporary modification should be removed or extended, the Commission will consider the existence of an implementation plan for eliminating the need for the temporary modification, the progress being made in trying to implement such a plan, the impact of the temporary modification on the uses of the stream in the area of the temporary modification and upstream and downstream of that area, and all other relevant factors.

(~~e~~f) Frequency of Commission Review

The Commission will hold an annual public hearing to review temporary modifications which expire within approximately two years of the hearing date. As a result of the hearing, the Commission may:

(i) Delete the temporary modification and allow the existing underlying standards to go into effect;

(ii) Delete the temporary modification and adopt a revised underlying standard;

(iii) Extend the expiration date of the current temporary modification, with or without a revised underlying standard; or

(iv) Adopt a revised temporary modification with an appropriate expiration date.

(4) Granting, Extending and Removing Variances to Numeric Standards ~~(effective October 1, 2013)~~

A variance to a water quality standard may be granted by the Water Quality Control Commission when the criteria of this subsection are met. The presence of the variance will be indicated in the appropriate water quality standards regulation. When the variance expires or is removed by the Commission, the underlying standard will be in full effect. In every case, the variance to the standard shall be temporary and must be re-examined not less than once every three years.

(a) Criteria for Granting a Discharger-Specific Variance

Variances to numeric standards are authorized only where a comprehensive alternatives analysis demonstrates that there are no feasible alternatives that would allow for the regulated activity to proceed without a discharge that exceeds water quality-based effluent limits. In addition, an applicant for a variance must satisfy both of the following criteria.

(i) Tests to Determine the Need for a Variance

(A) Limits of Technology: Demonstration that attaining the water quality standard is not feasible because, as applied to the point source discharge, pollutant removal techniques are not available or it is technologically infeasible to meet the standard;

(B) Economics: Demonstration that attaining the water quality standard is not feasible because meeting the standard, as applied to the point source discharge, will cause substantial and widespread adverse social and economic impacts in the area where the discharge is located. Considerations include such factors as the cost and affordability of pollutant removal techniques; or

(C) Other Consequences: Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.

(ii) Demonstration that the conditions for granting a temporary modification are not met; or, if those conditions are met, determination by the Commission, after considering the site-specific circumstances, that granting a variance under this subsection is preferable as a matter of policy.

(b) Selection of Alternative Effluent Limits

An applicant for a variance shall submit a comprehensive alternatives analysis regarding pollutant removal techniques. Variances approved by the Commission shall be incorporated into the relevant standards tables ~~as "alternative effluent limits." The Commission shall select such limits~~ based upon an evaluation of the alternatives analysis and consideration of the impact of the variance on the uses of the water body in the area of the variance and downstream of that area. A variance will be expressed as a temporary hybrid standard,~~Alternative effluent limits~~ which represents the highest degree of protection of the classified use that is feasible within 20 years, taking into consideration the factors in subsection 31.7(4)(a)~~(C)~~, as appropriate, and must maintain and protect existing uses in a manner consistent with federal requirements.

(i) The first number is the underlying standard previously adopted by the Commission for the segment and represents the long-term goal for the waterbody. The first number will be used for assessing attainment for the waterbody and for the development of effluent limitations.

(ii) The second number (or narrative condition) is the Commission's determination of the effluent concentration with the highest degree of protection of the classified use that is feasible for specific dischargers named in the variance.

(iii) Control requirements, such as discharge permit effluent limitations, shall be established using the first number 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 during the term of the variance for the named dischargers.

(c) Duration of a Variance

When a variance is granted, the duration of the variance will be set by the Commission. The duration of a variance shall be determined on a case-by-case basis, based upon all relevant factors, including the potential for achieving more protective effluent levels.

(d) Considerations for Extending a Variance

A variance shall not be extended if the permittee did not submit the reports required under section 31.~~14(17)(c)~~9(5) and substantially comply with all other conditions of the variance.

31.8 ANTIDEGRADATION

(1) Antidegradation Rule

(a) The highest level of water quality protection applies to certain waters that constitute an outstanding state or national resource. These waters, which are those designated outstanding waters pursuant to section 31.8(2)(a), shall be maintained and protected at their existing quality. Short-term degradation of existing quality is allowed for activities that result in long-term ecological or water quality benefit or clear public interest.

(b) An intermediate level of water quality protection applies to waters that have not been designated outstanding waters or use-protected waters. These waters shall be maintained and protected at their existing quality unless it is determined that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. For these waters, no degradation is allowed unless deemed appropriate following an antidegradation review in accordance with section 31.8(3), except as specified in (i) and (ii) below. Further, all applicable statutory and regulatory requirements for point sources and, if applicable control regulations have been adopted, all cost-effective and reasonable best management practices for nonpoint sources shall be met.

(i) For dissolved iron, dissolved manganese, and sulfate, concentrations may reach the applicable water supply standard without an antidegradation review.

(ii) For all other pollutants, no degradation is allowed, unless deemed appropriate following an antidegradation review in accordance with section 31.8(3).

(c) At a minimum, for all state surface waters existing classified uses and the level of water quality necessary to protect such uses shall be maintained and protected. No further water quality degradation is allowable which would interfere with or become injurious to these uses. The

classified uses shall be deemed protected if the narrative and numerical standards are not exceeded.

The antidegradation review requirements in section 31.8(3) are not applicable to waters designated use-protected pursuant to section 31.8(2)(b). For these waters, only the protection specified in this subparagraph applies.

(d) Water quality designations and reviewable water provisions shall not be utilized in a manner that is contrary to the provisions of sections 25-8-102 and 25-8-104, C.R.S.

(2) Water Quality-Based Designations

Waters which satisfy the criteria in subparagraph (a) below may be designated by the Commission as "outstanding waters". Waters which satisfy the criteria in subparagraph (b) below may be designated "use-protected." Waters not satisfying either set of criteria will remain undesignated, and will be subject to the antidegradation review provisions set forth in section 31.8(3), below.

(a) Outstanding Waters Designation

Waters may be designated outstanding waters where the Commission makes all of the following three determinations:

(i) The existing quality for each of the following parameters is equal to or better than that specified in tables I, II, and III for the protection of aquatic life class 1, recreation class P and (for nitrate) domestic water supply uses:

Table I: dissolved oxygen, pH, *E. coli*

Table II: chronic ammonia, nitrate

Table III: chronic cadmium, chronic copper, chronic lead, chronic manganese, chronic selenium, chronic silver, and chronic zinc

The determination of existing quality shall be based on adequate representative data, from samples taken within the segment in question. Data must be available for each of the 12 parameters listed; provided, that if *E. coli* samples from within the segment are infeasible due to its location, and a sanitary survey demonstrates that there are no human sources present that are likely to impact quality in the segment in question, *E. coli* data will not be required. "Existing quality" shall be the 85th percentile of the data for ammonia, nitrate, and dissolved metals, the 50th percentile for total recoverable metals, the 15th percentile for dissolved oxygen, the geometric mean for *E. coli*, and the range between the 15th and 85th percentiles for pH.

In addition, the foregoing notwithstanding, this test shall not be considered to be met if the Commission determines that, due to the presence of substantial natural or irreversible human-induced pollution for parameters other than those listed above, the quality of the waters in question should not be considered better than necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water.

(ii) The waters constitute an outstanding natural resource, based on the following:

(A) The waters are a significant attribute of a State Gold Medal Trout Fishery, a National Park, National Monument, National Wildlife Refuge, or a designated Wilderness Area, or are part of a designated wild river under the Federal Wild and Scenic Rivers Act; or

(B) The Commission determines that the waters have exceptional recreational or ecological significance, and have not been modified by human activities in a manner that substantially detracts from their value as a natural resource.

(iii) The water requires protection in addition to that provided by the combination of water quality classifications and standards and the protection afforded reviewable water under section 31.8(3).

(b) Use-Protected Designation

These are waters that the Commission has determined do not warrant the special protection provided by the outstanding waters designation or the antidegradation review process.

(i) Waters shall be designated by the Commission use-protected if any of the criteria below are met, except that the Commission may determine that those waters with exceptional recreational or ecological significance should be undesignated, and deserving of the protection afforded by the antidegradation review provisions of section 31.8(3):

(A) The use classifications of the waters include aquatic life warm water class 2, except as provided in subsection (iii) below;

(B) The existing quality for at least three of the following parameters is worse than that specified in tables I, II and III for the protection of aquatic life class 1, recreation class P and (for nitrate) domestic water supply uses:

Table I: dissolved oxygen, pH, *E. coli*

Table II: chronic ammonia, nitrate

Table III: chronic cadmium, chronic copper, chronic lead, chronic manganese, chronic selenium, chronic silver, and chronic zinc

The determination of existing quality shall be based on adequate representative data, from samples taken within the segment in question. Data must be available for each of the 12 parameters listed; provided, that if *E. coli* samples from within the segment are infeasible due to its location, and a sanitary survey demonstrates that there are no human sources present that are likely to impact quality in the segment in question, *E. coli* data will not be required. "Existing quality" shall be the 85th percentile of the data for ammonia, nitrate, and the dissolved metals, the 50th percentile for total recoverable metals, the 15th percentile of such data for dissolved oxygen, the geometric mean of such data for *E. coli*, and the range between the 15th and 85th percentiles for pH; or

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~~(C) The water body was an effluent-dominated or effluent-dependent stream during the period 2000-2009, except that the Commission may determine that the water body should be undesignated, and subject to the protection provided by the antidegradation review process, based on the water body's public resource value and ecological significance.~~

Option 2

(C) The water body was an effluent-dominated or effluent-dependent stream and the effluent was subject to water quality-based effluent limits for at least four of the parameters listed in 31.8(b)(i)(D) during the period 2000-2009, except that the Commission may determine that the water body should be undesignated, and subject to the protection provided by the antidegradation review process, based on the water body's public resource value and ecological significance.

(D) Ammonia, nitrate, *E. coli*, manganese, selenium, copper, zinc, and iron.

(ii) In addition, waters may be designated use-protected even though none of the preceding criteria apply if the Commission determines that due to the presence of substantial natural or irreversible human-induced pollution for parameters other than those listed in section 31.8(2)(b)(i)(B) the quality of the waters in question should not be considered better than necessary to support aquatic life class 1 and/or recreation class P uses. In making such a determination about a use-protected designation, the Commission may take into account evidence of exceedances of one or more of the parameters listed in section 31.8(2)(b)(i)(B).

(iii) Waters classified as aquatic life warm water class 2 shall not be designated use-protected solely on the basis of such classification if:

(A) There is adequate representative data available from samples taken within the segment in question for each of the 12 parameters listed in subsection 31.8(2)(b)(i)(B), above, and that data shows that the existing quality for at least 10 of the 12 parameters is equal to or better than that specified in tables I, II and III for the protection of aquatic life class 1, recreation class P and (for nitrate) domestic water supply uses; and

(B) The segment in question is not listed, and does not qualify for listing, for two or more pollutants on Colorado's Section 303(d) List of Water-Quality-Limited Segments Requiring Total Maximum Daily Loads, for an exceedance of chronic or "30-day" numeric standards.

(3) Antidegradation Review Process

(a) Applicability

These antidegradation review procedures shall apply to the review of regulated activities with new or increased water quality impacts that may degrade the quality of state surface waters that have not been designated as outstanding waters or use-protected waters, including waters previously designated as high quality class 2. These waters are referred to below as "reviewable waters." "Regulated activities" means any activities which require a discharge permit or water quality certification under federal or state law, or which are subject to state control regulations unless the Commission has specified in the control regulation that the antidegradation review process is not applicable. Where possible, the antidegradation review should be coordinated or consolidated with the review processes of other agencies concerning a proposed activity in an effort to minimize costs and delays for such activities.

(b) Division and Commission Roles

For regulated activities, the significance determination set forth in section 31.8(3)(c) and the determination whether degradation is necessary to accommodate important economic or social

development in the area in which the waters are located, pursuant to section 31.8(3)(d), shall be made by the Division, subject to a de novo review by the Commission in an adjudicatory hearing, on the Commission's own motion, pursuant to a petition by any interested person who has submitted written comments during the Division review process, or on the Commission's determination pursuant to section 24-4-105(2), C.R.S.

(c) Significance Determination

The initial step in an antidegradation review shall be a determination whether the regulated activity in question is likely to result in significant degradation of reviewable waters, with respect to adopted narrative or numeric standards. The significance determination will be based on the chronic numeric standard and flow for the pollutant of concern except for those pollutants which have only acute numeric standards in which case the acute standard and flow will be used. This significance determination shall be made with respect to the net effect of the new or increased water quality impacts of the proposed regulated activity, taking into account any environmental benefits resulting from the regulated activity and any water quality enhancement or mitigation measures impacting the segment or segments under review, if such measures are incorporated with the proposed regulated activity. The regulated activity shall be considered not to result in significant degradation, as measured in the reviewable waters segment, if:

(i) For bioaccumulative toxic pollutants, (i.e., those chemicals for which the bioaccumulation factor (BAF) is equal to or greater than 1000) the new or increased loading from the source under review is less than 10 percent of the existing total load to that portion of the segment impacted by the discharge for critical constituents; provided, that the cumulative impact of increased loadings from all sources shall not exceed 10 percent of the baseline total load established for the portion of the segment impacted by the discharge (the baseline total load shall be determined at the time of the first proposed new or increased water quality impacts to the reviewable waters.); and

(ii) For all pollutants:

(A) The flow rate or volume of a new or increased discharge under review is small enough that it will be diluted by 100 to 1 or more at low flow, as defined in section 31.9, by water in the stream; or

(B) The new activity or increased discharge from the source under review will consume, after mixing, less than 15 percent of the baseline available increment, provided that the cumulative increase in concentration from all sources shall not exceed 15 percent of the baseline available increment. The baseline available increment is the increment between low-flow pollutant concentrations and the relevant standards for critical constituents for that portion of the segment impacted by the discharge. Except as identified in (C) below, t~~T~~he baseline low-flow pollutant concentration shall represent the water quality as of September 30, 2000 (or the effective date when the use-protected designation is removed), and shall be determined at the time of the first proposed new or increased water quality impacts to the reviewable waters after that date.

(C) ~~, provided, that i~~If water quality subsequently improves as the result of the remediation of impacts from past unpermitted releases of contaminants that affected the water quality as of September 30, 2000 (or the effective date when the use-protected designation is removed), the resulting improved water quality at the time of the proposed new water quality impacts shall be used as the baseline. However, if such improvement results from non-legally-mandated remediation, upon petition the Commission may determine an alternative baseline to be used for antidegradation review purposes, taking into account the site-specific circumstances, including the benefits of protecting improved water

quality and the goal of not discouraging voluntary clean-up efforts, including water pollutant trading. Any individual or entity, including those involved in the remediation efforts, may petition the Commission, at any time, to establish an alternative baseline, including prior to proceeding with a remediation project.

(~~C~~D) The regulated activity will result in only temporary or short term changes in water quality. This exception shall not apply where long-term operation of the regulated activity will result in an adverse change in water quality.

For the purposes of this subsection, the phrase "portion of the segment impacted by the discharge" means the portion of the stream from the discharge point to the first major tributary inflow, or as determined by the Division based on site-specific information at the time of the analysis.

(d) Necessity of Degradation Determination

If a determination has been made in accordance with section 31.8(3)(c) that a proposed regulated activity is likely to result in significant degradation of reviewable waters, a determination shall be made pursuant to this section whether the degradation is necessary to accommodate important economic or social development in the area in which the waters are located. The following provisions shall apply to this determination:

(i) The "area in which the waters are located" shall be determined from the facts on a case-by-case basis. The area shall include all areas directly impacted by the proposed regulated activity.

(ii) A determination shall be made from the facts on a case-by-case basis whether the proposed regulated activity is important economic or social development. If the activity proponent submits evidence that the regulated activity is important development, it shall be presumed important unless information to the contrary is submitted in the public review process. The determination shall take into account information received during the public comment period and shall give substantial weight to any applicable determinations by local governments or land use planning authorities.

(iii) If the proposed regulated activity is determined to be important economic or social development, a determination shall be made whether the degradation that would result from such regulated activity is necessary to accommodate that development. The degradation shall be considered necessary if there are no water quality control alternatives available that (A) would result in no degradation or less degradation of the state waters and (B) are determined to be economically, environmentally, and technologically reasonable. In situations where water quality control alternatives are identified that satisfy the tests in (A) and (B), the Division shall consider the proposed degradation to be unnecessary, and require implementation of a non-degrading or less degrading alternative as a condition of authorizing the proposed activity.

This determination shall be based on an assessment of whether such alternatives are available, based upon a reasonable level of analysis by the project proponent, consistent with accepted engineering practice, and any information submitted by the public or which is otherwise available. The assessment shall address practical water quality control technologies, the feasibility and availability of which has been demonstrated under field conditions similar to those of the activity under review. The scope of alternatives considered shall be limited to those that would accomplish the proposed regulated activity's purpose. Any alternatives that would be inconsistent with section 25-8-104 of the Water Quality Control Act shall not be considered available alternatives.

In determining the economic reasonableness of any less-degrading water quality control alternatives, the Division may take into consideration any relevant factors, including but not limited to the following, if applicable:

(A) Whether the costs of the alternative significantly exceed the costs of the proposal;

(B) For publicly owned treatment works (POTWs) or public water supply projects, whether user charges resulting from the alternative would significantly exceed user charges for similarly situated POTWs or public water supply projects;

(C) For private industry, whether the alternative would have a significant adverse effect upon the project's profitability or competitive position (if the project proponent chooses to provide such information);

(D) For any dischargers, whether treatment costs resulting from the alternative would significantly exceed treatment costs for any similar existing dischargers on the segment in question.

(E) The relative, long-term, energy costs and commitments and availability of energy conservation alternatives.

(e) Public Participation and Intergovernmental Coordination

Procedural provisions relating to public participation and intergovernmental coordination and antidegradation reviews are set forth in the Procedural Rules, Regulation No. 21, section 21.16 (5 CCR 1002-21).

(f) Public Nomination-Water Quality Based Designations

Any person may nominate any state water for designation as outstanding waters or use-protected during triennial review or at any time. Such nomination shall include written documentation of the qualifications for such designation based upon the criteria in section 31.8(2)(a) or (b).

(g) Protection of Existing Uses

If, during an antidegradation review, it is determined that an existing use of the affected waterbody has not been classified, prior to completing the antidegradation review for an applicable regulated activity, an expeditious rulemaking hearing shall be held (on an emergency basis if necessary) to consider adoption of the additional classification.

31.9 ~~FLOW CONSIDERATIONS~~IMPLEMENTATION OF STANDARDS

(1) Low Flow Exceptions

(a) Water quality standards shall apply at all times; provided, that in developing effluent limitations or other requirements for discharge permits, the Division shall normally define critical flow conditions using the following low-flow values:

(i~~a~~) Generally: the empirically based 30-day average low flow with an average 1-in-3 year recurrence interval (30E3) for chronic standards and the empirically based 1-day low flow with an average 1-in-3 year recurrence interval (1E3) for acute standards, or the equivalent statistically-based flow.

(ii~~b~~) Temperature limitations: the empirically based 7-day average low flow with an average 1-in-3 year recurrence interval (7E3), and the empirically based 1-day low flow with an average 1-in-3 year recurrence interval (1E3) for acute standards, or the equivalent statistically-based flow.

(iii~~c~~) Total phosphorus and total nitrogen limitations: the annual median of the daily average flows with a 1 in 5 year recurrence interval.

(b~~2~~) Data Requirements

The period of record for determining low flows shall be based on a minimum of ten years of flow data, except that, when ten years of data is not available, low flows may be determined, on a case-by-case basis, using a period of record of less than ten years. If more than ten years of flow data is available, it may be more appropriate to establish low flow conditions based on a longer period of record to more accurately reflect site specific conditions.

(c~~3~~) Streams With Rapid Flow Changes

For streams with seasonal rapidly rising or falling hydrographs, the Division shall use, if so requested by a discharger, the procedure set forth in subparagraphs (~~a~~i) through (~~e~~v) below for calculating 30E3 values for those transitional flow periods of the year. For certain substances such as ammonia, the low flow exceptions may be based on periodic or seasonal flows as determined on a case-by-case basis by the Division.

(~~a~~i) Averaging Procedure – Calculation of 30-day Forward Moving Harmonic Means - Moving harmonic means shall first be calculated for each consecutive thirty-day period in the period of record being considered.

(~~b~~ii) Calculate Annual 30E3 Value - Determine the annual 30E3 value using the procedure set forth in Appendix A using

(~~i~~A) 30-day forward moving harmonic means, and

(~~ii~~B) the excursion procedure for a 1-in-3 year recurrence interval.

(~~c~~iii) Assigning Harmonic Means - Each 30-day harmonic mean shall then be assigned to a month. A harmonic mean shall be assigned to a specific month only if the harmonic mean is calculated using data for 15 or more days from that month.

(~~d~~iv) Ranking of Harmonic Means - Harmonic means shall be ranked from the lowest to highest for each month of the year. The lowest harmonic mean for a month shall be used to establish the low flow value for that month using the procedure set forth in subparagraph (~~e~~v) below.

(~~e~~v) Establishing Monthly 30E3 Low Flows – The low flow for a month shall be either the lowest harmonic mean assigned to that month (as determined in subparagraphs (~~c~~iii) and (~~d~~iv), above), or the annual low flow value (as determined in subparagraph (~~b~~ii), above), whichever is greater.

(4d) Waters Not Yet Classified

Discharges to waters not presently classified must meet established effluent limitation regulations, the basic standards, antidegradation rule and control regulations. Effluent flows which reach a classified body of water, even though the discharge point is to a water not yet

classified, must be of a quality which will not cause the standards of the classified body of water to be violated.

(2) Compliance Schedules

Where the Commission has adopted new standards, temporary modifications or revised standards that have become more stringent, or where the Division has developed new interpretations of existing standards, including, but not limited to, implementation requirements through approved TMDLs and Wasteload Allocations and antidegradation reviews; the Division may include schedules of compliance in Colorado Discharge Permit System (CDPS) permits when it determines such schedules to be necessary and appropriate.

(3) Temperature Limits

The Division will determine whether temperature limits are to be included in permits utilizing the following approach.

(a) No temperature effluent limit will be applied if a discharge is to an effluent-dependent stream and there is no evidence that the aquatic life use may be negatively affected by the thermal component of the discharge. In implementing this provision, the Division will consider all readily-available and pertinent evidence regarding the potential for the thermal properties of a discharge to affect aquatic life.

(b) No temperature effluent limit will be applied to a discharge of water from a natural hot springs, so long as that water enters the receiving water in the vicinity of its natural outflow.

(c) Where neither (a) nor (b) above apply to a discharge, the Division will determine whether a limitation for temperature is to be included in a permit consistent with procedures developed in accordance with Section 61.8(2)(b)(i) of the CDPS Regulations. Where there are not adequate data to determine reasonable potential, the Division may require the permittee to collect and submit temperature data.

(d) At the time of permit renewal, where a site-specific recalculation procedure demonstrates that alternative numerical criteria are more appropriate for protection of aquatic life, these alternative criteria will be used for development of permit limits.

(e) Consistent with section 316(a) of the federal Clean Water Act, and federal implementing regulations, the Division may impose alternate effluent limitations with respect to the thermal component of such discharge.

(4) Temporary Modifications

Where a temporary modification is adopted, permits for discharges to the segment in question:

(a) For existing discharges, will not include a compliance schedule to meet limits based on the underlying standard during the period that the temporary modification is in effect. The Division, where necessary and within a reasonable period of the expiration of a temporary modification, shall reopen any permit for a discharge to that segment and include a permit condition to attain limits based on the underlying standard.

(b) May include a permit condition requiring actions intended to eliminate the uncertainty regarding the appropriate underlying standard.

(c) Where a permit for an existing discharge is reissued while a temporary modification is in effect, the Division, based on best professional judgment, may determine limitations or other conditions

for the parameter(s) in question based on an assessment of the level of effluent quality reasonably achievable without requiring significant investment in facility infrastructure (e.g., based on past facility performance). Such limit (numerical or otherwise) may be at or below the level derived from the temporary modification where such a requirement would not cause an undue economic burden, but not more restrictive than necessary to achieve the underlying standard.

(d) The Division, based on best professional judgment, may set effluent limits in permits for new or expanding discharges at a level that does not pose an unreasonable risk to downstream uses.

(5) Conditions on Discharger-Specific Variances

A discharger-specific variance applies only to the point source specified in the variance and to the pollutant specified in the variance. A permit action issued to implement a discharger-specific variance shall require:

(a) For existing discharges, compliance with an initial effluent limitation which, at the time the variance is approved, at a minimum represents the level currently achieved. At the time a variance is approved, unless the alternative limit is currently achieved, a permit condition will be specified which requires progress toward the alternative effluent limitation as quickly as feasible.

(b) For new discharges, compliance with an initial effluent limitation which, at the time the variance is approved, represents the highest degree of protection of the classified use that is currently feasible, taking into consideration the factors in subsection 31.7(4)(a)(ii), as appropriate.

(c) Ongoing investigation of treatment technologies, process changes, wastewater reuse, or other controls that may result in improvement in effluent quality, and submission of reports on the investigations to allow for timely consideration of the information during the scheduled review of the variance by the Commission.

(d) Conditions in the permit as necessary to administer the variance including, but not limited to, additional monitoring requirements.

31.10 MIXING ZONES

(1) Definitions

(a) Physical Mixing Zone

That portion of a water body, surrounding or downstream from a point source of discharge, wherein constituents of the discharge are not uniformly dispersed into the receiving waters. The physical mixing zone also can be referred to simply as the “mixing zone,” except where there is possible confusion with the regulatory mixing zone, as it is defined below, which differs from the physical mixing zone

(b) Exceedence Zone

That portion of a physical mixing zone within which a numeric water quality standard for a given water quality parameter is not met during critical conditions. The size of an exceedence zone may differ from one numeric standard to another at a given location.

(c) Regulatory Mixing Zone

The maximum size allowable for an exceedence zone at a given location. An acute regulatory mixing zone limits the size of exceedence zones for acute standards, and a chronic regulatory mixing zone limits the size of exceedence zones for chronic standards. The sizes of the acute

and chronic regulatory mixing zones are related to the size of the receiving water, as explained in 31.10 (3).

(d) Stream Channel Width at Bankfull Stage

The width of a stream under flow conditions when the stream just begins to enter the lowest level of the floodplain.

(e) Average Water Body Surface Area

The average surface area for a lake shall be determined from historic data (five years or more if possible), and must be computed monthly or seasonally, as appropriate, to reflect significant monthly or seasonal changes in area.

(f) Stream, Lake, Wetland

For purposes of this regulation, streams will include Waters of the State that flow, regardless of size, and lakes will include Waters of the State that are not flowing, including reservoirs. Wetlands will be treated in the same manner as lakes.

(2) Exemptions from Restriction of Permit Limits by Mixing Zone Regulations

In the following instances, water quality standards-based effluent limits (permit limits) for discharges to streams will be calculated using the full chronic (30E3) and acute (1E3) low flow of the stream for dilution except where a more stringent approach is determined by the Division to be necessary to protect designated uses in the water body as a whole based on the factors identified in subsection 31.10(5). These exemptions do not apply to lakes.

(a) Exemption tables, other procedures developed or approved by the Division, or site-specific data indicate that the chronic regulatory mixing zone is larger than the physical mixing zone;

(b) The effluent flow at maximum permitted discharge is greater than twice the chronic low flow (30E3); or

(c) The ratio of the chronic low flow (30E3) to the maximum permitted or other appropriate effluent flow is greater than or equal to 20:1 and the operation is designated by the Division as a “minor.”

(3) Regulatory Mixing Zone Sizes

(a) Streams

The Division shall consider the following factors in determining the sizes of the regulatory mixing zones for streams:

(i) The size of the chronic regulatory mixing zone for any point source of discharge to a stream shall not be greater than a plan view area equal to six times the square of the stream channel width at bankfull stage.

(ii) Where the size of the physical mixing zone exceeds the size of the chronic regulatory mixing zone, the area of the acute regulatory mixing zone for a water quality parameter shall be established between 10 % and 25 % of the area of the chronic regulatory mixing zone for the same water quality parameter. The size of the acute regulatory mixing zone will be determined within this range based on a presumption that:

(A) For waters determined under subsection 31.8 to be “reviewable,” the default acute regulatory mixing zone will be 10% as large as the chronic regulatory mixing zone.

(B) For waters determined under subsection 31.8 to be “use protected,” the default acute regulatory mixing zone will be 25% as large as the chronic regulatory mixing zone.

An acute mixing zone may also be further reduced below default limits for reasons given in subsection 31.10(5). The permittee may request that the size of the acute regulatory mixing zone be higher than recommended by the Division, but no higher than 25% of the chronic regulatory mixing zone, on the basis of arguments related to cost/benefit analysis, economic reasonableness, ecological risks, use classification, or designation. The burden is on the permittee to bring appropriate information to the Division.

(iii) The sum total of the plan view areas of all chronic regulatory mixing zones for point sources of discharge into any reach of stream for a specified water quality parameter shall not occupy more than ten percent 10% of the total plan view area of such reach of river or stream, as measured at bankfull stage. The length (approximately 10 miles) and boundaries of the stream or river reach for these purposes shall be determined by the Division. Constraints on chronic regulatory mixing zones used to determine permit limits in discharge permits resulting from the cumulative impacts of multiple point sources of discharge into a stream reach shall be shared equitably among permittees and any other sources of discharge. The distribution of the allowable loads for the pollutant of concern shall be consistent with regulations applicable to total maximum daily loads and/or upon mutual agreement amongst the permittees.

(b) Lakes

The Division shall consider the following factors in determining the size of the regulatory mixing zones for lakes:

(i) For each point source of discharge, the size of the chronic regulatory mixing zone shall not be greater than 3% of the average inter-annual seasonal or monthly surface area. The Division may apply this limit to an entire lake or to a smaller, geographically distinguishable (bay, arm, etc.), portion of a lake.

(ii) Where the physical mixing zone exceeds the chronic regulatory mixing zone, the area of the acute regulatory mixing zone for lakes, for any water quality parameter, shall be established between 10% and 25% of the area of the chronic regulatory mixing zone for the same water quality parameter. The size of the acute mixing zone will be determined within this range based on a presumption that:

(A) For waters determined under subsection 31.8 to be “reviewable” the default acute regulatory mixing zone will be 10% as large as the chronic regulatory mixing zone.

(B) For waters determined under subsection 31.8 to be “use protected” the default acute regulatory mixing zone will be 25% as large as the chronic regulatory mixing zone.

An acute mixing zone may also be further reduced below default limits for reasons given in subsection 31.10 (5). The permittee may request that the size of the acute regulatory mixing zone be higher than recommended by the Division, but no higher than 25% of the chronic regulatory mixing zone, on the basis of arguments related to cost/benefit

analysis, economic reasonableness, ecological risks, use classification, or designation. The burden is on the permittee to bring appropriate information to the Division.

(iii) The sum total of the plan view areas of all chronic regulatory mixing zones for point sources of discharge into lakes for a specified water quality parameter shall not occupy more than ten percent 10% of the total plan view area of such lake, or a geographically distinguishable portion thereof, at any seasonally average area. Constraints on chronic regulatory mixing zones used to determine limits in discharge permits resulting from the cumulative impacts of multiple point sources of discharge into lakes shall be shared equitably among permittees and any other sources of discharge. The distribution of the allowable loads for the pollutant of concern shall be consistent with regulations applicable to total maximum daily loads and/or upon mutual agreement amongst the permittees.

(iv) For artificial lakes supplied principally with potable water, mixing zones larger than those allowed above may be designated for purposes of CDPS permits. Appropriate mixing zone size limits shall be determined by the Division on a case-by-case basis, consistent with the constraints described in subsection 31.10(5). Such mixing zones shall be kept as small as practicable, on a parameter-by-parameter basis, and shall provide for protection of existing and designated uses in the water body as a whole.

(4) Use of Mixing Zone Regulations in Setting Permit Limits

(a) Streams

Computation of chronic or acute permit limits for point source discharges to streams shall be as follows:

(i) For discharges not exempted as explained in subsection 31.10(2), the permit limit for any parameter for which there is a water quality standard shall be that resulting in acute and chronic exceedance zones equal to or smaller than the respective acute and chronic regulatory mixing zones.

(ii) Where the annual acute low flow (1E3) of the receiving stream is zero, no dilution will be provided in calculating acute permit limits. Where the chronic low flow (30E3) of the receiving stream is equal to zero, no dilution will be provided in calculating chronic permit limits.

(b) Lakes

Computation of chronic or acute permit limits for point source discharges to lakes shall be as follows:

(i) The permit limit for any parameter for which there is a water quality standard shall be that resulting in acute and chronic exceedence zones equal to or smaller than the respective acute and chronic regulatory mixing zones as shown by site-specific analysis for each regulated substance.

(5) Additional Constraints on Mixing Zones

(a) Exceedence zones from multiple point sources of discharge shall not overlap to such an extent as to harm beneficial uses.

(b) Regulatory mixing zones shall comply with the narrative basic standards included in subsection 31.11(1), except that these requirements do not apply to the protection of any sessile organisms residing within acute and chronic regulatory mixing zones.

(c) Where sampling shows that the conditions described in subsection 31.10(3) are not attained, the mixing zone analysis will be revised as necessary to achieve compliance with subsection 31.10(3).

(d) The Division may limit or deny regulatory mixing zones on a site-specific basis for specific regulated substances. In doing so, the Division shall consider the following:

(i) The need to provide a zone of passage for aquatic life;

(ii) The likelihood of bioaccumulation of toxins in fish or wildlife;

(iii) The special importance of certain habitat such as fish spawning or nursery areas or habitat that supports threatened or endangered species;

(iv) Potential for human exposure to pollutants through drinking water or recreation;

(v) The possibility that aquatic life will be attracted to the effluent plume;

(vi) The potential for adverse effects on groundwater; or

(vii) The toxicity or persistence of the substance discharged.

(6) Mixing Zones for Whole Effluent Toxicity-based Permit Requirements

The provisions of this section 31.10 do not apply to the determination of whole effluent toxicity-based permit requirements.

31.11 BASIC STANDARDS APPLICABLE TO SURFACE WATERS OF THE STATE

All surface waters of the state are subject to the following basic standards; however, discharge of substances regulated by permits which are within those permit limitations shall not be a basis for enforcement proceedings under these basic standards:

(1) Except where authorized by permits, BMPs, 401 certifications, or plans of operation approved by the Division or other applicable agencies, state surface waters shall be free from substances attributable to human-caused point source or nonpoint source discharge in amounts, concentrations or combinations which:

(a) for all surface waters except wetlands;

(i) can settle to form bottom deposits detrimental to the beneficial uses. Depositions are stream bottom buildup of materials which include but are not limited to anaerobic sludges, mine slurry or tailings, silt, or mud; or

(ii) form floating debris, scum, or other surface materials sufficient to harm existing beneficial uses; or

(iii) produce color, odor, or other conditions in such a degree as to create a nuisance or harm existing beneficial uses or impart any undesirable taste to significant edible aquatic species or to the water; or

(iv) are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life; or

(v) produce a predominance of undesirable aquatic life; or

(vi) cause a film on the surface or produce a deposit on shorelines; and

(b) for surface waters in wetlands;

(i) produce color, odor, changes in pH, or other conditions in such a degree as to create a nuisance or harm water quality dependent functions or impart any undesirable taste to significant edible aquatic species of the wetland; or

(ii) are toxic to humans, animals, plants, or aquatic life of the wetland.

(2) The radioactive materials in surface waters shall be maintained at the lowest practical level. In no case shall radioactive materials in surface waters be increased by any cause attributable to municipal, industrial, or agricultural practices or discharges to as to exceed the following levels, unless alternative site-specific standards have been adopted pursuant to subsection (4) below:

Radionuclide Standards	
Parameter	Picocuries per Liter
Americium 241*	0.15
Cesium 134	80
Plutonium 239, and 240*	0.15
Radium 226 and 228*	5
Strontium 90*	8
Thorium 230 and 232*	60
Tritium	20,000

*Radionuclide samples for these materials should be analyzed using unfiltered (total) samples. These Human Health based standards are 30-day average values for both plutonium and americium.

(3) The interim organic pollutant standards contained in the following Basic Standards for Organic Chemicals Table are applicable to all surface waters of the state for which the corresponding use classifications have been adopted, unless alternative site-specific standards have been adopted pursuant to sub-section (4) below.

Note that all standards in the Basic Standards for Organic Chemicals Table are being adopted as "interim standards." These interim standards will remain in effect until alternative permanent standards are adopted by the Commission in revisions to this regulation or site-specific standards determinations. Although fully effective with respect to current regulatory applications, these interim standards shall not be considered final or permanent standards subject to antibacksliding or downgrading restrictions.

• • •

//- No Changes are proposed to the Table of Basic Standards For Organic Chemicals *-//*

(Footnotes to the Table)

• • •

4 Applicable to all aquatic life segments.

5 ~~PQL's for the constituents listed above can be found at section 61.8((2)(I) of the Regulations for the State Discharge Permit System.~~Deleted

6 Standards are pH dependent. Those listed are calculated for pH = 7.8.

Acute = $e^{[1.005(pH)-4.869]}$; Chronic = $e^{[1.005(pH)-5.134]}$.

7 Total trihalomethanes are considered the sum of the concentrations of bromodichloromethane (CAS No. 75-27-4), dibromochloromethane (Chlorodibromomethane(HM), CAS No. 124-48-1), tribromomethane (bromoform, CAS No. 75-25-2) and trichloromethane (chloroform, CAS No. 67-66-3).

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(4) Site-Specific Radioactive Materials and Organic Pollutants Standards.

(a) In determining whether to adopt site-specific standards to apply in lieu of the statewide standards established in sections (2) and (3) above, the Commission shall first determine the appropriate use classifications, in accordance with section 31.13. If such a determination would result in removing an existing classification, the downgrading factors in section 31.6 (2)(B) shall apply.

(b) The Commission shall then determine whether numerical standards other than some or all of the statewide standards established in sections (2) and (3) above would be more appropriate for protection of the classified uses, taking into account the factors prescribed in section 25-8-204(4), C.R.S. and in section 31.7. The downgrading factors described in section 31.6(2)(B) shall not apply to the establishment of site-specific standards under this section.

(c) Site-specific standards to apply in lieu of statewide standards may be based upon consideration of the appropriateness of the assumptions used in the risk assessment based potency factors and reference dose values, including, but not limited to, consideration of the uncertainty factor, exposure assessment, bioaccumulation factor, exposed population factor, assumed consumption factor, risk comparisons, uncertainty analysis, and the availability of the toxics in the water column, considering persistence, hardness, pH, temperature or valence form in the water column.

(5) Nothing in this regulation shall be interpreted to preclude:

(a) An agency responsible for implementation of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. 9601 et seq., as amended, from selecting a remedial action that is more or less stringent than would be achieved by compliance with the statewide numerical standards established in this section, or alternative site-specific standards adopted by the commission, where a determination is made that such a variation is authorized pursuant to the applicable provisions of CERCLA.

(6) Except where the Commission adopts or has adopted a different standard on a site-specific basis, the less restrictive of the following two options shall apply as numerical standards for all surface waters with a “water supply” classification, if water supply is an actual use of the waters in question or of hydrologically connected ground water:

i. existing quality as of January 1, 2000; or

ii. the following table value criteria set forth in Tables II and III:

Iron	300 ug/l (dissolved)
Manganese	50 ug/l (dissolved)
Sulfate	250 mg/l

Provided, that if the existing quality of these constituents in such surface waters as of January 1, 2000, is affected by an unauthorized discharge with respect to which the Division has undertaken an enforcement action, the numerical standards shall be the ambient conditions existing prior to the unauthorized discharge or the above table value criteria, whichever is less restrictive.

Data generated subsequent to January 1, 2000 shall be presumed to be representative of existing quality as of January 1, 2000, if the available information indicates that there have been no new or increased sources of these pollutants impacting the segment(s) in question subsequent to that date.

For all surface waters with a "water supply" classification that are not in actual use as a water supply, the water supply table value criteria for sulfate, iron and manganese set forth in Tables II and III may be applied as numerical standards only if the Commission determines as the result of a site-specific rulemaking hearing that such standards are necessary and appropriate in accordance with section 31.7.

(7) Methylmercury Fish Tissue: Fish tissue concentrations shall not exceed 0.3 milligrams methylmercury per kilogram (0.3 mg/kg) of wet-weight fish tissue. Attainment of the standard will be assessed by comparing the average fish tissue methylmercury concentration for each species and size class to the 0.3 mg/kg standard.

31.12 SALINITY AND SUSPENDED SOLIDS

The Commission recognizes that excessive salinity and suspended solids levels can be detrimental to the water use classifications. The Commission has established salinity standards for the Colorado River Basin ("Water Quality Standards for Salinity including Numeric Criteria and Plan of Implementation of Salinity Control", Commission Regulation No. 39) but has not established or assigned other standards for salinity or suspended solids control practices to be developed through 208 plans, coordination with agricultural agencies, and further studies of existing water quality.

31.13 STATE USE CLASSIFICATIONS

Waters are classified according to the uses for which they are presently suitable or intended to become suitable. In addition to the classifications, one or more of the qualifying designations described in section 31.13(2), may be appended. Classifications may be established for any state surface waters, except that water in ditches and other manmade conveyance structures shall not be classified.

(1) Classifications

(a) Recreation

(i) Class E - Existing Primary Contact Use

These surface waters are used for primary contact recreation or have been used for such activities since November 28, 1975.

(ii) Class P - Potential Primary Contact Use

These surface waters have the potential to be used for primary contact recreation. This classification shall be assigned to water segments for which no use attainability analysis has been performed demonstrating that a recreation class N classification is appropriate, if a reasonable level of inquiry has failed to identify any existing primary contact uses of the water segment, or where the conclusion of a UAA is that primary contact uses may potentially occur in the segment, but there are no existing primary contact uses.

(iii) Class N - Not Primary Contact Use

These surface waters are not suitable or intended to become suitable for primary contact recreation uses. This classification shall be applied only where a use attainability analysis demonstrates that there is not a reasonable likelihood that primary contact uses will occur in the water segment(s) in question within the next 20-year period.

(v) Class U - Undetermined Use

These are surface waters whose quality is to be protected at the same level as existing primary contact use waters, but for which there has not been a reasonable level of inquiry about existing recreational uses and no recreation use attainability analysis has been completed. This shall be the default classification until inquiry or analysis demonstrates that another classification is appropriate.

(b) Agriculture

These surface waters are suitable or intended to become suitable for irrigation of crops usually grown in Colorado and which are not hazardous as drinking water for livestock.

(c) Aquatic Life

These surface waters presently support aquatic life uses as described below, or such uses may reasonably be expected in the future due to the suitability of present conditions, or the waters are intended to become suitable for such uses as a goal:

(i) Class I - Cold Water Aquatic Life

These are waters that (1) currently are capable of sustaining a wide variety of cold water biota, including sensitive species, or (2) could sustain such biota but for correctable water quality conditions. Waters shall be considered capable of sustaining such biota where physical habitat, water flows or levels, and water quality conditions result in no substantial impairment of the abundance and diversity of species.

(ii) Class 1 - Warm Water Aquatic Life

These are waters that (1) currently are capable of sustaining a wide variety of warm water biota, including sensitive species, or (2) could sustain such biota but for correctable water quality conditions. Waters shall be considered capable of sustaining such biota where physical habitat, water flows or levels, and water quality conditions result in no substantial impairment of the abundance and diversity of specifies.

(iii) Class 2- Cold and Warm Water Aquatic Life

These are waters that are not capable of sustaining a wide variety of cold or warm water biota, including sensitive species, due to physical habitat, water flows or levels, or uncorrectable water quality conditions that result in substantial impairment of the abundance and diversity of species.

(d) Domestic Water Supply

These surface waters are suitable or intended to become suitable for potable water supplies. After receiving standard treatment (defined as coagulation, flocculation, sedimentation, filtration, and disinfection with chlorine or its equivalent) these waters will meet Colorado drinking water regulations and any revisions, amendments, or supplements thereto.

(i) Direct Use Water Supply Lakes and Reservoirs Sub-classification

(A) For the purpose of this section, “plant intake” means the works or structures at the head of a conduit through which surface water is diverted from a source (e.g., lake) into the treatment plant.

(B) Direct Use Water Supply Lakes and Reservoirs (DUWS) are those water supply lakes and reservoirs where:

(I) There is a plant intake located in the lake or reservoir or a man-made conveyance from the lake or reservoir that is used regularly to provide raw water directly to a water treatment plant that treats and disinfects raw water, or

(II) The Commission, based on evidence in the record, determines that the reservoir will meet the criteria in 31.13(1)(d)(i)(B)(I) in the future.

(e) Wetlands

(i) The provisions of this section do not apply to constructed wetlands.

(ii) Compensatory wetlands shall have, as a minimum, the classifications of the segment in which they are located.

(iii) Created wetlands shall be considered to be initially unclassified, and shall be subject only to the narrative standards set forth in section 31.11, unless and until the Commission adopts the “wetlands” classification described below and appropriate numeric standards for such wetlands.

(iv) Tributary wetlands shall be considered tributaries of the surface water segment to which they are most directly connected and shall be subject to interim classifications as follows: such wetlands shall be considered to have the same classifications, except for drinking water supply classifications, as the segment of which they are a part, unless the “wetlands” classification and appropriate site-specific standards have been adopted to protect the water quality dependent functions of the wetlands. Interim numeric standards for these wetlands are described in section 31.7(1)(b)(iv).

(v) The Commission may adopt a “wetlands” classification based on the functions of the wetlands in question. Wetland functions that may warrant site-specific protection include ground water recharge or discharge, flood flow alteration, sediment stabilization, sediment or other pollutant retention, nutrient removal or transformation, biological diversity or uniqueness, wildlife diversity or abundance, aquatic life diversity or abundance, and recreation. Because some wetland functions may be mutually exclusive (e.g., wildlife abundance, recreation), the functions to be protected or restored will be determined on a wetland-by-wetland basis, considering natural wetland characteristics and overall benefits to the watershed. The initial adoption of a site-specific wetlands classification and related standards to replace the interim classifications and standards described above shall not be considered a downgrading.

(2) Qualifiers

The following qualifiers may be appended to any classification to indicate special considerations. Where a qualifier applies, it will be appended to the use classification; for example, “Class 1, Warm Water Aquatic Life (Goal)”.

(a) Goal

A qualifier which indicates that the waters are presently not fully suitable but are intended to become fully suitable for the classified use. "Goal" will be used to indicate that a temporary modification for one or more of the underlying numeric standards has been granted.

(b) Seasonal

A qualifier which indicates that the water may only be suitable for a classified use during certain periods of the year. During those periods when water is in the stream, the standards as defined in sections 31.7(1)(b) and 31.9(1) shall apply.

(c) Interrupted Flow

A qualifier which indicates that due to natural or human induced conditions the continuity of flow is broken not necessarily according to a seasonal schedule. This qualifier appended to a classification indicates that the flow conditions still permit the classified use during period of flow. The presence of water diversions in a stream does not change the classifications and standards and the standards do not require that flow be maintained in the stream.

(3) Areas Requiring Special Protection

In special cases where protection of beneficial uses requires standards not provided by the classification above, special standards may be assigned after full public notice and hearings. Cases where special protection may be needed include but are not limited to wildlife preserves and waterbodies endangered by eutrophication. In addition, the Commission may adopt site-specific criteria-based standards based on site-specific analyses to protect agriculture, water supply or recreational uses.

31.14 ~~INTEGRATION INTO DISCHARGE PERMITS~~ RESERVED

~~(1) A classification and/or standard assigned by the Commission to any segment of state surface waters may affect the degree of treatment required prior to discharge of effluent to such waters. Where effluent limitation regulations applicable to discharges into a segment of state waters or Best Management Practices (BMPs) or other activities are adequate to maintain or attain the assigned classifications and standards, only the effluent limitation regulations will control the discharge. (See Regulation 71). Such segments are termed "effluent limited".~~

~~(2) Where the effluent limitation regulations applicable to the discharge or BMPs or other controls are inadequate to maintain or attain the assigned classifications and standards, a degree of treatment which will maintain or attain such classifications and standards will be required. Such segments are termed "water quality limited".~~

~~(3) For water quality limited segments, Total Maximum Daily Loads (TMDLs) and Waste Load Allocations will be developed and integrated into discharge permits. Flow modifications and other factors may also affect TMDLs and may have a corresponding effect on discharge permits.~~

~~(4) Discharge permits will be issued by the Division to comply with basic, narrative, and numeric standards and control regulations so that all discharges to state surface waters protect the classified uses. For new standards, revised standards that have become more stringent, and new interpretations of existing standards, the Division shall include schedules of compliance in permits when it determines such schedules to be necessary and appropriate. Where no statewide or site-specific numeric standard exists for a constituent of concern, the Division may establish effluent limitations or other permit conditions for such constituent if necessary to comply with the narrative standards in section 31.11(1). Such effluent limitations shall be developed in a manner consistent with the Commission's methodology for establishing numeric water quality~~

~~standards and, if applicable, shall be consistent with the criteria contained in table I, II and III of this regulation. In such circumstances, upon the request of any interested person, the Commission may hold a rulemaking hearing to consider the adoption of a numerical standard, which would then be binding.~~

~~(5) When proposed by a discharger, innovative solutions or management approaches may be used to achieve and maintain water quality standards and may be integrated into discharge permits where appropriate.~~

~~(6) Dischargers will not be required to regularly monitor for any parameters that are not identified by the Division as being of concern.~~

~~(7) The determination of metals concentrations in effluents and compliance with NPDES permit limits will be based on the "potentially dissolved" method when based on "dissolved" metals standards, and on the "total recoverable" method when based on "total recoverable" metals standards. Where a discharger can demonstrate to the satisfaction of the Division the instream relationship between dissolved and total recoverable metals, permit limits for those metals which are based on dissolved metals standards may be adjusted taking into account this relationship and be expressed in the total recoverable form. In addition, if requested by a discharger, the Division will allow the total recoverable analytical procedure for metals to be used in lieu of the potentially dissolved procedure without adjustment of the required effluent levels.~~

~~(8) The flow associated with the duration and frequency of exceedance criteria as defined in sections 31.7, 31.9 and 31.16 shall be utilized in determining permit limitations.~~

~~(9) Whenever the practical quantitation level or PQL for a pollutant is higher (less stringent) than an effluent limitation or other reporting requirement that would result from direct application of site-specific water quality standards or the statewide standards in section 31.11, the PQL shall be used as the compliance threshold; that is, the permit shall require that the level of discharge be less than the PQL. These PQLs shall be approved by the Water Quality Control Division unless they are a result of a subsequent rulemaking hearing, or a site-specific or discharge-specific PQL has been established.~~

~~(10) Discharge permit monitoring requirements for individual constituents for which standards are established in section 31.11 or pursuant to section 31.7 may be incorporated into permits where the Division determines that toxic conditions are present or that the individual constituent is likely to be present in the effluent on a continuous or recurring basis in quantities which could cause the stream standards to be violated. A constituent shall be considered not likely to be present in such quantities if data submitted by the permittee for all significant industrial users in an approved pretreatment program, and for any other individually or cumulatively significant sources, provides representative information demonstrating that specific constituents present will not result in a violation of water quality standards, at the established detection levels. Results of biomonitoring tests which show whether toxicity exists in the effluent or in the stream shall be considered by the Division when determining whether specific constituent limitations and monitoring requirements shall be included in permits. The Division may require the discharger to provide monitoring data on specific constituents, or biomonitoring test results, to determine the presence or absence of any constituent or the presence or absence of toxic conditions.~~

~~(11) Discharge permit limitations for individual constituents for which standards are established in section 31.11 or pursuant to section 31.7 may be included in discharge permits when the Division determines that the individual constituent is likely to be present in the effluent on a continuous or recurring basis in quantities which could cause the stream standards to be violated. A constituent shall be considered not likely to be present in such quantities if data submitted by the permittee for all significant industrial users in an approved pretreatment program, and for any other individually or cumulatively significant sources, provides representative information demonstrating that specific constituents present will not result in a violation of water quality standards, at the~~

established detection levels. The Division may require the discharger to provide monitoring data to determine the presence or absence of any constituent.

(12) For purposes of implementing the organic chemical standard in section 31.11, where the Division has established effluent monitoring requirements for such parameters in a permit, submission of substitute monitoring data may be allowed under the following circumstances. The Division shall allow monitoring data on the quality of a wastewater treatment plant's influent, or of wastewater released into a domestic wastewater treatment works' collection system, to be substituted for effluent monitoring where the Division determines, based on information submitted by the permittee, that such data provides representative information demonstrating that the probable source(s) of an organic chemical that warranted the permit requirements will not result in a violation of water quality standards from the permittee's discharge. If such substitute monitoring data is provided for all identified probable sources, a domestic wastewater treatment works with an approved pretreatment program shall not be required to monitor its effluent for the pollutants for which standards are established in section 31.11 more frequently than annually, unless previous monitoring has indicated that such pollutants are present in quantities that could result in exceedence of the standards.

(13) For purposes of implementation of water supply-based numerical standards for iron, manganese and sulfate into discharge permits, the Division shall develop effluent limitations that do not penalize the discharger for the concentrations of these constituents present in the water entering the wastewater treatment plant or other discharging facility, where the source of the constituents is ambient surface or ground water tributary to the receiving waters that is no worse than existing quality as of January 1, 2000.

(14) The Division will determine whether temperature limits are to be included in permits utilizing the following approach.

(a) No temperature effluent limit will be applied if a discharge is to an effluent dependent stream and there is no evidence that the aquatic life use may be negatively affected by the thermal component of the discharge. In implementing this provision, the Division will consider all readily-available and pertinent evidence regarding the potential for the thermal properties of a discharge to affect aquatic life.

(b) No temperature effluent limit will be applied to a discharge of water from a natural hot springs, so long as that water enters the receiving water in the vicinity of its natural outflow.

(c) Where neither (a) nor (b) above apply to a discharge, the Division will determine whether a limitation for temperature is to be included in a permit consistent with procedures developed in accordance with Section 61.8(2)(b)(i) of the Colorado Discharge Permit System Regulations. Where there is not adequate data to determine reasonable potential, the Division may require the permittee to collect and submit temperature data.

(d) At the time of permit renewal, where a site-specific recalculation procedure demonstrates that alternative numerical criteria are more appropriate for protection of aquatic life, these alternative criteria will be used for development of permit limits.

(e) Consistent with section 316(a) of the federal Clean Water Act, and federal implementing regulations, the Division may impose alternate effluent limitations with respect to the thermal component of such discharge.

(15) Except as provided below, where a temporary modification is adopted pursuant to sections 31.7(3)(a)(ii)(A) and (B) permits for existing and new discharges to the segment in question:

(a) Will not include a compliance schedule to meet limits based on the underlying standard during the period that the temporary modification is in effect. The Division, where necessary and within a reasonable period of the expiration of a temporary modification, shall reopen any permit for a discharge to that segment and include a compliance schedule to attain limits based on the underlying standard in accordance with section 31.14(4), above.

(b) May include a compliance schedule requiring actions intended to eliminate the uncertainty regarding the appropriate underlying standard.

(16) Subsection (15)(a) and (b) notwithstanding, the Division, based on its best professional judgment, may:

(a) Where an existing permit is reissued while a temporary modification is in effect, determine limitations or other conditions for the parameter(s) in question based on an assessment of the level of effluent quality reasonably achievable without requiring significant investment in facility infrastructure (e.g. - based on past facility performance). Such limit (numerical or otherwise) may be at or below the level of the temporary modification where such a requirement would not cause an undue economic burden, but not more restrictive than necessary to achieve the underlying standard.

(b) set effluent limits in permits for new or expanding facilities at a level that does not pose an unreasonable risk to downstream uses.

(17) Conditions on Discharger-Specific Variances: A discharger-specific variance applies only to the point source specified in the variance and to the pollutant specified in the variance. A permit action issued to implement a discharger-specific variance shall require:

(a) For existing discharges, compliance with an initial effluent limitation which, at the time the variance is approved, at a minimum represents the level currently achieved. At the time a variance is approved, unless the alternative limit is currently achieved, a compliance schedule will be specified which requires progress toward the alternative effluent limitation as quickly as feasible.

(b) For new discharges, compliance with an initial effluent limitation which, at the time the variance is approved, represents the highest degree of protection of the classified use that is currently feasible, taking into consideration the factors in subsection 31.7(4)(a)(i)(C), as appropriate.

(c) Ongoing investigation of treatment technologies, process changes, wastewater reuse, or other controls that may result in improvement in effluent quality, and submission of reports on the investigations to allow for timely consideration of the information during the scheduled review of the variance by the Commission.

(d) Conditions in the permit as necessary to administer the variance including, but not limited to, additional monitoring requirements.

31.15 SEVERABILITY

The provisions of this regulation are severable, and if any provisions or the application of the provisions to any circumstances is held invalid, the application of such provision to other circumstances and the remainder of this regulation shall not be affected thereby.

31.16 TABLES

(1) INTRODUCTION

The numeric levels for parameters listed in Tables I, II, III shall be considered and applied as appropriate by the Commission in establishing site-specific numeric standards, in accordance with section 31.7.

For the purposes of integrating these parameters into NPDES discharge permits, the duration of the averaging period for the numeric level is designated in the tables. Chronic levels and 30-day levels are to be averaged as defined in section 31.5(7). Acute levels and 1-day levels are to be averaged as defined in section 31.5(2).

Certain toxic metals for Aquatic Life have different numeric levels for different levels of water hardness. Water hardness is being used here as an indication of differences in the complexing capacity of natural waters and the corresponding variation of metal toxicity. Other factors such as organic and inorganic ligands, pH, and other factors affecting the complexing capacity of the waters may be considered in setting site-specific numeric standards in accordance with section 31.7. Metals listed in Table III for aquatic life uses are stated in the dissolved form unless otherwise indicated.

(2) TESTING PROCEDURES

Various testing procedures to determine that numeric values for water quality parameters may be appropriate to present to the Water Quality Control Commission at stream classification hearings. (See section 31.6(3)). These include:

(a) Standard Test Procedures

(i) Code of Federal Regulations, Title 40, Part 136;

(ii) The latest approved EPA Methods for Chemical Analysis of Water and Wastes;

(iii) Standard Methods for the Examination of Water and Wastewater (current edition), American Public Health Association;

(iv) ASTM Standards, Part 31, Water;

(v) EPA Biological Field and Laboratory Methods.

(b) Toxicity testing and Criteria Development Procedures:

(i) The latest EPA Methods for Chemical Analysis of Water and Wastewater; ASTM, Standard Methods for Examination of Water, Wastewater;

(ii) Interim Guidance on Determination and Use of Water-Effect Ratio for Metals, EPA-823-B-94-001, U.S. Environmental Protection Agency, February, 1994.

(iii) Other approved EPA methods.

(c) Other Procedures:

Other procedures may be deemed appropriate by either the Water Quality Control Commission and/or the Water Quality Control Division.

(3) REFERENCES

Capital letters following levels in the tables indicate the sources of the level; they are referenced below. In some cases, the source is described in a footnote.

(A) EPA Quality Criteria for Water, July 1976, U.S. Environmental Protection Agency, U.S. Government Printing Office: 1977 0-222-904, Washington, D.C. 256 p.

(B) EPA - Water Quality Criteria 1972, Ecological Research Series, National Academy of Sciences, National Academy of Engineering, EPA-R3-73-033, March 1973, Washington, D.C. 594 p.

(C) Davies, P.H. and Goettl, J.P., Jr., July 1976, Aquatic Life - Water Quality Recommendations for Heavy Metal and Other Inorganics.

(D) Parametrix Inc., Attachment II, Parametrix Reports - Toxicology Assessments of As, Cu, Fe, Mn, Se, and Zn, May 1976, Bellevue, Washington, 98005. submitted to Water Quality Control Commission by Gulf Oil Corp., Inc., 161 p.

(E) EPA National Interim Primary Drinking Water Regulations, 40 Code of Federal Regulations, Part 141.

(F) EPA, March 1977, Proposed National Secondary Drinking Water Regulation, Federal Register, Vol. 42 No. 62, pp 17143-17147.

(G) Recommendations based on review of all available information by the Committee on Water Quality Standards and Stream Classification.

(H) American Fishery Society, June 1978, A Review of the EPA Red Book Quality Criteria for Water, (Preliminary Edition).

(I) Section 307 of the Clean Water Act, regulations promulgated pursuant to Section 307.

(J) Final Report of the Water Quality Standards and Methodologies Committee to the Colorado Water Quality Control Commission, June 1986.

(K) Proposed Nitrogenous Water Quality Standards for the State of Colorado, by the Nitrogen Cycle Committee of the Basic Standards Review Task Force, March 12, 1986 (Final Draft).

(L) Quality Criteria for Water, 1986, and Updates Through 1989, U.S. Environmental Protection Agency, U.S. Government Printing Office, EPA 440/5-86-001, Washington, D.C. 20460.

(M) m superscript: level modified by Commission

(N) 1999 Update of Ambient Water Quality Criteria for Ammonia (1999 Ammonia Update), U.S. Environmental Protection Agency, Office of Water, EPA-823-F-99-024, Washington, D.C. 20460.

(O) Raisbeck, M.F., S. L. Riker, C. M. Tate, R. Jackson, M. A. Smith, K. J. Reddy and J. R. Zygmunt. 2008. Water quality for Wyoming livestock and wildlife. University of Wyoming AES Bulletin B-1183.

TABLE I PHYSICAL AND BIOLOGICAL PARAMETERS								
Parameter	Recreational			Aquatic Life			Agriculture	Domestic Water Supply
	CLASS E (Existing Primary Contact) and CLASS U (Undetermined Use)	CLASS P (Potential Primary Contact Use)	CLASS N (Not Primary Contact Use)	CLASS 1 COLD WATER BIOTA	CLASS 1 WARM WATER BIOTA	CLASS 2		
PHYSICAL								
D.O. (mg/l)[1][9]	3.0(A)	3.0(A)	3.0(A)	6.0[2](G) 7.0(spawning)	5.0[2](G)	5.0(A)	3.0(A)	3.0(A)
pH (Std. Units)[3]	6.5–9.0 (Bm)	6.5–9.0 (Bm)	6.5–9.0 (Bm)	6.5–9.0(A)	6.5–9.0(A)	6.5–9.0(A)		5.0–9.0(A)
Suspended Solids[4]								

TABLE I PHYSICAL AND BIOLOGICAL PARAMETERS								
Parameter	Recreational			Aquatic Life			Agriculture	Domestic Water Supply
	CLASS E (Existing Primary Contact) and CLASS U (Undetermined Use)	CLASS P (Potential Primary Contact Use)	CLASS N (Not Primary Contact Use)	CLASS 1 COLD WATER BIOTA	CLASS 1 WARM WATER BIOTA	CLASS 2		
Temperature (°C) [5]				**Rivers & Streams: Tier I[a]:** ~~June-Sept~~July-Aug = 1~~7~~6.0~~9~~ (ch), 21.~~7~~3 (ac) May,June,Sept,Oct = Narrative applies ~~Oct - May~~Nov-Apr = 9.0 (ch), 13.0 (ac) **Tier II[b]:** ~~Apr-Oct~~May-Sept = 18.3 (ch), 2~~3~~4.9~~3~~ (ac) Mar,Apr,Oct,Nov = Narrative applies ~~Nov-Mar~~Dec-Feb = 9.0 (ch), 13.0 (ac) **Lakes & Res:** ~~Apr-Dec~~May-Sept = 17.0 (ch), 21.2 (ac) Mar,Apr,Oct,Nov = Narrative applies ~~Jan-Mar~~ Dec-Feb = 9.0 (ch), 13.0 (ac) **Large Lakes & Res[c]:** ~~Apr-Dec~~May-Sept = 18.3 (ch), 2~~3~~4.8~~2~~ (ac) Mar,Apr,Oct,Nov = Narrative applies ~~Jan-Mar~~Dec-Feb = 9.0 (ch), 13.0 (ac)	**Rivers & Streams: Tier I[d]:** ~~Mar-Nov~~May-Oct = 24.2 (ch), 29.0 (ac) Mar,Apr,Nov,Dec = Narrative applies ~~Dec~~Jan-Feb= 12.1 (ch), ~~14.5~~24.6 (ac) **Tier II[e]:** ~~Mar-Nov~~May-Oct = 27.5 (ch), 28.6(ac) Mar,Apr,Nov,Dec = Narrative applies ~~Dec~~Jan-Feb = 13.8 (ch), ~~14.3~~26.4 (ac) **Tier III[f]:** ~~Mar-Nov~~May-Oct = 28.7 (ch), 31.8 (ac) Mar,Apr,Nov,Dec = Narrative applies ~~Dec~~Jan-Feb = 14.3 (ch), ~~15.9~~24.9 (ac) **Lakes & Res:** ~~Apr-Dec~~May-Oct = 26.3~~2~~ (ch), 29.5~~3~~ (ac) Mar,Apr,Nov,Dec = Narrative applies Jan-~~Mar~~ Feb = 13.~~2~~1 (ch), ~~14.8~~25.3 (ac)	Same as Class 1		
BIOLOGICAL:								
E. coli per 100 ml	126[7]	205[7]	630[7]					630
Note: Capital letters In parentheses refer to references listed in section 31.16(3); Numbers in parentheses refer to Table 1 footnotes.								

TABLE I PHYSICAL AND BIOLOGICAL PARAMETERS								
Parameter	Recreational			Aquatic Life			Agriculture	Domestic Water Supply
	CLASS E (Existing Primary Contact) and CLASS U (Undetermined Use)	CLASS P (Potential Primary Contact Use)	CLASS N (Not Primary Contact Use)	CLASS 1 COLD WATER BIOTA	CLASS 1 WARM WATER BIOTA	CLASS 2		

Temperature Definitions

[a] Cold Stream Tier I temperature criteria apply where cutthroat trout, ~~and~~ brook trout, or mountain whitefish are expected to occur.

[b] Cold Stream Tier II temperature criteria apply where cold-water aquatic species, excluding cutthroat trout or brook trout, are expected to occur.

[c] Large Cold Lakes temperature criteria apply to lakes and reservoirs with a surface area equal to or greater than 100 acres surface area.

[d] Warm Stream Tier I temperature criteria apply where common shiner, ~~J~~johnny darter, ~~or~~ orangethroat darter, or stonecat are expected to occur.

[e] Warm Stream Tier II temperature criteria apply where brook stickleback, central stoneroller, creek chub, finescale dace, longnose dace, mountain sucker, ~~N~~northern redbelly dace, razorback sucker, or white sucker are expected occur, and none of the more thermally sensitive species in Tier I are expected to occur.

[f] Warm Stream Tier III temperature criteria apply where warm-water aquatic species are expected to occur, and none of the more thermally sensitive species in Tiers I and II are expected to occur.

Table I – Footnotes

(1) Standards for dissolved oxygen are minima, unless specified otherwise. For the purposes of permitting, dissolved oxygen may be modeled for average conditions of temperature and flow for the worst case time period. Where dissolved oxygen levels less than these levels occur naturally, a discharge shall not cause a further reduction in dissolved oxygen in receiving water. (For lakes, also see footnote 9.)

(2) A 7.0 mg/liter standard (minimum), during periods of spawning of cold water fish, shall be set on a case-by-case basis as defined in the NPDES or CDPS permit for those dischargers whose effluent would affect fish spawning.

(3) The pH standards of 6.5 (or 5.0) and 9.0 are an instantaneous minimum and maximum, respectively to be applied as effluent limits. In determining instream attainment of water quality standards for pH, appropriate averaging periods may be applied, provided that beneficial uses will be fully protected.

(4) Suspended solid levels will be controlled by Effluent Limitation Regulations, Basic Standards, and Best Management Practices (BMPs).

(5) Temperature shall maintain a normal pattern of diel and seasonal fluctuations and spatial diversity with no abrupt changes and shall have no increase in temperature of a magnitude, rate, and duration deleterious to the resident aquatic life. These criteria shall not be interpreted or applied in a manner inconsistent with section 25-8-104, C.R.S.

a. The MWAT of a waterbody shall not exceed the chronic temperature criterion more than once in three years~~, except as described in c, below~~.

b. The DM of a waterbody shall not exceed the acute temperature criterion more than once in three years~~, except as described in c, below~~.

c. Elevation Adjustment in Transition Zones: For individual sites in the transition zones, the statewide elevation adjustment shall apply. For such sites, the segment MWAT shall be replaced by the calculated $MWAT_{elev}$ based on the site's elevation.

Temperature Tier	**Transition Zone**	**$MWAT_{elev}$ (calculated using site elevation)**
Cold Stream Tier I	Below 7516 ft	$MWAT_{elev} = -0.002(elevation) + 31.931$
Cold Stream Tier II	Below 6816 ft	
Warm Stream Tier I	Below 3866 ft	
Warm Stream Tier II	NA	
Warm Stream Tier III	NA	
Cold Lakes	Below 9433 ft	$MWAT_{elev} = -0.0016(elevation) + 32.31$
Cold Large Lakes	Below 8632 ft	
Warm Lakes	Below 3702 ft	

~~c. The following shall not be considered an exceedance of the criteria:~~

~~i. Air temperature excursion: ambient water temperature may exceed the criteria in Table 1 or the applicable site-specific standard when the daily maximum air temperature exceeds the 90th percentile value of the monthly maximum air temperatures calculated using at least 10 years of air temperature data.~~

~~ii. Low-flow excursion: ambient water temperature may exceed the criteria in Table 1 or the applicable site-specific standard when the daily stream flow falls below the acute critical low flow or monthly average stream flow falls below the chronic critical low flow, calculated pursuant to Regulation 31.9(1)~~

~~iii. Lakes and reservoirs: When a lake or reservoir is stratified, the mixed layer may exceed the criteria in Table 1 provided that an adequate refuge exists in water below the mixed layer. Adequate refuge depends on concurrent attainment of applicable dissolved oxygen standards. If the refuge is not adequate because of dissolved oxygen levels, the lake or reservoir may be included on the 303(d) List as "impaired" for dissolved oxygen, rather than for temperature.~~

~~iv. Winter shoulder-season excursion: For the purposes of assessment, ambient water temperatures in cold streams may exceed the winter criteria in Table 1 or applicable site-specific winter standard for 30-days before the winter/summer transition, and 30-days after the summer/winter transition, provided **that** the natural seasonal progression of temperature is maintained **and that temperature exceedances during these periods are not the result of anthropogenic activities in the watershed.**~~

(6) Deleted

(7) *E.coli* criteria and resulting standards for individual water segments, are established as indicators of the potential presence of pathogenic organisms. Standards for *E. coli* are expressed as a two-month geometric mean. Site-specific or seasonal standards are also two-month geometric means unless otherwise specified.

(8) Deleted

(9) The dissolved oxygen standard applies to lakes and reservoirs as follows.

a. Recreation: In the upper portion of a lake or reservoir, dissolved oxygen shall not be less than the criteria in Table 1 or the applicable site-specific standard. In the lower portion of a lake or reservoir, dissolved oxygen may be less than the applicable standard except where a site-specific standard has been adopted. A site-specific dissolved oxygen standard will be established for the lower portion of a lake or reservoir where there is evidence that primary contact occurs within the lower portion.

b. Agriculture: In the upper portion of a lake or reservoir, dissolved oxygen shall not be less than the criteria in Table 1 or the applicable site-specific standard. In the lower portion of a lake or reservoir, dissolved oxygen may be less than the applicable standard except where a site-specific standard has been adopted. A site-specific dissolved oxygen standard will be established for the lower portion of a lake or reservoir where there is evidence that livestock watering or irrigation water is pumped from the lower portion.

c. Aquatic Life: In the upper portion of a lake or reservoir, dissolved oxygen shall not be less than the criteria in Table 1 or the applicable site-specific standard. In the lower portion of a lake or reservoir, dissolved oxygen may be less than the applicable standard ~~except where footnote 5(c)(iii) applies or a site-specific standard has been adopted~~ as long as there is adequate refuge. Adequate refuge means that there is a concurrent attainment of the applicable Table 1 temperature and dissolved oxygen criteria. A site-specific dissolved oxygen standard will be established for the lower portion of a lake or reservoir where the expected aquatic community has habitat requirements within the lower portion.

i. Fall turnover exclusion: Dissolved oxygen may drop 1 mg/l below the criteria in Table 1 in the upper portion of a lake or reservoir for up to seven consecutive days during fall turnover provided that profile measurements are taken at a consistent location within the lake or reservoir 7-days before, and 7-days after the profile with low dissolved oxygen. The profile measurements taken before and after the profile with low dissolved oxygen must attain the criteria in Table 1 in the upper portion of the lake or reservoir. The fall turnover exclusion does not apply to lakes or reservoirs with fish species that spawn in the fall unless there are data to show that adequate dissolved oxygen is maintained in all spawning areas, for the entire duration of fall turnover.

d. Water Supply: The dissolved oxygen criteria is intended to apply to the epilmnion and metalimnion strata of lakes and reservoirs. Dissolved oxygen in the hypolimnion may, due to the natural conditions, be less than the table criteria. No reductions in dissolved oxygen levels due to controllable sources is allowed.

TABLE II INORGANIC PARAMETERS								
PARAMETER	AQUATIC LIFE						AGRICULTURE	DOMESTIC WATER SUPPLY
	CLASS 1 Cold Water Biota		CLASS 1 Warm Water Biota		CLASS 2			
INORGANICS:								
Ammonia (mg/l as N) Total	chronic = elsp or elsa [(1)] acute = sp [(1)] (N)		chronic = Apr 1-Aug 31=elsp[(1)] Sept 1-Mar 29=elsa[(1)] acute = sa[(1)] (N)		Class 2 Cold/Warm have the same standards as Class 1 Cold/Warm (N)			
Total residual Chlorine (mg/l)	0.019 (L) (1-day)	0.011 (L) (30-day)	0.019 (L) (1-day)	0.011 (L) (30-day)	0.019 (L) (1-day)	0.011 (L) (30-day)		
Cyanide - Free (mg/l)	0.005(H) (1-day)		0.005(H) (1-day)		0.005(H) (1-day)		0.2(G) (1-day)	0.2(B,D^m) (1-day)
Fluoride (mg/l)								2.0[(3)](E) (1-day)
Nitrate (mg/l as N)							100([2])(B)	10[(4)](K) (1-day)
Nitrite (mg/l as N)	TO BE ESTABLISHED ON A CASE BY CASE BASIS ([3])				A CASE BY CASE BASIS [(3)]		10([2])(B) (1-day)	1.0(2)[(4)](K) (1-day)
Sulfide as H_2S (mg/l)	0.002 undissociated(A) (30-day)		0.002 undissociated(A) (30-day)		0.002 undissociated(A) (30-day)			0.05(F) (30-day)
Boron (mg/l)							0.75(A,B) (30-day)	
Chloride (mg/l)								250(F) (30-day)
Sulfate (mg/l)								250(F) (30-day)
Asbestos								7,000,000 fibers/L[(5)]
NOTE: Capital letters in parentheses refer to references listed 31.16(3); numbers in parentheses refer to table II footnotes.								

Table II – Footnotes

(1)

Chronic:

For Fish Early Life Stage Present (elsp):

$$chronic\ elsp = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right) * MIN\left(2.85, 1.45*10^{0.028(25-T)}\right)$$

For Fish Early Life Stage Absent (elsa):

$$chronic\ elsa = \left(\frac{0.0577}{1+10^{7.688-pH}} + \frac{2.487}{1+10^{pH-7.688}} \right) * 1.45*10^{0.028*(25-MAX(T,7))}$$

Acute:

For salmonids present (sp):

$$acute\ sp = \frac{0.275}{1+10^{7.204-pH}} + \frac{39.0}{1+10^{pH-7.204}}$$

For salmonids absent (sa):

$$acute\ sa = \frac{0.411}{1+10^{7.204-pH}} + \frac{58.4}{1+10^{pH-7.204}}$$

(2) In order to provide a reasonable margin of safety to allow for unusual situations such as extremely high water ingestion or nitrite formation in slurries, the NO_3-N plus NO_2-N content in drinking waters for livestock and poultry should be limited to 100ppm or less, and the NO2-N content alone be limited to 10ppm or less.

(3) Salmonids and other sensitive fish species present:

Acute= 0.10 (0.59 * [Cl-]+3.90) mg/l NO2-N

Chronic= 0.10 (0.29 * [Cl-]+0.53) mg/l NO2-N

(upper limit for Cl- =40 mg/l)

Salmonids and other sensitive fish species absent:

Acute= 0.20 (2.00 * [Cl-]+0.73) mg/l NO2-N

Chronic=0.10 (2.00 *[Cl-]+0.73) mg/l NO2-N

[Cl-] = Chloride ion concentration

(upper limit for Cl- =22 mg/l)

(4) The nitrate limit shall be calculated to meet the relevant standard in accordance with the provisions of Section 31.10 of this regulation, unless (this subsection 4 is repealed effective 12/31/2022):

a. The permittee provides documentation that a reasonable level of inquiry demonstrates that there is no actual domestic water supply use of the waters in question or of hydrologically connected ground water, or

b. The combined total of nitrate plus nitrite at the point of intake to the domestic water supply will not exceed 10 mg/l as demonstrated through modeling or other scientifically supportable analysis

(5) Asbestos standard applies to fibers 10 micrometers or longer.

TABLE III METAL PARAMETERS (Concentration in µg/l)						
METAL[1]	AQUATIC LIFE[1][3][4][J]		AGRICULTURE[2]	DOMESTIC WATER-SUPPLY[2]	WATER + FISH[7]	FISH INGESTION[10]
	ACUTE	CHRONIC				
Aluminum	$e^{(1.3695[\ln(\text{hardness})]+1.8308)}$ (tot.rec.)	87 or $e^{(1.3695[\ln(\text{hardness})]-0.1158}$ (tot.rec.)[11]			---	---
Antimony				6.0 (30-day)	5.6	640
Arsenic	340	150	100[A] (30-day)	0.02 – 10[13] (30-day)~~[14]~~	0.02	7.6
Barium				1,000[E](1-day) 490 (30-day)	---	---
Beryllium			100[A,B] (30-day)	4.0 (30-day)	---	---
Cadmium	$(1.136672-[\ln(\text{hardness}) \times (0.041838)])\times e^{0.9151[\ln(\text{hardness})]-3.1485}$ (Trout)=$(1.136672-[\ln(\text{hardness})\times (0.041838)])\times e^{0.9151[\ln(\text{hardness})]-3.6236}$	$(1.101672-[\ln(\text{hardness}) \times (0.041838)] \times e^{0.7998[\ln(\text{hardness})]-4.4451}$	10[B] (30-day)	5.0[E] (1-day)	---	---
Chromium III[5]	$e^{(0.819[\ln(\text{hardness})]+2.5736)}$	$e^{(0.819[\ln(\text{hardness})]+0.5340)}$	100[B] (30-day)	50[E] (1-day)	---	---
Chromium VI[5]	16	11	100[B] (30-day)	50[E] (1-day)	100(30-day)	---
Copper	$e^{(0.9422[\ln(\text{hardness})]-1.7408)}$	$e^{(0.8545[\ln(\text{hardness})]-1.7428)}$	200[B]	1,000[F] (30-day)	1,300	---
Iron		1,000(tot.rec.)[A,C]		300(dis)[F] (30-day)	---	---
Lead	$(1.46203-[(\ln(\text{hardness})*(0.145712)])*e^{(1.273[\ln(\text{hardness})]-1.46)}$	$(1.46203-[(\ln(\text{hardness})*(0.145712)])*e^{(1.273[\ln(\text{hardness})]-4.705)}$	100[B] (30-day)	50[E] (1-day)	—	---
Manganese	$e^{(0.3331[\ln(\text{hardness})]+6.4676)}$	$e^{(0.3331[\ln(\text{hardness})]+5.8743)}$	200[B] (30-day)[12]	50(dis)[F] (30-day)	—	---
Mercury		FRV(fish)[6] = 0.01 (Total)		2.0[E] (1-day)	—	---
Molybdenum			300[O] (30-day)[16~~5~~]	210 (30-day)		
Nickel	$e^{(0.846[\ln(\text{hardness})]+2.253)}$	$e^{(0.846[\ln(\text{hardness})]+0.0554)}$	200[B] (30-day)	100[E] (30-day)	610	4,600

TABLE III METAL PARAMETERS (Concentration in µg/l)						
METAL[1]	AQUATIC LIFE[1][3][4][J]		AGRICULTURE[2]	DOMESTIC WATER-SUPPLY[2]	WATER + FISH[7]	FISH INGESTION[10]
	ACUTE	CHRONIC				
Selenium[9]	18.4	4.6	20[B,D] (30-day)	50[E] (30-day)	170	4,200
Silver	½$e^{(1.72[\ln(\text{hardness})]-6.52)}$	$e^{(1.72[\ln(\text{hardness})]-9.06)}$ (Trout) = $e^{(1.72[\ln(\text{hardness})]-10.51)}$		100[F] (1-day)	—	---
Thallium		15[C]		0.5 (30-day)	0.24	0.47
Uranium[17~~6~~]	$e^{(1.1021[\ln(\text{hardness})]+2.7088)}$	$e^{(1.1021[\ln(\text{hardness})]+2.2382)}$		16.8 – 30[13] (30-day)	---	---
Zinc	$0.978*e^{(0.9094[\ln(\text{hardness})]+0.9095)}$	$0.986*e^{(0.9094[\ln(\text{hardness})]+0.6235)}$ (sculpin)[~~15~~14] = $e^{(2.140[\ln(\text{hardness})]-5.084)}$	2000[B] (30-day)	5,000[F] (30-day)	7,400	26,000
NOTE: Capital letters in parentheses refer to references listed in section 31.16(3); Numbers in parentheses refer to Table III footnote						

Table III – Footnotes

(1) Metals for aquatic life use are stated as dissolved unless otherwise specified.

Where the hardness-based equations in Table III are applied as table value water quality standards for individual water segments, those equations define the applicable numerical standards. As an aid to persons using this regulation, Table IV provides illustrative examples of approximate metals values associated with a range of hardness levels. This table is provided for informational purposes only.

(2) Metals for agricultural and domestic uses are stated as total recoverable unless otherwise specified.

(3) Hardness values to be used in equations are in mg/l as calcium carbonate and shall be no greater than 400 mg/l. The exception is for ~~Al~~aluminum, where the upper cap on calculations is a hardness of 220 mg/l. For permit effluent limit calculations, the hardness values used in calculating the appropriate metal standard should be based on the lower 95 per-cent confidence limit of the mean hardness value at the periodic low flow criteria as determined from a regression analysis of site-specific data. Where insufficient site-specific data exists to define the mean hardness value at the periodic low flow criteria, representative regional data shall be used to perform the regression analysis. Where a regression analysis is not possible, a site-specific method should be used, e.g., where hardness data exists without paired flow data, the mean of the hardness during the low flow season established in the permit shall be used. In calculating a hardness value, regression analyses should not be extrapolated past the point that data exist. For determination of standards attainment, where paired metal/hardness data is available, attainment will be determined for individual sampling events. Where paired data is not available, the mean hardness will be used.

(4) Both acute and chronic numbers adopted as stream standards are levels not to be exceeded more than once every three years on the average.

(5) Unless the stability of the chromium valence state in receiving waters can be clearly demonstrated, the standard for chromium should be in terms of chromium VI. In no case can the sum of the instream levels of ~~H~~hexavalent and ~~T~~trivalent ~~C~~chromium exceed the water supply standard of 50 µg/l ~~total~~ chromium in those waters classified for domestic water use.

(6) FRV means Final Residue Value and should be expressed as "Total" because many forms of mercury are readily converted to toxic forms under natural conditions. The FRV value of 0.01 µg/liter is the maximum allowed concentration of total mercury in the water. ~~that will present~~ This value is estimated to prevent ~~bioconcentration or~~ bioaccumulation of methylmercury in edible fish or shellfish tissue ~~at~~ above the fish tissue standard for methylmercury of 0.3 mg/kg ~~the U.S. Food and Drug Administration's (FDA) action level of 1 ppm. The FDA action level is intended to protect the average consumer of commercial fish; it is not stratified for sensitive populations who may regularly eat fish~~.

~~A 1990 health risk assessment conducted by the Colorado Department of Public Health and Environment indicates that when sensitive subpopulations are considered, methylmercury levels, in sport-caught fish as much as one-fifth lower (0.2 ppm) than the FDA level may pose a health risk.~~

In waters supporting populations of fish or shellfish with a potential for human consumption, the Commission can adopt the FRV as the stream standard to be applied as a 30-day average. Alternatively, the Commission can adopt site-specific ambient based standards for mercury in accordance with section 31.7(1)(b)(ii) and (iii). ~~When this option is selected by a proponent for a~~

~~particular segment, information must be presented that (1) ambient water concentrations of total mercury are detectable and exceed the FRV, (2) that there are detectable levels of mercury in the proponent's discharge and that are contributing to the ambient levels and (3) that concentrations of methylmercury in the fish exposed to these ambient levels do not exceed the maximum levels suggested in the CDH Health Advisory for sensitive populations of humans. Alternatively or in addition the proponent may submit information showing that human consumption of fish from the particular segment is not occurring at a level which poses a risk to the general population and/or sensitive populations.~~ Site-specific water-column standards shall be calculated from the site-specific bioaccumulation factor, using measured water column concentrations of total mercury and measured fish tissue concentrations of methylmercury. Fish tissue data shall be collected that are representative of the size range for each species that may be consumed.

A 1990 health risk assessment conducted by the Colorado Department of Public Health and Environment indicates that when sensitive subpopulations are considered, methylmercury levels in sport-caught fish as much as one-fifth lower (0.2 ppm) than the FDA level may pose a health risk.

(7) Applicable to all Class 1 aquatic life segments which also have a water supply classification or Class 2 aquatic life segments which also have a water supply classification designated by the Commission after rulemaking hearing. These Class 2 segments will generally be those where fish of a catchable size and which are normally consumed are present, and where there is evidence that fishing takes place on a recurring basis. The Commission may also consider additional evidence that may be relevant to a determination whether the conditions applicable to a particular segment are similar enough to the assumptions underlying the water plus fish ingestion criteria to warrant the adoption of water plus fish ingestion standards for the segment in question.

(8) The use of 0.1 micron pore size filtration for determining dissolved iron is allowed as an option in assessing compliance with the drinking water standard.

(9) Selenium is a bioaccumulative metal and subject to a range of toxicity values depending upon numerous site-specific variables.

(10) Applicable to the following segments which do not have a water supply classification: all Class 1 aquatic life segments or Class 2 aquatic life segments designated by the Commission after rulemaking hearing. These class 2 segments will generally be those where fish of a catchable size and which are normally consumed are present, and where there is evidence that fishing takes place on a recurring basis. The Commission may also consider additional evidence that may be relevant to a determination whether the conditions applicable to a particular segment are similar enough to the assumptions underlying the fish ingestion criteria to warrant the adoption of fish ingestion standards for the segment in question.

(11) Where the pH is equal to or greater than 7.0 in the receiving water after mixing, the chronic hardness-dependent equation will apply. Where pH is less than 7.0 in the receiving water after mixing, either the 87 µg/l chronic total recoverable aluminum criterion or the criterion resulting from the chronic hardness-dependent equation will apply, whichever is more stringent.

(12) This standard is only appropriate where irrigation water is applied to soils with pH values lower than 6.0.

(13) Whenever a range of standards is listed and referenced to this footnote, the first number in the range is a strictly health-based value, based on the Commission's established methodology for human health-based standards. The second number in the range is a maximum contaminant level, established under the federal Safe Drinking Water Act that has been determined to be an acceptable level of this chemical in public water supplies, taking treatability and laboratory detection limits into account. 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. Water bodies will be considered in attainment of this 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.

~~(14) The arsenic limit shall be calculated to meet the relevant standard in accordance with the provisions of Section 31.10 of this regulation unless:~~

~~a. The permittee provides documentation that a reasonable level of inquiry demonstrates that there is no actual domestic water supply use of the waters in question or of hydrologically connected ground water, or~~

~~b. The arsenic concentration at the point of intake to the domestic water supply will not exceed the standard as demonstrated through modeling or other scientifically supportable analysis.~~

(1~~5~~4) The chronic zinc equation for sculpin applies in areas where mottled sculpin are expected to occur and hardness is less than 102 ppm $CaCO_3$. The regular chronic zinc equation applies in areas where mottled sculpin are expected to occur, but the hardness is greater than 102 ppm $CaCO_3$.

(1~~6~~5) In determining whether adoption of a molybdenum standard is appropriate for a segment, the Commission will consider whether livestock or irrigated forage is present or expected to be present. The table value assumes that copper and molybdenum concentrations in forage are 7 mg/kg and 0.5 mg/kg respectively, forage intake is 6.8 kg/day, copper concentration in water is 0.008 mg/l, water intake is 54.6 l/day, copper supplementation is 48 mg/day, and that a Cu:Mo ratio of 4:1 is appropriate with a 0.075 mg/l molybdenum margin of safety. Numeric standards different than the table-value may be adopted on a site-specific basis where appropriate justification is presented to the Commission. In evaluating site-specific standards, the relevant factors that should be considered include the presence of livestock or irrigated forage, and the total intake of copper, molybdenum, and sulfur from all sources (i.e., food, water, and dietary supplements). In general, site-specific standards should be based on achieving a safe copper:molybdenum total exposure ratio, with due consideration given to the sulfur exposure. A higher Cu:Mo ratio may be necessary where livestock exposure to sulfur is also high. Species specific information shall be considered where cattle are not the most sensitive species.

(1~~7~~6) When applying the table value standards for uranium to individual segments, the Commission shall consider the need to maintain radioactive materials at the lowest practical level as required by Section 31.11(2) of the Basic Standards regulation.

Table IV
Table Value Standards for Selected Hardnesses
(concentration in ug/L, dissolved)

		Mean Hardness in mg/L calcium carbonate									
		25	50	75	100	150	200	250	300	350	400
Aluminum	Acute	512	1324	2307	3421	5960	8838	10071	10071	10071	10071
	Chronic	73	189	329	488	851	1262	1438	1438	1438	1438
Cadmium	Acute trout	0.5	0.9	1.3	1.7	2.4	3.1	3.8	4.4	5.1	5.7
	Acute	0.8	1.5	2.1	2.7	3.9	5.0	6.1	7.1	8.1	9.2
	Chronic	.15	.25	0.34	0.42	0.58	0.72	0.85	0.97	1.1	1.2
Chromium III	Acute	183	323	450	570	794	1005	1207	1401	1590	1773
	Chronic	24	42	59	74	103	131	157	182	207	231
Copper	Acute	3.6	7.0	10	13	20	26	32	38	44	50
	Chronic	2.7	5.0	7.0	9.0	13	16	20	23	26	29
Lead	Acute	14	30	47	65	100	136	172	209	245	281
	Chronic	0.5	1.2	1.8	2.5	3.9	5.3	6.7	8.1	9.5	11
Manganese	Acute	1881	2370	2713	2986	3417	3761	4051	4305	4532	4738
	Chronic	1040	1310	1499	1650	1888	2078	2238	2379	2504	2618
Nickel	Acute	145	260	367	468	660	842	1017	1186	1351	1513
	Chronic	16	29	41	52	72	94	113	132	150	168
Silver	Acute	0.19	0.62	1.2	2.0	4.1	6.7	9.8	13	18	22
	Chronic Trout	0.01	0.02	0.05	0.08	0.15	0.25	0.36	0.50	0.65	0.81
	Chronic	0.03	0.10	0.20	0.32	0.64	1.0	1.6	2.1	2.8	3.5
Uranium	Acute	521	1119	1750	2402	3756	5157	6595	8062	9555	11070
	Chronic	326	699	1093	1501	2346	3221	4119	5036	5968	6915
Zinc	Acute	45	85	123	160	231	301	368	435	500	565
	Chronic sculpin	6.1	27	64	118	N/A	N/A	N/A	N/A	N/A	N/A
	Chronic	34	65	93	121	175	228	279	329	379	428
Shaded values exceed drinking water supply standards.											

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WQCD PROPOSED

31.53 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JUNE 13-14, 2016 RULEMAKING, FINAL ACTION AUGUST 8, 2016, EFFECTIVE DATE DECEMBER 31, 2016

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

BASIS AND PURPOSE

In this rulemaking the Commission considered revisions to criteria and revisions to implementation methodologies. The Commission adopted changes as detailed below.

I. TEMPERATURE

In 2007, the Commission adopted temperature criteria and implementation methods for Colorado's surface waters. The criteria were derived from laboratory-based studies of individual fish species' tolerance to elevated water temperatures. The implementation methods were developed based on review of other states' methods and adaptation of methods for implementation of other water quality standards. Since that time, the Division and stakeholders have gained a great deal of experience with empirical records showing spatial and temporal patterns of temperature in surface water and effluent. Experience has shown that the adopted standards often are not attainable due to natural environmental constraints that are closely tied to elevation. Consequently, revisions are needed to incorporate those natural constraints and are an appropriate incremental improvement to the current standards. The revisions adopted in this rulemaking build on a decade of practical experience gained from massive data collection efforts. Today's actions are intended to improve the basis for the standards, incorporate the effects of elevation on attainability and ensure more consistent implementation.

There are four parts to the revisions. The first, part A, is a change to the definition of existing quality to clarify the implementation of exceedance frequency and eliminate unworkable excursions. Part B establishes transition zones that locate elevations below which the physiologically-based temperature standards cannot be attained routinely. Part C establishes elevation zones in which the start date or end date of winter cannot be attained routinely; these are shoulder seasons. Parts B and C address the spatial and temporal limitations, respectively, of having a fixed boundary regulatory scheme superimposed on a continuous, elevation-related natural temperature gradient. Parts B and C also include changes to implementation. Part D revises criteria to incorporate new information about the temperature tolerances of fish.

A. Definition of Existing Quality

The Commission restructured the definition of existing quality (EQ) at 31.5(20) and modified the portion about temperature to incorporate a once in three year allowable exceedance frequency. EQ is a characteristic of the ambient condition that is used in two contexts: 1) comparing the ambient condition to water quality standards to determine whether standards are attained; and 2) characterizing the upstream water quality for calculating permit effluent limits. It has also been used when setting ambient standards. Today's changes were made to clarify the definition for temperature so that it can be consistently applied in each programmatic context.

The revised definition specifies that the value for EQ is the value of the maximum DM and WAT which corresponds to a once in 3-year exceedance frequency. A reference table is provided in the definition.

The Commission also deleted the low flow and air temperature excursions at 31.16 Table I – Footnote 5(c)(i) and (ii). They proved to be problematic to implement with little apparent benefit.

For implementation on a monthly basis in permits, only one EQ allowance (the EQ MWAT) is provided in each three year period. Monthly EQ values are not appropriate because the allowable exceedance frequency (the recurrence interval) is based on the time that it takes for the aquatic community to recover from a harmful event. For calculation of monthly permit limits, the monthly EQ is the highest WAT (or DM) observed in each month or the EQ MWAT (or DM), whichever is smaller. In that way, only the month in which the EQ MWAT (or DM) occurred gets the allowance. All other months are characterized by the highest observed value.

B. Additional Flexibility in Transition Zones

The physiologically-based summer temperature standards are not attainable in every year in every segment where they have been adopted. The attainability problem is not tied to specific watersheds or isolated locations, but is instead a statewide phenomenon that shows a clear spatial pattern related to elevation. The problem arises from an unavoidable conflict between the historical distributions of fish species and the expectation that protective conditions for all life history stages can be sustained in every year throughout a segment. The environment varies naturally and fish move in response to environmental stimuli.

Temperature tiers have been adopted on the basis of the best available information concerning the fish species that have been found in the segment. The assignment of temperature tiers is logical and defensible, but an implementation problem arises if the assignment is accompanied automatically by the assumption that temperature standards are always attainable throughout the segment.

Water temperature in unimpacted streams is governed by physical factors (e.g., solar radiation) that affect heat gain and loss, for which elevation is a practical surrogate. Current evidence shows that because of this natural phenomenon, maximum temperatures are expected to exceed the physiologically-based standards in some years at lower elevations for some temperature tiers.

In this rulemaking the Commission adopted a statewide elevation adjustment for the summer MWAT (the $MWAT_{elev}$) that defines a modified expectation for maximum temperatures. The elevation range where the adjustment is applied is called the transition zone. As a policy matter, the Commission chose to include this adjustment to the table values in Table I (Physical and Biological Parameters) in section 31.16, at Footnote 5(c). Elevation is a surrogate for the natural factors that constrain water temperatures throughout the state. This adjustment informs, but does not change, the narrative standard which requires maintenance of a normal pattern of increase and decrease in water temperature. This adjustment does not eliminate the opportunity for site-specific numeric standards. At the time of the next routine review of each basin regulation, this elevation adjustment will be implemented.

At this time, the Commission has not provided the same adjustment to the Daily Maxima. Such an adjustment could be considered on a site-specific basis and future analysis may identify the same statewide attainability issues that can be addressed in future rulemaking.

Lakes

Temperature standards for lakes apply to the upper, mixed layer where water temperatures are governed by physical factors (e.g., solar radiation). Elevation has proven to be a useful surrogate for the suite of physical factors driving temperature in lakes. The Division presented evidence based on 574 lake-years of data from 116 lakes sampled over a broad range of elevations during the last 20 years. To be included in this analysis, a lake had to have been sampled during a 6-week period in mid-summer (11 July to 21 August) when maximum temperatures (MWAT) are expected. Several lakes showed evidence of anthropogenic influence in the form of “tailwater” effects from upstream reservoirs (e.g., Morrow Point) or very short retention times (e.g., Estes); these were excluded.

Regression analysis was used to define the relationship between summer MWAT and elevation. Lines for individual years were compared to assess interannual variability, which was small for the slope. The exceedance frequency was addressed by developing a regression line for the 66.7th percentile MWAT at each of the 33 lakes with at least 5 years of qualifying data. In the resulting equation, elevation explains more than 90% of the variability in MWATs for lakes.

$$MWAT_{elev} = -0.0016(elevation) + 32.31$$

The MWAT adjustment shall be used for lakes where the $MWAT_{elev}$ is predicted to exceed the adopted standard. For example, the MWAT adopted for Cold Large Lakes currently is 18.3 ^{o}C, and the equation predicts that it is not routinely attainable in lakes at elevations below about 8630 ft. This is consistent with the elevations of lakes for which site-specific temperature standards have already been adopted.

Footnote 5(d)(iii), the allowance for temperature exceedances in lakes where adequate dissolved oxygen is present below the mixed layer (the refuge allowance), was deleted. The requirement for "adequate refuge" has been awkwardly split between the temperature footnote (5(c)) and the dissolved oxygen footnote (9(c)). To maintain the requirement but simplify the regulation, in footnote 9(c), the reference to footnote 5(c)(iii) has been replaced by a clear statement that adequate refuge is required and a description of adequate refuge.

Streams

Like lakes, water temperatures in streams are governed by physical factors and elevation is a useful surrogate for these factors. The Division presented evidence from analysis of water temperature records from 267 sites in Colorado over a broad range of elevations and throughout Colorado's varied landscape. Data from approximately 1162 site-years was used to examine the relationship between summer maximum temperatures and elevation. All sites were screened for likely anthropogenic influences from waste water treatment facilities and reservoirs (tailwaters). Of 10 different physical and geographic watershed and site attributes, site elevation most strongly predicts annual MWATs across the state. Additionally, residuals (unexplained variance) from the relationship between each year's MWAT and elevation were analyzed to determine whether the remaining variance was related to the following attributes: slope, aspect, Strahler stream order, percent canopy cover, 30-year max air temperature, CHILI Index (an index of solar radiation, slope, latitude and aspect), watershed area, upstream active diversions count, and sum of absolute and conditional diversion rates. This analysis indicated that these attributes did not exert a bias, with the possible exception of sites with more than 1000 upstream active diversions. These few sites had slightly warmer water than expected for sites at similar elevations. Data from these highly diverted sites were not used in the final equation. Regression analysis between the summer MWAT and elevation showed that roughly 80 percent of the variance is explained by elevation alone. Annual variability was examined by comparing the relationships for individual years; slopes were in close agreement. The exceedance frequency was addressed by developing a regression line for the 66.7th percentile MWAT at each of the 79 sites with at least 5 years of data. The resultant equation is:

$$MWAT_{elev} = -0.002(elevation) + 31.931$$

The MWAT adjustment shall be used when a temperature logger site is in the transition zone. For example, for a site in a Cold Stream Tier II segment at 6800 feet elevation, the $MWAT_{elev}$ of 18.5^{o}C would be the operative standard instead of the 18.3^{o}C standard for the segment.

C. Additional Flexibility in Shoulder Seasons

For each temperature tier, there are summer and winter criteria, and the shift from one season to the next occurs abruptly on a single date. The rigid, first-of the-month changeover of seasons does not reflect the natural pattern of gradual, predictable change in temperature, nor does it provide flexibility to allow for inter-annual variability in the timing and rate of temperature change. These two factors reflect the natural

constraints on temporal patterns of water temperature in streams and lakes, partially as a function of elevation.

The Commission revised the table values for each stream and lake temperature tier to substitute the existing narrative standard for the months on either side of the transitional date (i.e., the shoulder seasons). Support for applying the narrative was provided by the elevation-related trend in the duration of winter (i.e., consecutive days below the adopted wither standard) and the natural variability documented for the fall and spring transition dates at individual sites.

The numeric criteria now apply only for the core winter and summer months. The narrative standard continues to require a normal pattern with no abrupt changes. Because this change applies to all temperature tiers, the Commission deleted Footnote 5(iv) to Table I in Regulation #31 at 31.16, which addressed winter shoulder season excursions.

Attainment of the narrative standard during the fall and spring will be assessed for 303(d) purposes by determining the direction of the general temperature trend, using the average WAT of each month. If the surface water is cooling or warming at the appropriate season, then it is not an exceedance of the narrative temperature standard.

For the purposes of implementation in permits, the intent is to ensure that the natural seasonal progression is maintained. For each of the months in the shoulder seasons, simple linear interpolation is used to establish a value for the water quality standards that can be used in the mass balance equation for setting permit limits.

D. Temperature Criteria

Temperature Database Updates: As part of the Division's routine review, the Colorado Temperature Database was updated using the most recent literature regarding the thermal requirements of Colorado's fishes. This effort was an initial step to support revision of the warm water winter acute values (discussed below) and also allowed for general updates of cold and warm water acute and chronic values. New acute and/or chronic thermal tolerance information was found for several species, both cold and warm water, including brook trout, brown trout, cutthroat trout, lake trout, mountain whitefish, rainbow trout, black crappie, bonytail, channel catfish, largemouth bass, mountain sucker, and stonecat. Based on this information, the Commission adopted revisions to the existing temperature standards found in Table I.

A new critical thermal maxima value for lake trout was added to the database as part of the updates. This new acute value, combined with existing chronic data, allowed for the derivation of DM and MWAT values for lake trout. Including lake trout in the Cold Lakes & Reservoirs and Cold Large Lakes & Reservoirs DM and MWAT calculations would result in MWAT values of 16.7°C for both tiers. Few, if any, lakes/reservoirs would be able to attain this lower standard, including waters where lake trout are known to exist. Lake trout are currently known to be in only 30 individual lakes/reservoirs, which are in a total of 17 segments; these segments comprise less than 9% of all lakes segments. Due to concerns related to widespread attainability issues and the relatively small number of segments containing lake trout, the Commission opted to not include the lake trout data in the derivation of statewide lakes/reservoirs temperature standards. Where lake trout do occur, the literature-based MWAT and DM for lake trout of 16.6°C and 22.4°C, respectively, would be protective of this species, and could be proposed.

Warm Water Winter Acute Table Values: When seasonal temperature standards were adopted in 2007, warm water winter acute and chronic standards were simply set at half the summer season values, recognizing a pattern seen in cold waters, but without data to support more rigorous standard development for warm waters. While this was the best method available at the time, future refinements were expected as data became available. During this review, information available from studies of warm water fish with "winter" acclimation temperatures allowed for the calculation of more appropriate acute temperature standards necessary to protect warm water fish in winter from acute effects. The Commission adopted the resulting warm tier temperature winter standards in Table I.

II. OTHER CRITERIA

A. Methylmercury (human health)

To protect human health, the Commission adopted a methylmercury fish tissue basic standard at new subsection 31.11(7) and revised Footnote 6 to Table III (Metal Parameters) at 31.16. This water quality criterion of 0.3 milligrams (mg) methylmercury per kilogram (kg) fish tissue wet weight describes the concentration of methylmercury that protects consumers of fish and shellfish among the general population. The criterion is consistent with EPA's section 304(a) water quality criterion for methylmercury. This new standard applies to all waters of the state because fish migrate and contribute to food webs that integrate large geographic areas; therefore, it is not sufficiently protective to apply the standard only in locations where fish are expected to be caught and consumed.

Adoption of this threshold as a standard in Regulation #31 recognizes the Commission's practice in the context of Regulation #93 (Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation Lists). The Commission has made listing decisions using an average fish tissue criterion of 0.3 mg/kg as a numeric threshold for determining attainment of the aquatic life use.

Adoption of the 0.3 mg/kg methylmercury criterion does not represent a policy change. The current water column standard of 0.01 µg/L total mercury remains in place and is intended to be implemented alongside the fish tissue standard. The Commission expects that in some circumstances, site-specific water column standards may be developed where data are available.

B. Arsenic (water supply)

After the 2010 rulemaking hearing, EPA disapproved a modification of Footnote 14 to Table III (Metal Parameters) which applies to arsenic. This footnote stated that the arsenic effluent limits would be calculated so that the arsenic concentration at the point of intake to the domestic water supply would not exceed the standard. EPA disapproved this concept because standards must protect the designated use, whether or not the use is an "actual" use. In today's action the Commission deleted Footnote 14 and renumbered the remaining footnotes and deleted the reference to Footnote 14 in Table III. The Commission found that in the majority of segments, the footnote has no effect. Most segments have a water+fish standard for arsenic that is more stringent than the water supply standard.

C. Nitrate (water supply)

After the 2010 rulemaking hearing, EPA disapproved a modification of Footnote 4 to Table II (Inorganic Parameters) which applies to nitrate. As in the arsenic footnote described above, this footnote stated that the combined total of nitrate plus nitrite at the point of intake to a domestic water supply would not exceed 10 mg/L. EPA disapproved this concept because standards must protect the designated use whether or not the use is an "actual" use. In today's action the Commission repealed Footnote 4 with a delayed effective date of December 31, 2022. A delayed date allows time for stakeholders to bring forward site-specific proposals for use removal and/or resegmentation in the next round of basin hearings, and also time to obtain permit modifications before the footnote repeal date.

III. ANTIDEGRADATION PROVISIONS

A. Baseline Date for Significance Determination

The Commission adopted revisions to 31.8(3)(c) to clarify the procedures for segments where the antidegradation designation changed from Use Protected to undesignated (i.e. Reviewable) after the previously established baseline date of September 30, 2000. The revision added the phrase "or the effective date when the Use Protected designation is removed." At the same time, subsection 31.8 (3)(c)(ii)(B) was split into two sections for ease of application.

B. Temporary Impacts in Outstanding Waters

The Commission revised the regulatory language to clarify that short-term degradation associated with certain types of activities is consistent with the Outstanding Waters designation. The Commission does not intend this to change policy or procedures regarding determining the meaning of waters being "maintained and protected at their existing quality."

Examples of activities that result in long-term ecological or water-quality benefit include: use of rotenone or other pesticides to remove invasive species; construction of fish barriers to prevent the spread of non-native species; construction of bridges at stream crossing to minimize damage to the stream and improve water quality; or construction of aquatic habitat improvement.

Examples of "clear public interest" activities include those that address public health, welfare and safety such as: construction of public roads for the purpose of public safety, maintenance of public roads, bridges and roadways, including shoulder weed control; control of mosquitoes or other disease vectors; enhancement of significant historical and archaeological resources; and suppression of wildfires or pre-suppression activities.

C. Antidegradation: Iron, Manganese, and Sulfate (water supply)

The Commission revised section 31.8(1)(b) and added two new subsections (i) and (ii) to exempt dissolved iron, dissolved manganese, and sulfate from antidegradation consideration. These changes were based on the following factors:

1) Federal requirements for antidegradation protection only extend to criteria that protect CWA § 101(a)(2) uses (commonly known as "fishable/swimmable"). Dissolved iron and manganese and sulfate do not fall in those categories; rather they are water supply standards which originated as secondary Safe Drinking Water Act criteria.

2) The Colorado framework already treats these secondary water supply parameters differently.

3) These criteria do not act as surrogates for any criteria that would protect a fishable/swimmable use (e.g., chloride acts as a surrogate for an aquatic life criterion).

The criteria for iron, manganese and sulfate remain in place, unchanged, to protect the water supply use.

D. Default Use Protected Designation for Effluent-dependent/Effluent-dominated Waters

After the 2010 rulemaking hearing, EPA disapproved a modification of section 31.8(2) (b)(i)(c) which allows the Commission to designate a waterbody as Use Protected if the waterbody was effluent-dominated or effluent-dependent during the period of 2000-2009. EPA disapproved this concept because federal policy is that antidegradation designations are to be made based on the quality of the water, not on the source of the water.

Option 1

The Commission deleted this provision. It has only been used for the designation of two segments and EPA has stated they will not approve a Use Protected designation based on this provision in the future.

Option 2

The Commission revised this provision to include a water quality showing. During the baseline time period, the waterbody must have been an effluent-dominated or effluent-dependent stream, and the effluent must have been subject to water quality-based effluent limits for at least four of the following parameters: ammonia, nitrate, *E. coli*, manganese, selenium, copper, zinc, and iron. Water quality-based effluent limits ensure that uses are protected but allocate all of the assimilative capacity in the waterbody for that parameter at the critical condition (low flow and plant capacity). As stated in the federal rule (see 40 CFR §131.12(a)(2)), "where the quality of the waters *exceeds* levels necessary to support propagation of fish shellfish and wildlife and recreation in and on the water, that quality shall be maintained and protected" through the antidegradation review process (emphasis added). The water quality of effluent-dependent and effluent-dominated waters is *adequate* to protect the uses, but does not *exceed* the levels necessary to protect the uses. Therefore, it is consistent with the federal rule that the subset of effluent-dependent and effluent-dominated waters be designated "Use Protected".

E. Alternatives Analysis – Selection of Alternative

The Commission added a sentence to section 31.8(3)(d)(iii) to better align the Basic Standards rule with the recently-revised EPA water quality standards regulation. This modification was adopted because the Colorado antidegradation rule did not explicitly address what outcome is required in situations where, as part of a necessity of degradation determination, one or more non-degrading or less degrading alternatives are identified. It now explicitly requires selection of a non-degrading or less degrading alternative. The Commission does not intend this to change current Colorado policy or procedures.

IV. Revision of Section. 31.14 "Implementation in Discharge Permits"

Substantial changes were made to the portions of the Basic Standards that address the way the standards are implemented in discharge permits. Many provisions that were in 31.14 were deleted to reduce redundancy with other regulations (namely, Regulation #61, "Colorado Discharge Permit System Regulations") and to eliminate language that has outlived its useful life**.** Other provisions were moved to section 31.9, to consolidate the provisions that address implementation of standards. Section 31.10 continues to contain the provisions that address Mixing Zones.

Restructuring: The title of section 31.9 was changed from "Flow Considerations" to "Implementation of Standards." Even before today's rulemaking, the section contained provisions that went beyond flow considerations. Most of the material from section 31.14 that was deemed to be still relevant was moved to section 31.9.

Results of Review of 31.14: Section 31.14 now is blank and the section is "reserved." The history of each subsection, its origin (where known), and fate are described below:

- 31.14(1): This section pre-dates 1987 and there is no record of how or why this section was added to the Basic Standards. It appears to never have been used. The reasons behind the reference to Regulation #71 (the Dillon Control Regulation) are unclear. For these reasons, this section was deleted.

- 31.14(2): This section pre-dates 1987 and there is no record of how or why this section was added to the Basic Standards. It was deleted because it is redundant with section 61.8, and is also in the federal rules for state programs at 40 CFR § 130.3.

- 31.14(3): This section pre-dates 1987 and there is no record of how or why this section was added to the Basic Standards. It was deleted because it is redundant with section 61.8, and is in the federal rules at 40 CFR § 130.7.

- 31.14(4): This section pre-dates 1987 and there is no record of how or why this section was added to the Basic Standards. The portion that authorizes Compliance Schedules was moved to 31.9(2) and expanded to match the language in Regulation #61. The portion that states that effluent limits "may" be established was deleted because there was a conflict between the Regulation # 61 version ("must") and this version ("may"). The portion that describes how effluent limits shall be established was moved to Regulation #61 to replace an existing cross-reference. The statement that a rulemaking hearing can subsequently be held was moved to the statement of basis and purpose provisions of Regulation #61.

- 31.14(5): This section was added in 1988 (see 31.24.I). The "innovation" language was added to 31.3 at the same time that this provision was added to 31.14. In order to capture the concept of using innovative approaches in various water quality contexts, the language "TMDLs, Waste Load Allocations antidegradation reviews, and permits" is also being added to 31.3. Section 31.14(5) is generally redundant with the concepts in 31.3 and is also captured at 61.8(3)(r) of Regulation #61. A new section was also adopted during this rulemaking proceeding at 61.8(3)(u) to capture the "innovation" concept in the context of permits, and thus this section 31.14(5) was deleted.

- 31.14(6): There is no record of when this section was added. Section 61.8(4)(a) addresses this concept, and thus this section 31.14(6) was deleted.

- 31.14(7): This section was added in 1987 (see 31.22 C). This section is now redundant with Regulation #61, 61.8(2)(B)(vii), and thus this section 31.14(7) was deleted.

- 31.14(8): This section was added in 1988 (see 31.24 E and F). This material is covered in sections 31.7, 31.9 and 31.16, and thus this section 31.14(8) was deleted.

- 31.14(9): This section was added in 1989 (see 31.25 E). This section was deleted because practical quantification limits (PQLs) are now covered in a separate policy.

- 31.14(10): This section was added in 1989 (see 31.25 E). Section 61.8(4)(a) of Regulation #61 addresses this concept, and thus this section 31.14(10) was deleted.

- 31.14(11): This section was added in 1989 (see 31.25 E) when organic standards were added to Regulation #31. This section was deleted because this authority is already provided to the Division. It serves no purpose substantive now, and thus was deleted

- 31.14(12): This section was added in 1989 (see 31.25 E). Section 61.8(4)(a) of Regulation #61 addresses this concept, and thus this section was deleted.

- 31.14(13): This section was added in 2000. The Division is not aware of any current permits that have implemented this provision. Colorado's intake credit provisions are found at section 61.8(2)(d) of Regulation #61. It is not clear how this provision is intended to be used, and thus it was deleted.

- 31.14(14): This section was moved to 31.9.

- 31.14(15) and (16): These sections were consolidated and were moved to 31.9. The Commission made revisions to these provisions to align them with the Division's practice since 2007, as expressed in various basin regulations for implementing "current condition" temporary modifications. Specifically, the Commission added references to "existing discharges" to clarify that effluent limits based upon temporary modifications only apply to existing discharges, and that effluent limits for new and expanded discharges must generally be set to the underlying standard. Additionally, the previous reference to 31.14(4) was deleted because all compliance schedules must be issued in accordance with the provisions authorizing compliance schedules.

- 31.14(17): This section was moved to 31.9. The phrase “compliance schedule” in subsection (a) was changed to “permit condition” to allow more flexibility for permitting approaches.

V. OTHER CHANGES TO METHODOLOGIES

A. Site-specific Ambient-based Standards

The Commission adopted revisions to section 31.7(1)(b)(ii) that identify two types of ambient-based standards, “feasibility-based” and “natural quality-based” standards, to recognize that in some cases water quality can be improved, but not to the level required by the table value.

Where the only sources and causes of the pollutant(s) are natural, ambient quality-based ambient standards continue to be the Commission’s preference. However, where the sources and causes are to some extent anthropogenic, more clarity is needed to assure that classifications and standards are set to protect the highest water quality attainable.

The provision (the downgrading factors) that provides the authority for ambient-based standards is based on the same provisions that authorizes discharger-specific variances (DSVs) (40 CFR § 131.10(g) and 31.6(2)(b)), except that the cause is not a permitted point source, and this action would apply to the entire segment. Since it is the same regulatory foundation, it is appropriate to use the same feasibility bar for determining what improvements are appropriate. As with DSVs, this type of change to numeric standards is authorized only where a comprehensive alternatives analysis demonstrates that there are no feasible alternatives that would provide better water quality.

The Commission continues to believe that adopting ambient standards for a constituent(s) is preferable to downgrading or removing entire uses and their associated water quality standards. Adopting an ambient standard in effect creates a sub-category of the use and is a regulatory downgrade. These ambient standards protect the highest attainable use and are consistent with 31.6(1)(e), which requires that classifications should be for the highest water quality attainable. To that end, “highest attainable use” was defined and added to section 31.5.

The revisions also provide clarity regarding the analysis and documentation that is required to make the “no feasible alternatives” demonstration. The Commission encourages proponents to complete the Division’s checklist to ensure that their supporting information is adequate.

B. Temporary Modifications set to Current Condition

The Commission revised section 31.7(3) to incorporate a new subsection (d) that explicitly addresses the operative value that is in place during the term of a temporary modification. These changes recognize current policy and are not meant to change that policy, only to clarify and expressly approve its use. This change authorizes the use of the narrative statement “current condition” as the operative value to preserve the status quo for the discharger and the waterbody during the term of the temporary modification. Temporary modifications are only appropriate where a compliance problem exists, and the adoption of the temporary modifications are intended to temporarily relax the control requirements, including direct discharge permits, indirect discharge permits, and other control mechanisms such as local limits while the uncertainty regarding the underlying standards is addressed. The Commission recognizes that during the temporary modification permitted dischargers’ effluent quality may be marginally changed and that variability in effluent quality may occur. Because the status quo is to be maintained, the Commission does not intend that temporary modifications set at “current condition” apply to new or expanded discharges.

C. DSV Alternative Effluent Limits

The Commission revised section 31.7(4)(b) to clarify that the Division, not the Commission, sets the alternate effluent limits of a discharger-specific variance, and that these limits are to be expressed as a

temporary hybrid standard. The hybrid approach establishes a cap on the effluent limit, but does not actually set the level of the effluent limit. The Commission added three new subsections (i), (ii) and (iii) to describe the format of the hybrid standard and how it is used by the Division to set control requirements such as discharge permit effluent limitations.

D. Downstream Protection

The Commission adopted modifications at section 31.3 to more clearly identify that water quality classifications and standards must protect downstream waters. In the past, the Commission and Division have relied on section 31.6(1)(c) and Regulation #61 to provide this protection. This modification implements 40 CFR § 131.10(b) and is not intended to change Colorado's current practice that already considers and ensures the protection of downstream water quality during the development of designated uses and water quality standards.

VI. HOUSEKEEPING

The Commission added clarification to a number of items and corrected minor typographical errors:

- Definition of MWAT and WAT: The definitions of Maximum Weekly Average Temperature (MWAT at 31.5(26)) and Weekly Average Temperature (WAT at 31.5(50)) were clarified. The MWAT definition was shortened and does not repeat the details that are in the WAT definition. The word "mean" was inserted in the WAT definition to clarify that the WAT is calculated from daily average temperatures. This is consistent with the current implementation methods of the Permits and Assessment. The words "multiple" and "equally spaced" in the WAT definition were removed to reflect current assessment methodology.

- 31.6(4)(b): A missing parenthesis was added to this subsection.

- 31.6(2)(b)(iv): The phrase "result in attainment or the use" was to corrected to "result in attainment of the use."

- 31.7(3)(a)(ii)(C): This section was deleted as it describes a condition for granting a temporary modification that is addressed through the discharger-specific variance provisions, and was repealed effective 10/01/2013.

- 31.11(3): The content of Footnote 5 to the Table of Basic Standards for Organic Chemicals was deleted as unnecessary and replaced with the word "deleted." The Commission notes that practical quantification limits are now located in a Division policy document and not in Regulation #61.

- 31.16 Table III – Footnote 3: The word "aluminum" was added to replace the chemical abbreviation, and a space was deleted.

- 31.16 Table III – Footnote 5: The word "total" was deleted from the phrase "50 µg/L total chromium" to clarify that the sum of hexavalent and trivalent chromium is not to exceed 50 µg/L. Capitalization, spacing, and symbol use was also corrected for portions of this footnote.

EXHIBIT 2
METRO WASTEWATER RECLAMATION DISTRICT

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

WATER QUALITY CONTROL COMMISSION

REGULATION NO. 31

THE BASIC STANDARDS AND METHODOLOGIES FOR SURFACE WATER (5 CCR 1002-31)

…

31.8 ANTIDEGRADATION

…

(2) Water Quality-Based Designations

…

(b) Use-Protected Designation

These are waters that the Commission has determined do not warrant the special protection provided by the outstanding waters designation or the antidegradation review process.

(i) Waters shall be designated by the Commission use-protected if any of the criteria below are met, except that the Commission may determine that those waters with exceptional recreational or ecological significance should be undesignated, and deserving of the protection afforded by the antidegradation review provisions of section 31.8(3):

(A) The use classifications of the waters include aquatic life warm water class 2, except as provided in subsection (iii) below;

(B) The existing quality for at least three of the following parameters is worse than that specified in tables I, II and III for the protection of aquatic life class 1, recreation class P and (for nitrate) domestic water supply uses:

Table I: dissolved oxygen, pH, *E. coli*

Table II: chronic ammonia, nitrate

Table III: chronic cadmium, chronic copper, chronic lead, chronic manganese, chronic selenium, chronic silver, and chronic zinc

The determination of existing quality shall be based on adequate representative data, from samples taken within the segment in question. Data must be available for each of the 12 parameters listed; provided, that if *E. coli* samples from within the segment are infeasible due to its location, and a sanitary survey

demonstrates that there are no human sources present that are likely to impact quality in the segment in question, *E. coli* data will not be required. "Existing quality" shall be the 85th percentile of the data for ammonia, nitrate, and the dissolved metals, the 50th percentile for total recoverable metals, the 15th percentile of such data for dissolved oxygen, the geometric mean of such data for *E. coli*, and the range between the 15th and 85th percentiles for pH; or

(C) The water body ~~was~~ is an effluent-dominated or effluent-dependent stream ~~during the period 2000-2009~~, except that the Commission may determine that the water body should be undesignated, and subject to the protection provided by the antidegradation review process, based on the water body's public resource value and ecological significance (this subsection is repealed effective 12/31/2022).

(C) (Effective 1/1/2023). For effluent dominated and effluent dependent waters, existing quality (based on actual or modeled data) for at least four of the following parameters during the period 2010-2019 was worse than that specified in this regulation in tables I, II, III, in section 31.11(7) (methylmercury fish tissue), or in section 31.17 (nutrient values) for protection of the water body's "fishable/swimmable" uses. Accordingly, at least one of the parameters must be applicable to the protection of the aquatic life use and one parameter must be applicable to the protection of the recreation use, unless the segment is classified as Recreation N:

Parameter	TVS or Other Regulation No. 31 Source	Applicable Use(s)
E. coli	Table I	Recreation
chronic temperature	Table I	Aquatic Life
chronic ammonia	Table II	Aquatic Life
chronic cadmium	Table III	Aquatic Life
chronic copper	Table III	Aquatic Life
chronic iron	Table III	Aquatic Life
chronic manganese	Table III	Aquatic Life
methylmercury fish tissue	Section 31.11(7)	Protection of Human Health[(1)]
chronic selenium	Table III	Aquatic Life
chlorophyll a	Section 31.17 (nutrient values)	Recreation
total phosphorus	Section 31.17 (nutrient values)	Recreation & Aquatic Life
total nitrogen	Section 31.17 (nutrient values)	Recreation & Aquatic Life

[(1)] For this use-protected designation evaluation, the human health-based criterion is considered protective of Clean Water Act "fishable/swimmable" uses.

The determination of existing quality shall be based on adequate representative data for each of these parameters (excepting methylmercury, which is fish tissue-based). "Existing quality" for actual water quality data shall be the 85th percentile of the data for chronic ammonia, chlorophyll a, total phosphorus, total nitrogen, and the dissolved metals, the geometric mean for *E. coli*, and the maximum WAT in a three year period for temperature.

(ii) In addition, waters may be designated use-protected even though none of the preceding criteria apply if the Commission determines that due to the presence of substantial natural or irreversible human-induced pollution for parameters other than those listed in section 31.8(2)(b)(i)(B) the quality of the waters in question should not be considered better than necessary to support aquatic life class 1 and/or recreation class P uses. In making such a determination about a use-protected designation, the Commission may take into account evidence of exceedances of one or more of the parameters listed in section 31.8(2)(b)(i)(B).

(iii) Waters classified as aquatic life warm water class 2 shall not be designated use-protected solely on the basis of such classification if:

(A) There is adequate representative data available from samples taken within the segment in question for each of the 12 parameters listed in subsection 31.8(2)(b)(i)(B), above, and that data shows that the existing quality for at least 10 of the 12 parameters is equal to or better than that specified in tables I, II and III for the protection of aquatic life class 1, recreation class P and (for nitrate) domestic water supply uses; and

(B) The segment in question is not listed, and does not qualify for listing, for two or more pollutants on Colorado's Section 303(d) List of Water-Quality-Limited Segments Requiring Total Maximum Daily Loads, for an exceedance of chronic or "30-day" numeric standards.

...

METRO WASTEWATER RECLAMATION DISTRICT PROPOSED

31.52 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE; JUNE 13, 2016 RULEMAKING

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

BASIS AND PURPOSE:

Antidegradation (section 31.8(2)(b)(i)(C))

The Commission adopted the proposal submitted by the Metro Wastewater Reclamation District to repeal the language in this section, effective 12/31/2022, and adopt a new use protection eligibility test based on water quality considerations, effective 1/1/2023. The Metro proposal was intended to address shortcomings identified by EPA in its 2011 disapproval of changes to this section adopted by the Commission in 2010 and to be consistent with the August 2015 regulatory revisions to EPA's water quality standards regulation. The timeframe 2010 – 2019 was included to establish an appropriate and time-limited period for water bodies being evaluated under the new eligibility test.

The definitions of "Effluent-Dependent Stream" and "Effluent-Dominated Stream" in section 31.5 remained unchanged. The parameters included in the new use protection eligibility test were selected from Tables I, II, III, Section 31.1(7) (methylmercury fish tissue), and Section 31.17 (nutrient values) as those which have a significant likelihood of being present in surface waters that are effluent dependent or effluent dominated due to the water quality impacts associated with point source discharges. The new eligibility test requires demonstration that the surface water quality exceeds levels necessary to support both the aquatic life and recreation classified uses. For the purposes of this eligibility test, the methylmercury fish-tissue criterion is considered protective of Clean Water Act "fishable/swimmable" uses.

EXHIBIT 3
WATER QUALITY CONTROL DIVISION

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL COMMISSION

REGULATION NO. 61

COLORADO DISCHARGE PERMIT SYSTEM REGULATIONS
(5 CCR 1002-61)

. . . .

61.1(2) INCORPORATION BY REFERENCE

Throughout these regulations, standards and requirements promulgated by the U.S. Environmental Protection Agency have been adopted and incorporated by reference. The federal references cited herein include only those versions that were in effect as of ~~March 11, 2008~~ June 14, 2016, and not later amendments to the incorporated material.

All material incorporated by reference may be examined at any state publications depository library. Requests for public inspection of materials incorporated by reference in this regulation should be made to the Permits Section, Water Quality Control Division, at the Department of Public Health and Environment, 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530.

. . . .

61.8(1) PROHIBITIONS

. . . .

(e) ~~Subject to the provisions of subsection 31.14(15)(b), n~~No permit shall be issued which allows a discharge that by itself or in combination with other pollution will result in pollution of the receiving waters in excess of the pollution permitted by an applicable water quality standard or applicable antidegradation requirement unless the permit contains effluent limitations and a schedule of compliance specifying treatment requirements or the Division has granted a variance from the water quality standard.

. . . .

61.8(2) DEFINITION OF EFFLUENT LIMITATIONS

Effluent limitations for each permit will, as a minimum, include the following effluent limitations and standards. Effluent limitations for land disposal systems shall, as a minimum, meet the applicable provisions of the "Regulations for Effluent Limitations" (Regulation 62, 5 CCR 1002-62) except that the limitation for residual chlorine at section 4(d) shall not apply.

(a) Technology Based Effluent Limitations

. . . .

(b) Water Quality Standards-Based Effluent Limitations

(i) Where the effluent limitations, as required by paragraph (1) of this section will not provide sufficient treatment to meet water quality standards, including narrative standards, for the receiving waters, the Division will define more stringent effluent limitations based upon water quality standards in accordance with The Basic Standards and Methodologies for Surface Water, Regulation No. 31 et. seq (5 CCR 1002-31) and "The Basic Standards for Groundwater", (5 CCR 1002-41). Effluent limitations designed to meet water quality standards shall be based on application of appropriate physical, chemical, and biological factors reasonably necessary to achieve the levels of protection required by the standards. Such determination shall be made on a case-by-case basis.

. . . .

(F) Where a water quality standard has not been established for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or measurably contributes to an excursion above a narrative water quality standard, the Division must establish effluent limits using one or more of the following options:

(I) Establish effluent limits ~~consistent with the requirements set forth in section 14(4)~~ in a manner consistent with the commission's methodology for establishing numeric water quality standards and, if applicable, such limits shall be consistent with the criteria contained in Tables I, II and III of the Basic Standards, Regulation No. 31; or

(II) Establish effluent limits on an indicator parameter for the pollutant of concern, provided:

(a) The permit identifies which pollutants are intended to be controlled by the use of the effluent limit;

(b) The permit rationale sets forth the basis for the limit, including a finding that compliance with the effluent limit on the indicator parameter will result in controls on the pollutant of concern which are sufficient to attain and maintain applicable water quality standards;

(c) The permit requires all effluent and ambient monitoring necessary to show that during the term of the permit the limit on the indicator parameter continues to attain and maintain applicable water quality standards; and

(d) The permit contains a reopener clause allowing the Division to modify or revoke and reissue the permit if the limits on the indicator parameter no longer attain and maintain applicable water quality standards.

. . . .

(c) Wasteload Allocation and Trading

(i) Where multiple discharges within a given segment of receiving waters require the definition of maximum loading and waste load allocations for that segment, the Division is responsible for defining the waste load allocations among the permittees affected, but

such allocations will be made in cooperation and with collective assistance of these permittees.

(ii) Trading of existing wasteload allocations or reductions in load allocations among point and/or non-point sources may be used to set effluent limits based on duly promulgated control regulations. In the establishment of effluent limits the Division may also take into account watershed-based water quality plans, federal lands use plans, or other enforceable measures allowed under state or federal requirements and impacting pollutant loadings.

(iii) Where the discharge contains a pollutant for which the receiving waters are impaired and a TMDL is required, a permit may be extended with the permittee's concurrence based on the imminent completion of the TMDL and/or other factors deemed relevant by the Division. If, in the Division's judgment, an extension is not appropriate, a renewal permit may be issued that allows the discharge to continue at a level up to the existing permitted point source load. Where the Commission has adopted a temporary modification for a parameter for which the segment receiving the discharge is impaired, effluent limits shall be set in accordance with the provisions ~~of section 31.14~~ of Regulation No. 31.

Within a reasonable time of EPA's approval of the TMDL, the Division shall reopen or reissue the permit and incorporate effluent limits consistent with the wasteload allocation established under the TMDL. Where necessary, the Division shall also include interim limits and a schedule of compliance to attain such limits.

61.8(3) CONDITIONS OF PERMITS

. . . .

(r) The permit shall include best management practices to control or abate the discharge of pollutants when numeric effluent limitations are infeasible, when the practices are reasonably necessary to achieve effluent limitations and standards, or when authorized under 304(e) of the federal act for control of toxic pollutants and hazardous substances.

. . . .

(u) Notwithstanding 61.8(3)(r), the permit shall, where appropriate, include control measures, innovative solutions, or other management approaches to control or abate the discharge of pollutants or the impacts from the discharge of pollutants when numeric effluent limitations are infeasible, when reasonably necessary to achieve effluent limitations, or to achieve and maintain an applicable water quality standard or antidegradation requirement.

. . . .

WQCD PROPOSED

61.68 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY, AND PURPOSE – JUNE 13-14, 2016 RULEMAKING HEARING, EFFECTIVE DATE DECEMBER 31, 2016

The provisions of sections 25-8-202(1)(d)(1) and 25-8-501 to 25-8-504, C.R.S., provide the specific statutory authority for the amendments to this regulation adopted by the Water Quality Control Commission (commission). The commission has also adopted, in compliance with section 24-4-103(4) C.R.S., the following statement of basis and purpose.

BASIS AND PURPOSE

As part of the hearing on Regulation #31, the Basic Standards and Methodologies for Surface Water, the commission made substantial changes to section 31.14, "Implementation in Discharge Permits." The commission determined that it was appropriate to make four conforming changes to Regulation #61.

First, the cross reference to 31.14(15) contained in 61.8(1)(e) was eliminated since 31.14(15) is being deleted. While the provision formerly contained at section 31.14(15) is being moved to 31.9 the commission found that a cross reference was unnecessary.

Second, the statements contained in the former section 31.14(4) regarding how effluents limits are to be derived was moved to 61.8(2)(b)(i)(F)(I) to replace and eliminate the need for a cross-reference. The commission continues to find that in circumstances where the division establishes effluent limits in accordance with 61.8(2)(b)(i)(F)(I), that upon the request of any interested person, the Commission may hold a rulemaking hearing to consider the adoption of a numerical standard, which would then be binding.

Third, a cross reference contained at 61.8(2)(c) was modified since the provision will no longer be contained in section 31.14

Fourth, a provision formerly contained at section 31.14(5) that addressed the integration of innovative solutions or management approaches into discharge permits was moved to a new section 61.8(3)(u). The commission determined that this provision is more appropriately included in Regulation #61. This new provision is an appropriate complementary regulatory tool to the existing section 61.8(3)(r), which authorizes the use of best management practices in discharge permits to control or abate the discharge of pollutants.

Since Regulation #61 was opened for the Regulation #31 hearing, the commission took the opportunity to update the incorporation by reference date in section 61.1(2). The effect of this change is to include the most recent versions of the federal materials that are already incorporated within Regulation #61, while maintaining consistency with the State Administrative Procedures Act, which requires that a rule incorporating materials by reference must indicate that later amendments or editions of the incorporated material are not part of the rule.