



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 Lower Arkansas segment 1b in the Classifications and Numeric Standards for Arkansas River Basin, Regulation #32 (5 CCR 1002-32); San Miguel River segment 12b in the Classifications and Numeric Standards for Gunnison and Lower Dolores River Basins, Regulation #35 (5 CCR 1002-35); and Upper South Platte segments 15 and 16i in the Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin, Regulation #38 (5 CCR 1002-38). Revisions to Regulations #32 and #35 proposed by the Water Quality Control Division, along with proposed Statements of Basis, Specific Statutory Authority and Purpose, are attached to this notice as Exhibits 1 and 2 respectively. Revisions to Regulation #38 proposed by Suncor Energy (U.S.A.), along with a proposed Statement of Basis, Specific Statutory Authority and Purpose, are attached to this notice as Exhibit 3.

In these attachments, proposed new language is shown with double-underlining and proposed deletions are shown with ~~strikeouts~~. Any alternative proposals related to the subject of this hearing will also be considered.

SCHEDULE OF IMPORTANT DATES

Party status requests due	07/19/2016 5 pm	Additional information below.
Proponents' prehearing statements due	08/9/2016 5 pm	Additional information below.
Responsive prehearing statements due	08/30/2016 5 pm	Additional information below.
Rebuttal statements due	09/20/2016 5 pm	Additional information below.
Last date for submittal of motions	09/23/2016 5 pm	Additional information below.
Notify commission office if participating in prehearing conference by phone	09/23/2016 by noon	Send email to cdphe.wqcc@state.co.us with participant(s) name(s)
Prehearing Conference (mandatory for parties)	09/26/2016 10:00 am	Board Room (Bldg A, 5 th Floor) Department of Public Health and Environment 4300 Cherry Creek Drive South Denver, CO 80246

Rulemaking Hearing	10/11/2016 2:00 pm	Florence Sabin Conference Room Department of Public Health and Environment 4300 Cherry Creek Drive South Denver, CO 80246
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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.wgcc@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 for review.

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.

PREHEARING AND REBUTTAL STATEMENTS:

Each party must submit a prehearing statement: parties that have proposed revisions attached as exhibits to the notice must submit a proponent's prehearing statement; all other parties must submit a responsive prehearing statement. Proponents may also submit responsive prehearing statements.

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 the hearing. Written submissions should be emailed to cdphe.wqcc@state.co.us by September 28, 2016.

SPECIFIC STATUTORY AUTHORITY:

The provisions of sections 25-8-202(1)(a), (b) and (2); 25-8-203; 25-8-204; and 25-8-402, 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 16th day of June, 2016 at Denver, Colorado.

WATER QUALITY CONTROL COMMISSION

Trisha Oeth, Administrator

EXHIBIT 1
WATER QUALITY CONTROL DIVISION

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL COMMISSION

5 CCR 1002-32

REGULATION NO. 32
CLASSIFICATIONS AND NUMERIC STANDARDS
FOR
ARKANSAS RIVER BASIN

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32.6 TABLES

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(6) Discharger Specific Variances

(a) Lower Arkansas Segment 1b

Discharger Specific Variance, City of La Junta (CO0021261): 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. The second number is the Commission's determination of the effluent concentration with the highest degree of protection of the classified use that is feasible for the City of La Junta. 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 DSV for the named discharger.

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32.57 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE: OCTOBER 11, 2016 RULEMAKING; FINAL ACTION NOVEMBER 14, 2016; EFFECTIVE DATE MARCH 1, 2017

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

BASIS AND PURPOSE

In 2010, the Commission adopted the discharger specific variance provisions at Regulation 31.7(4), which allow a temporary water quality standard to be adopted in cases where water quality based effluent limits are not feasible to achieve. A DSV is a hybrid standard that maintains the long-term water quality goal of

fully protecting all designated uses, while temporarily authorizing an alternative effluent limit (AEL) to be developed for a specific pollutant and specific point source discharge where compliance with the water quality based effluent limit (WQBEL) is not feasible.

The Commission adopted a DSV for Lower Arkansas River Segment 1b for selenium that represents the highest degree of protection of the classified use that is feasible for the City of La Junta. For selenium, effluent limits for the City of La Junta shall not be more restrictive than a load-based effluent limit of 1.08 pounds per day prior to 12/31/2026. The Commission expects that La Junta will submit a progress report for the Commission's review of the DSV and the AEL during the June 2018 Arkansas / Rio Grande Basin review rulemaking.

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

WATER QUALITY CONTROL COMMISSION

5 CCR 1002-32

**REGULATION NO. 32
CLASSIFICATIONS AND NUMERIC STANDARDS
FOR
ARKANSAS RIVER BASIN**

**APPENDIX 32-1
Stream Classifications and Water Quality Standards Tables**

~~Effective 06/30/2016~~ Effective 03/01/2017

REGULATION #32 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

Lower Arkansas River Basin

1b. Mainstem of the Arkansas River from the Colorado Canal headgate to the inlet to John Martin Reservoir.								
COARLA01B	Classifications	Physical and Biological			Metals (ug/L)			
Designation	Agriculture	DM	MWAT		acute	chronic		
UP	Aq Life Warm 2	Temperature °C	WS-II	WS-II	Aluminum	---	---	
	Recreation E		acute	chronic	Arsenic	340	0.02(T)	
	Water Supply	D.O. (mg/L)	---	5.0	Beryllium	---	---	
Qualifiers:	Water + Fish Standards Apply	pH	6.5 - 9.0	---	Cadmium	TVS	TVS	
Other:		chlorophyll a (mg/m2)	---	---	Chromium III	50(T)	TVS	
Temporary Modification(s):	<u>Arsenic(chronic) = hybrid</u> <u>Expiration Date of 12/31/2021</u> <u>Selenium(chronic) = "current conditions"</u> <u>Expiration Date of 6/30/2016</u> <u>Discharger Specific Variance(s):</u> <u>Selenium(ac/ch) = TVS:1.08 lbs/day</u> <u>Expiration Date of 12/31/2026</u> <u>*Variance: Selenium = see 32.6(6) for details.</u>	E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS	
			Inorganic (mg/L)		Copper	TVS	TVS	
			acute	chronic	Iron	---	WS	
			Ammonia	TVS	TVS	Iron	---	1950(T)
			Boron	---	0.75	Lead	TVS	TVS
			Chloride	---	250	Manganese	TVS	TVS
			Chlorine	0.019	0.011	Manganese	---	WS
			Cyanide	0.005	---	Mercury	---	0.01(t)
			Nitrate	10	---	Molybdenum	---	160(T)
			Nitrite	---	0.5	Nickel	TVS	TVS
			Phosphorus	---	---	Selenium	TVS	TVS
			Sulfate	---	902	Silver	TVS	TVS
			Sulfide	---	0.002	Uranium	---	---
						Zinc	TVS	TVS

All metals are dissolved unless otherwise noted.
T = total recoverable
t = total
tr = trout

D.O. = dissolved oxygen
DM = daily maximum
MWAT = maximum weekly average temperature
See 32.6 for details on TVS, TVS(tr), WS, temperature standards.

EXHIBIT 2
WATER QUALITY CONTROL DIVISION

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

WATER QUALITY CONTROL COMMISSION

5 CCR 1002-35

REGULATION NO. 35

**CLASSIFICATIONS AND NUMERIC STANDARDS
FOR
GUNNISON AND LOWER DOLORES RIVER BASINS**

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35.6 TABLES

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(4) Discharger Specific Variances

(a) San Miguel Segment 12b:

Discharger Specific Variance, Town of Nucla (COG589067): 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. The second number is the Commission's determination of the effluent concentration with the highest degree of protection of the classified use that is feasible for the Town of Nucla. 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 DSV for the named discharger.

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35.42 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE: OCTOBER 11, 2016 RULEMAKING; FINAL ACTION NOVEMBER 14, 2016; EFFECTIVE DATE MARCH 1, 2017

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

BASIS AND PURPOSE

In 2010, the Commission adopted the discharger specific variance provisions at Regulation 31.7(4), which allow a temporary water quality standard to be adopted in cases where water quality based effluent limits are not feasible to achieve. A DSV is a hybrid standard that maintains the long-term water quality goal of fully protecting all designated uses, while temporarily authorizing an alternative effluent limit (AEL) to be developed for a specific pollutant and specific point source discharge where compliance with the water quality based effluent limit (WQBEL) is not feasible.

The Commission adopted a DSV for San Miguel Segment 12b for ammonia that represents the highest degree of protection of the classified use that is economically feasible for the Town of Nucla. For ammonia, effluent limits for the Town of Nucla shall not be more restrictive than 16 mg/L from January through April, and 12 mg/L from May through December prior to 12/31/2026. The Commission expects that the Town of Nucla will submit a progress report for the Commission's review of the DSV and the AEL during the June 2022 San Juan / Gunnison Basin review rulemaking.

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

WATER QUALITY CONTROL COMMISSION

5 CCR 1002-35

REGULATION NO. 35

**CLASSIFICATIONS AND NUMERIC STANDARDS
FOR
GUNNISON AND LOWER DOLORES RIVER BASINS**

APPENDIX 35-1

Stream Classifications and Water Quality Standards Tables

~~Effective 06/30/2016~~ Effective 03/01/2017

REGULATION #35 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS San Miguel River Basin

12b. All tributaries and wetlands to the San Miguel River from a point immediately above Naturita Creek to the confluence with the Dolores River, excluding the listings in Segments 9, 10, 11a, and 11b.

COGUSM12B	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture	DM	MWAT	acute	chronic		
Reviewable	Aq Life Cold 2	CS-II	CS-II	Aluminum	---	---	
	Recreation E	acute	chronic	Arsenic	340	0.02(T)	
	Water Supply	---	6.0	Beryllium	---	---	
Qualifiers:		D.O. (mg/L)	---	6.0	D.O. (spawning)	---	7.0
Water + Fish Standards		pH	6.5 - 9.0	---	Cadmium	TVS(tr)	TVS
Other:		chlorophyll a (mg/m2)	---	---	Chromium III	50(T)	TVS
Temporary Modification(s):		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
Arsenic(chronic) = hybrid					Copper	TVS	TVS
Expiration Date of 12/31/2021					Iron	---	WS
<u>Discharger Specific Variance(s):</u>		Inorganic (mg/L)			Iron	---	1000(T)
<u>Ammonia(ac) = TVS:no limit</u>		acute	chronic		Lead	TVS	TVS
<u>Ammonia(ch)=TVS:16 mg/L (1/1-4/30)</u>		TVS	TVS	Ammonia	TVS	TVS	
<u>Ammonia(ch)=TVS:12 mg/L (5/1-12/31)</u>		---	0.75	Boron	---	WS	
<u>Expiration Date of 12/31/2026</u>		---	250	Chloride	---	0.01(t)	
<u>*Variance: Ammonia = see 35.6(4) for details.</u>		0.019	0.011	Chlorine	---	160(T)	
		0.005	---	Cyanide	TVS	TVS	
		10	---	Nitrate	TVS	TVS	
		---	0.05	Nitrite	TVS	TVS(tr)	
		---	---	Phosphorus	TVS	16.8-30(T) ^A	
		---	WS	Sulfate	TVS	TVS	
		---	0.002	Sulfide			

All metals are dissolved unless otherwise noted.
 T = total recoverable
 t = total
 tr = trout
 sc = sculpin

D.O. = dissolved oxygen
 DM = daily maximum
 MWAT = maximum weekly average temperature
 See 35.6 for details on TVS, TVS(tr), TVS(sc), WS, temperature standards.

EXHIBIT 2
WATER QUALITY CONTROL DIVISION

WATER QUALITY CONTROL COMMISSION

5 CCR 1002-38

REGULATION NO. 38
CLASSIFICATIONS AND NUMERIC STANDARDS
FOR
SOUTH PLATTE RIVER BASIN, LARAMIE RIVER BASIN
REPUBLICAN RIVER BASIN, SMOKY HILL RIVER BASIN

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38.6 TABLES

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(6) Discharger Specific Variances

(a) Upper South Platte River Segments 15 and 16i

Discharger Specific Variance, Suncor Energy (U.S.A.) Inc., Commerce City Refinery (CO0001147): 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. The second number is the Commission's determination of the effluent concentration with the highest degree of protection of the classified use that is feasible for the Suncor Energy (U.S.A.) Inc. Commerce City Refinery. 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 DSV for the named discharger.

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38.93 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE OCTOBER 11, 2016 RULEMAKING; FINAL ACTION NOVEMBER 14, 2016; EFFECTIVE DATE MARCH 1, 2017

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

BASIS AND PURPOSE

In 2010, the Commission adopted the discharger specific variance provisions at Regulation 31.7(4), which allow a temporary water quality standard to be adopted in cases where water quality based effluent limits are not feasible to achieve. A DSV is a hybrid standard that maintains the long-term water quality goal of fully protecting all designated uses, while temporarily authorizing an alternative effluent limit (AEL) to be

developed for a specific pollutant and specific point source discharge where compliance with the water quality based effluent limit (WQBEL) is not feasible.

The Commission adopted a DSV for Upper South Platte River Segments 15 and 16i for selenium that represents the highest degree of protection of the classified uses that is feasible for the Suncor Energy (U.S.A.) Inc. Commerce City Refinery. For selenium, the effluent limits for Suncor shall not be more restrictive than a 30-day average of 24 µg/L prior to 12/31/2023. During the duration of the DSV, Suncor will continue to study selenium treatment optimization and technologies to inform future Commission review of the DSV. The Commission expects that Suncor will submit a progress report for the Commission's review of the DSV and the AEL during the June 2020 South Platte Basin review rulemaking hearing.

**COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
WATER QUALITY CONTROL COMMISSION**

5 CCR 1002-38

**REGULATION NO. 38
CLASSIFICATIONS AND NUMERIC STANDARDS
FOR
SOUTH PLATTE RIVER BASIN, LARAMIE RIVER BASIN
REPUBLICAN RIVER BASIN, SMOKY HILL RIVER BASIN**

**APPENDIX 38-1
Stream Classifications and Water Quality Standards Tables**

Effective 06/30/2016-03/01/2017

REGULATION #38 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS Upper South Platte River Basin

15. Mainstem of the South Platte River from the Burlington Ditch diversion in Denver, Colorado, to a point immediately below the confluence with Big Dry Creek.							
COSBUS15	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture Aq Life Warm 2 Recreation E Water Supply		DM	MWAT		acute	chronic
UP		Temperature °C	WS-I	WS-I	Aluminum	---	---
			acute	chronic	Arsenic	340	0.02-10(T) ^A
		D.O. (mg/L)	varies*	varies*	Beryllium	---	---
		pH	6.0-9.0*	---	Cadmium	TVS	TVS
		pH	6.5 - 9.0	---	Cadmium	5.0(T)	---
		chlorophyll a (mg/m2)	---	---	Chromium III	50(T)	TVS
		E. Coli (per 100 mL)	---	126	Chromium VI	TVS	TVS
					Copper	---	TVS*
					Copper	TVS*	---
					Iron	---	WS
					Iron	---	1000(T)
					Lead	TVS	TVS
					Lead	50(T)	---
					Manganese	TVS	400
					Manganese	---	TVS
					Mercury	---	0.01(t)
					Molybdenum	---	150(T)
					Nickel	TVS	TVS
					Nickel	---	100(T)
					Selenium	TVS	TVS
					Silver	TVS	TVS
					Uranium	---	---
					Zinc	TVS	TVS

Qualifiers:

Other:

Temporary Modification(s):
 Chloride(chronic) = current condition
 Sulfate(chronic) = current condition
 temperature(DM/MWAT) = current condition
 Expiration Date of 12/31/2020

*Ammonia(acute) = See attached table for site-specific standards.
 *Ammonia(chronic) = See attached table for site-specific standards.
 *Copper(acute) = Copper BLM-based FMB
 Cu FMB(ac)=35.1 ug/l
 Downstream of the Metro Hite WWTF outfall.
 *Copper(chronic) = Copper BLM-based FMB
 Cu FMB(ch)= 23.5 ug/l
 Downstream of the Metro Hite WWTF outfall.
 *D.O. (mg/L)(acute) = See attached table for site-specific standards.
 *D.O. (mg/L)(chronic) = See attached table for site-specific standards.
 *pH(acute) = 6.0 - 9.0 from 64th Ave. downstream 2 miles

Discharger Specific Variance(s):
Selenium (acute) = TVS: no limit
Selenium (chronic) = TVS: 24 ug/L
Expiration Date of 12/31/2023
Variance: Selenium = see 38.6(6) for details.

All metals are dissolved unless otherwise noted.
 T = total recoverable
 t = total
 tr = trout

D.O. = dissolved oxygen
 DM = daily maximum
 MWAT = maximum weekly average temperature
 See 38.6 for details on TVS, TVS(tr), WS, temperature standards.

REGULATION #38 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

Upper South Platte River Basin

16i. Mainstem of Sand Creek from the confluence with Toll Gate Creek to the confluence with the South Platte River.							
COSPUS16i	Classifications	Physical and Biological			Metals (ug/L)		
Designation	Agriculture		DM	MWAT		acute	chronic
Reviewable	Aq Life Warm 2 Recreation E	Temperature °C	WS-II	WS-II	Aluminum	---	---
Qualifiers:			acute	chronic	Arsenic	340	100(T)
Fish Ingestion Standards		D.O. (mg/L)	---	5.0	Beryllium	---	---
Other:		pH	6.5 - 9.0	---	Cadmium	TVS	TVS
<p>*chlorophyll a (mg/m²)(chronic) = applies only above the facilities listed at 38.5(4).</p> <p>*Phosphorus(chronic) = applies only above the facilities listed at 38.5(4).</p> <p>*Mercury(chronic) = 0.026 below Brighton Blvd, see section 38.6(4)(f) for mercury assessment locations</p> <p>*Selenium(acute) = See section 38.6(4)(f) for selenium standards and assessment locations.</p> <p>*Selenium(chronic) = See section 38.6(4)(f) for selenium standards and assessment locations.</p> <p><u>Discharger Specific Variance(s):</u> <u>Selenium (acute) = TVS: no limit</u> <u>Selenium (chronic) = TVS: 24 ug/L</u> <u>Expiration Date of 12/31/2023</u> <u>Variance: Selenium = see 38.6(6) for details.</u></p>		chlorophyll a (mg/m ²)	---	150*	Cadmium	5.0(T)	---
		E. Coli (per 100 mL)	---	126	Chromium III	50(T)	TVS
		Inorganic (mg/L)			Chromium VI	TVS	TVS
			acute	chronic	Copper	TVS	TVS
		Ammonia	TVS	TVS	Iron	---	1000(T)
		Boron	---	0.75	Lead	TVS	TVS
		Chloride	---	---	Lead	50(T)	---
		Chlorine	0.019	0.011	Manganese	TVS	TVS
		Cyanide	0.005	---	Mercury	---	0.01(t)
		Nitrate	10	---	Mercury	---	0.026(t)*
		Nitrite	---	0.5	Molybdenum	---	150(T)
		Phosphorus	---	0.17*	Nickel	TVS	TVS
		Sulfate	---	---	Nickel	---	100(T)
		Sulfide	---	0.002	Selenium	---	varies*
					Selenium	varies*	---
					Silver	TVS	TVS
					Uranium	---	---
					Zinc	TVS	TVS

All metals are dissolved unless otherwise noted.
T = total recoverable
t = total
tr = trout

D.O. = dissolved oxygen
DM = daily maximum
MWAT = maximum weekly average temperature
See 38.6 for details on TVS, TVS(tr), WS, temperature standards.

UPPER SOUTH PLATTE RIVER SEGMENT 15

Site-Specific Minimum Dissolved Oxygen and Ammonia Standards

UNDERLYING STANDARDS

Dissolved Oxygen

Early Life Stage Protection Period (April 1 through July 31)

1-Day^{1,5,6} 3.0 mg/L (acute)

7-Day Average^{1,2,4} 5.0 mg/L

Older Life Stage Protection Period (August 1 through March 31)

1-Day^{1,5} 2.0 mg/L (acute)

7-Day Mean of Minimums^{1,3} 2.5 mg/L

30-Day Average^{1,2} 4.5 mg/L

TEMPORARY MODIFICATION

During the period until October 31, 2001, the Segment 15 dissolved oxygen standards from 88th Avenue north to the end of the Segment shall be the currently existing ambient conditions as monitored in 1992, 1993, and 1994 by the Division and by the Metro District. Beginning November 1, 2001, the standards shall apply to all sections of Segment 15 south of the Brighton Ditch diversion. The standards north of the Brighton Ditch diversion shall continue to be the ambient conditions existing in 1992, 1993, and 1994. Beginning November 1, 2004, the standards shall apply to all sections of Segment 15.

Refer to Section 38(6)(4)(c) for Dissolved Oxygen assessment locations.

Footnotes

1. For the purposes of determining compliance with the standards, dissolved oxygen measurements shall only be taken in the flowing portion of the stream at mid-depth, and at least six inches above the bottom of the channel. All sampling protocols and test procedures shall be in accordance with procedures and protocols approved by the Division.
2. A minimum of four independent daily means must be used to calculate the average for the 7-Day Average standard. A minimum of eight independent daily means must be used to calculate the average for the 30-Day Average standard. The four days and the eight days must be

representative of the 7-Day and the 30-Day periods respectively. The daily means shall be the mean of the daily high and low values. In calculating the mean values, the dissolved oxygen saturation value shall be used in place of any dissolved oxygen measurements which exceed saturation.

3. The 7-Day Mean minimum is the average of the daily minimums measured at the location on each day during any 7-Day period.
4. North of the Lupton Bottoms Ditch diversion, the ELS 7-Day average standards for the period July 1 – June 31 shall be 4.6 mg/L.
5. During a 24 hour day dissolved oxygen levels are likely to be lower during the nighttime when there is no photosynthesis. The dissolved oxygen levels should not drop below the acute standard (ELS acute standard of 3.0 mg/L or the OLS standards of 2.0 mg/L). However, if during the ELS period multiple measurements are below 3.0 mg/L during the same nighttime period, the multiple measurements shall be considered a single exceedance of the acute standard. For measurements below 2.0 mg/L during either the ELS or the OLS periods, each hourly measurement below 2.0 mg/L shall be considered an exceedance of the acute standards.
6. In July, the dissolved oxygen level in Segment 15 may be lower than the 3.0 mg/L acute standard for up to 14 exceedances in any one year and up to a total of 21 exceedances in three years before there is a determination that the acute dissolved oxygen standards is not being met. Exceedances shall be counted as described in Footnote 5.

Ammonia:

Early Life Stage Protection Period (April 1 through July 31)

Ammonia

Warm Water = (mg/l as N)Total

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

$$chronic (Apr 1 - July 31) = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) * MIN \left(2.85, 1.45 * 10^{0.028(25 - T)} \right)$$

$$chronic (Aug 1 - Mar 31) = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) * 1.45 * 10^{0.028 * (25 - MAX(T, 7))}$$

NH₃ = old TVS

Warm Water Acute = 0.62/FT/FPH/2^(4 old) in mg/ (N)