

# STATE OF COLORADO

John W. Hickenlooper, Governor  
Christopher E. Urbina, MD, MPH  
Executive Director and Chief Medical Officer

## WATER QUALITY CONTROL COMMISSION

<http://www.cdphe.state.co.us/op/wqcc/index.html>

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Colorado  
Department  
of Public Health  
and Environment

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

### SUBJECT:

For consideration of the adoption of revisions to the selenium and mercury standards for segment 16a (Sand Creek) 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).

The revisions to Regulation #38 proposed by Suncor Energy (U.S.A.), Inc., along with a proposed Statement of Basis, Specific Statutory Authority, and Purpose, are attached to this notice as Exhibit 1. Anyone with questions regarding this proposal may contact Tad Foster, Law Office of Tad S. Foster, 719-632-5240, [tadfoster@tsfosterlaw.com](mailto:tadfoster@tsfosterlaw.com).

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

### HEARING SCHEDULE:

DATE: Monday, April 8, 2013  
TIME: 1:00 p.m.  
PLACE: Florence Sabin Conference Room  
Department of Public Health and Environment  
4300 Cherry Creek Drive South  
Denver, Colorado 80246

### PUBLIC PARTICIPATION ENCOURAGED:

The Commission encourages all interested persons to provide their opinions or recommendations regarding the matters to be addressed in this rulemaking hearing, either orally at the hearing or in writing prior to or at the hearing. Although oral testimony from those with party status (see below) and other interested persons will be received at the hearing, the time available for such oral testimony may be limited. Written submissions prior to the hearing are encouraged, so that they can be distributed to the Commission for review prior to the hearing. Written submissions by interested members of the public that do not have party status or mailing list status (see below) should be sent in such a manner as to be received in the Colorado Department of Public Health and Environment's (Department's) mail room by March 27, 2013.

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 or mailing list status (see below) generally will not be permitted. The Commission requests that all interested persons submit to the Commission Office any available information that may be relevant in considering the noticed proposals.

#### PARTY STATUS/MAILING LIST STATUS:

Participation as a "party" to this hearing or acquisition of "mailing list status," will require compliance with section 21.3(D) of the Procedural Rules, Regulation #21 (5 CCR 1002-21). Mailing list status will allow receipt of all party documents.

It is not necessary to acquire party status or mailing list status in order to testify or comment. **For each request for party status or mailing list status, please provide the organization's name, a contact person, mailing address, phone number, fax number and email address if available.** Written party status or mailing list status requests are due in the Commission Office on or before:

DATE: Tuesday, January 22, 2013  
TIME: 5:00 p.m.

A single copy of the party status or mailing list status request may be transmitted as an email attachment to [cdphe.wqcc@state.co.us](mailto:cdphe.wqcc@state.co.us), submitted by fax to 303-691-7702, mailed or otherwise conveyed so as to be received in the Department's mail room no later than this deadline. PLEASE NOTE that, as indicated below, parties will have the option of distributing materials to other parties electronically, except in instances where a party has requested receiving hard copies of documents. Therefore, **anyone requesting party or mailing list status that wishes to receive hard copies of documents instead of emailed copies should so indicate in the party status/mailing list status request so that this information can be included on the list distributed by the Commission Office.**

#### PREHEARING STATEMENTS:

**PLEASE NOTE** that for this hearing two separate deadlines for prehearing statements are established: (1) An original and 13 copies of an initial **Prehearing Statement** from **Suncor Energy (U.S.A.), Inc., as proponent of the revisions proposed in Exhibit 1 attached to this notice**, including written testimony and exhibits providing the basis for the proposals, must be received in the Department's mail room no later than **January 29, 2013**; and (2) an original and 13 copies of a **Responsive Prehearing Statement**, including any exhibits, written testimony, and alternative proposals of the Water Quality Control Division or **anyone seeking party status and intending to respond to the proponent's proposals** must be received in the Department's mail room no later than **February 26, 2013**.

For each deadline, the required number of hard copies of documents must be received in the Department's mail room by the specified deadline. These requirements are not satisfied by electronic transmission of a facsimile copy or copies. However, **parties are also strongly encouraged to email a copy of their written documents to the Commission Office**, so that materials received can be posted on the Commission's web site. (Please email to [cdphe.wqcc@state.co.us](mailto:cdphe.wqcc@state.co.us).) In addition, copies of these documents must be mailed

or hand-delivered by the specified dates to all persons requesting party status or mailing list status, and to the Attorney General's Office representatives for the Commission and the Water Quality Control Division, in accordance with a list provided by the Commission Office following the party status/ mailing list status deadline. **Alternatively, parties may email documents to those with party status or mailing list status by the specified dates,** except to those that the list distributed by the Commission Office identifies as requesting hard copies.

Also **note** that the Commission has prepared a document entitled **Information for Parties to Water Quality Control Commission Rulemaking Hearings**. A copy of this document will be mailed or emailed to all persons requesting party status or mailing list status. It is also posted on the Commission's web site at <http://www.cdphe.state.co.us/op/wqcc/PubPart/hbappc.pdf>. Following the suggestions set forth in this document will enhance the effectiveness of parties' input for this proceeding. **Please note the request that all parties submit two-sided copies of all hearing documents on three-hole punch paper.**

#### MAILING LIST STATUS COMMENTS:

Those requesting mailing list status shall provide written testimony, if any testimony is to be offered for the hearing, by the above deadline for responsive prehearing statements – i.e., **February 26, 2013**. Copies shall be submitted and distributed in the same manner as noted above for prehearing statements.

#### PREHEARING CONFERENCE:

DATE: Monday, March 11, 2013  
TIME: 1:30 p.m.  
PLACE: Florence Sabin Conference Room  
Department of Public Health and Environment  
4300 Cherry Creek Drive South  
Denver, Colorado 80246

**Attendance at the prehearing conference is mandatory for all persons requesting party status.** An opportunity may be available to participate in this prehearing conference by telephone. Persons wishing to participate by telephone should notify the Commission Office as early as possible.

#### REBUTTAL STATEMENTS:

**Written rebuttal statements responding to the prehearing statements due on February 26, 2013 may be submitted by Suncor Energy (U.S.A.), Inc., the Division and anyone seeking party status or mailing list status.** Any such rebuttal statements must be received in the Department's mail room by **March 27, 2013**. An original and 13 copies of written rebuttal statements must be received in the Department's mail room by this deadline, and submission of an emailed copy as noted above is strongly encouraged. In addition, copies of these documents must be mailed or hand-delivered by that date to all those requesting party status or mailing list status, and to the Attorney General's Office representatives for the Commission and Division. **Alternatively, parties may email documents to those with party status or mailing list status by this deadline,** except to those that the list distributed by the Commission Office identifies as requesting hard copies.

No other written materials will be accepted following this deadline except for good cause shown.

SPECIFIC STATUTORY AUTHORITY:

The provisions of sections 25-8-202, 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.

NOTIFICATION OF POTENTIAL MATERIAL INJURY TO WATER RIGHTS:

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 in the party status request submitted. In order for this potential to be considered fully by the Commission and the other agencies listed in the statute, persons must fully explain the basis for their claim in their prehearing statement which is due in the Department's mail room on the date specified above. This explanation should identify and describe the water right(s), and explain how and to what degree the material injury will be incurred.

Dated this 11<sup>th</sup> day of December 2012 at Denver, Colorado.

WATER QUALITY CONTROL COMMISSION

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Paul D. Frohardt, Administrator

**EXHIBIT 1**  
**SUNCOR ENERGY (U.S.A.), INC.**

**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**

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**38.6 TABLES**

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(4) Assessment Criteria

The following criteria shall be used when assessing whether a specified waterbody is in attainment of the specified standard.

(a) Upper South Platte Segment 6b, Chatfield Reservoir: Assessment Thresholds

chlorophyll = 11.2 µg/l, summer average, 1 in 5 year allowable exceedance frequency

phosphorus(Tot) = 0.035 mg/l, summer average, 1 in 5 year allowable exceedance frequency.

(b) Upper South Platte Segment 16a: Selenium Assessment Locations

The site-specific standard of 14.3 µg/L applies to the portion of Segment 16a downstream of Toll Gate Creek (i.e., "Lower Sand Creek") and the underlying standard of 4.6 µg/L applies upstream of Toll Gate Creek (i.e., "Upper Sand Creek"). The "Lower Sand Creek" shall be assessed using the 50<sup>th</sup> percentile at the following locations.

- Site SWA – Downstream of the confluence of Sand Creek and Tollgate Creek approximately 520 meters upstream of the Sand Creek Water Reuse Facility (SCWRF) discharge near the Peoria Street Bridge.
- Site SW1 – Approximately 60 meters upstream of the Union Pacific Railroad crossing and upstream of Brighton Road.

- Site SW2-1 – Approximately 300 meters downstream of Suncor's refinery outfalls and upstream of the Burlington Ditch structure.

(c) Upper South Platte Segment 16a: Mercury Assessment Location

- Site SW2-1 – Approximately 300 meters downstream of Suncor's refinery outfalls and upstream of the Burlington Ditch structure.

~~(b)~~(d) Upper South Platte Segment 16h: Selenium Assessment Locations

- Toll Gate Creek (TG6): Downstream of the confluence of East and West Toll Gate Creeks, at 6<sup>th</sup> Avenue near the gage station.
- East Toll Gate Creek (ET1): Upstream of the confluence with West Toll Gate Creek, at Chambers Road and 1<sup>st</sup> Avenue.
- West Toll Gate Creek (WT1): Upstream of the confluence with East Toll Gate Creek, at 2<sup>nd</sup> Avenue.

~~(c)~~(e) Upper South Platte Segment 15 and Middle South Platte Segment 1a: Dissolved Oxygen Assessment Locations

For the purpose of determining attainment of the standard, dissolved oxygen measurements shall only be taken in the flowing portion of the stream and at mid depth, and at least six inches above the bottom of the channel. Dissolved oxygen measurements in man-made pools are not to be used for determination of attainment of the standards.

~~(d)~~(f) Big Dry Creek Segment 1: Selenium Assessment Locations

- bdc 1.5: upstream of Broomfield Wastewater Treatment Plant
- bcd 2.0: upstream of Westminster Big Dry Creek Wastewater Treatment Facility
- bcd 4.0: upstream of Northglenn Wastewater Treatment Plant

~~(e)~~(g) Big Dry Creek Segment 2 (Standley Lake): Assessment Thresholds

Chlorophyll = 4.4 ug/L, Mar-Nov average, 1 in 5 yr allowable exceedance frequency

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## REGULATION #38 STREAM CLASSIFICATIONS and WATER QUALITY STANDARDS

REGION: 3 AND 4  BASIN: UPPER SOUTH PLATTE RIVER	DESIG	CLASSIFICATIONS	NUMERIC STANDARDS						TEMPORARY MODIFICATIONS AND QUALIFIERS
			PHYSICAL and BIOLOGICAL	INORGANIC  mg/l		METALS  µg/l			
16a. Mainstem of Sand Creek from the confluence of Murphy and Coal Creek in Arapahoe County to the confluence with the South Platte River.		Aq Life Warm 2 Recreation E Agriculture	T=TVS(WS-II) °C D.O.=5.0 mg/l pH=6.5-9.0 E. Coli=126/100ml	NH <sub>3</sub> (ac/ch)=TVS Cl <sub>2</sub> (ac)=0.019 Cl <sub>2</sub> (ch)=0.011 CN=0.005	S=0.002 B=0.75 NO <sub>2</sub> =0.5 NO <sub>3</sub> =100	As(ac)=340 As(ch)=100(Trec) Cd(ac/ch)=TVS CrIII(ac/ch)=TVS CrVI(ac/ch)=TVS Cu(ac/ch)=TVS	Fe(ch)=1000(Trec) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Hg(ch)=0.01(Tot) Ni(ac/ch)=TVS	Se(ac)=TVS <u>Upper Sand Creek</u> <u>Se(ch)=TVS</u> <u>Lower Sand Creek</u> <u>Se(ch)=TVS</u> <u>14.3 ug/L (Tot)</u> Ag(ac/ch)=TVS Zn(ac/ch)=TVS	Temporary modifications: <u>Se(ch)= current condition (Type-iii)</u> <u>Expiration date of 12/31/2015.</u> <u>Break between Upper and Lower Sand Creek is the confluence with Toll Gate Creek.</u> <u>See section 38.6(4) for selenium assessment locations.</u>  Cu (ac/ch) = TVSx2.6 below the Sand Creek Water Reuse Facility outfall. (Type iii). Expiration date of 12/31/2015.  <u>Hg (ch) from point immediately upstream of Suncor's discharge to confluence with SPR = 0.20 ug/l (Tot) to protect 0.3 MeHg mg/kg fish flesh std.</u> <u>See section 38.6(4) for mercury assessment location.</u>

**PROPOSED BY**  
**SUNCOR ENERGY (U.S.A.), INC**

**38.84 STATEMENT OF BASIS SPECIFIC STATUTORY AUTHORITY AND PURPOSE: JANUARY 14, 2013 RULEMAKING FOR SAND CREEK, UPPER SOUTH PLATTE SEGMENT 16a: EFFECTIVE MAY 31, 2013**

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 the following statement of basis and purpose pursuant to C.R.S. 24-4-103(4).

**BASIS AND PURPOSE**

**Selenium:** The current underlying selenium chronic standard for Segment 16a is 4.6 µg/L for protection of the aquatic life use. Segment 16a has long been subject to a temporary modification so as to collect data and derive rationale for a site-specific standard. Extensive data collection by Suncor from throughout Segment 16a, and particularly four years of paired fish flesh and water selenium data, led the Commission to adopt a fish flesh threshold of 17.3 mg/kg (dry weight) based on toxicity data for the dominant species and family in the segment. The Commission translated the tissue-based standard to a water column-based standard using a site-specific bioaccumulation factor (BAF) calculated from Sand Creek data. The resulting water quality standard is 14.3 µg/L as total selenium. No acute standard is necessary, as this is a 30-day average used to monitor a threshold based on bioaccumulation that occurs over time. A BAF of 1,212 was developed from the the most recent four years of available paired instream total selenium and fish flesh total selenium data collected from three sites in Segment 16a, as listed below. The site-specific water quality standard of 14.3 µg/L was derived by dividing the fish tissue threshold of 17.3 mg/kg by the BAF. Determination of attainment is based upon the 50<sup>th</sup> percentile instream selenium concentration from the three sampling sites used to derive the site-specific standard. Only data collected downstream of the confluence with Toll Gate Creek were used to develop the site-specific standard, as Toll Gate Creek is a known source of selenium. Therefore, the site-specific standard of 14.3 µg/L applies to the portion of Segment 16a downstream of Toll Gate Creek (i.e., "Lower Sand Creek") and the underlying standard of 4.6 µg/L applies upstream of Toll Gate Creek (i.e., "Upper Sand Creek").

Site SWA – Downstream of the confluence of Sand Creek and Tollgate Creek approximately 520 meters upstream of the Sand Creek Water Reuse Facility (SCWRF) discharge near the Peoria Street Bridge.

Site SW1 – Approximately 60 meters upstream of the Union Pacific Railroad crossing and upstream of Brighton Road.

Site SW2-1 – Approximately 300 meters downstream of Suncor's refinery outfalls and upstream of the Burlington Ditch structure.

Current effluent quality is higher than 14.3 µg/L and current average fish tissue concentrations for all sampling sites combined are mostly below the 17.3 mg/kg threshold. In the South Platte River, fish tissue concentrations are far below the threshold. The fish community in Segment 16a, particularly at the site below Suncor's discharge point, is viewed as containing a density and diversity of aquatic species comparable to other sites in the segment, despite average fish tissue concentrations higher than the threshold. In the South Platte, with water column concentrations better than the standard and fish tissue also better than the threshold, the aquatic life use is protected with the higher standards on Sand Creek.



Mercury: The current mercury (Hg) standard for Segment 16a is 0.01 ug/l, expressed as total Hg. Downstream of Suncor's discharge point to the confluence with the South Platte River, there have been several instances of total Hg concentration in the water column exceeding the water quality standard. Since 2001, EPA's mercury criteria recognized that methylmercury (MeHg) is the bioavailable fraction that is necessary to be regulated for human health protection. Since 2010, EPA's *Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion* has provided three options for Hg standards: either (1) the existing water quality standard of 0.01 µg/L total Hg; (2) a fish tissue standard of 0.3 mg MeHg/kg (wet weight); or (3) a site-specific water column standard based on MeHg or total Hg. Site-specific data for the lower portion of Sand Creek and the South Platte River below the confluence demonstrated fish tissue concentrations well below the 0.3 mg/kg fish flesh criterion---often by more than a factor of 10---indicating MeHg is not bioaccumulating. As a percentage of total Hg, MeHg is 1.20% for that portion of Sand Creek below Suncor's discharge point and 3.54 % in the South Platte River below the Sand Creek confluence. Bioaccumulation Factors (BAFs) were developed based on instream total Hg and the total Hg in fish flesh. Using EPA equations and the BAF, a site-specific total Hg standard for the water column was developed. For that portion of Sand Creek from a point immediately upstream of the Suncor discharge to the confluence with the South Platte River, the site-specific total Hg standard is 0.20 µg/l. This site-specific standard is based on the 0.3 mg MeHg fish flesh criterion translated into a water column total Hg concentration. Despite concentrations from Sand Creek that have historically exceeded the South Platte standard of 0.01 ug/l, the concentrations downstream in the mainstem are immediately diluted by the far greater volume consistently discharged by Metro Wastewater. The fish tissue analysis demonstrated concentrations below the 0.3 mg/kg threshold for both young and even older fish, with no difference between the fish tissue concentrations above and below the confluence of Sand Creek. The use is being protected on the South Platte, with higher standards on Sand Creek.