Department of Energy
Office of Legacy Management

Water Quality
JUL 3 1 2007
Control Commission

July 23, 2007

Mr. Paul Frohardt, Administrator
Colorado Water Quality Control Commission
OED-OEP-A5
4300 Cherry Creek Drive South
Denver, CO 80246-1530

Subject: Petition for Rulemaking Regarding Uranium Standards for Woman Creek and Walnut Creek Segments 4a, 4b, and 5 of Big Dry Creek, South Platte River Basin

Dear Mr. Frohardt:

The purpose of this correspondence is to transmit the enclosed Petition for Rulemaking. The Department of Energy (DOE) is submitting this Petition at this time to enable placing this item on the Water Quality Control Commission's January 2008 hearing agenda. While the subject of this Petition could be a subject for the 2009 triennial review for the Big Dry Creek portion of the South Platte River Basin, DOE believes an earlier consideration of this proposal is merited as outlined in the Petition.

Please note that while we have informed the stakeholder contacts for the City and County of Broomfield, City of Northglenn, City of Westminster, Woman Creek Reservoir Authority, and the Rocky Flats Stewardship Council that a petition is being submitted, we have not had the opportunity to hold substantive discussions with them. We intend to consult with the interested city and county stakeholders and the Stewardship Council staff in a timely manner so that the outcome of the consultation can also be considered during the administrative process leading up to the hearing and to develop evidentiary materials related to the proposed rule.

If you have any questions regarding this correspondence or the enclosed Petition, please call me. I may be reached at (720) 377-9682, or you may contact Rick DiSalvo, Stoller Assistant Project Manager, at (720)819-7150.

Sincerely,

Scott R. Surovchak
LM Site Manager

Enclosures

cc:
R. DiSalvo, Stoller
Project File: RFS 425.20 (Thru S. Willson)
Post Closure AR (Thru H. Young)

Petition for Proposed Rule Changing the Uranium Standards for Woman Creek and Walnut Creek Segments 4 a, 4b and 5 of Big Dry Creek, South Platte River Basin

Introduction

This petition is formatted to conform to the information requirements specified in the Water Quality Control Commission Procedural Rules, 5 CCR 1002-21, Rule 21.3 B 2) b) Proposals for Rulemaking.

1. Identification of the persons requesting rulemaking and the nature of the request:

This proposed rulemaking is requested by:

Mr. Scott R. Surovchak
LM Site Manager
U.S. Department of Energy
11025 Dover Street, Suite 1000
Westminster, Co 80021-5573

Attn: Scott Surovchak, Rocky Flats Manager 720-377-9682

We request that the Colorado Water Quality Control Commission (CWQCC) adopt rules changing the Site Specific uranium standards and removing the Site Specific gross alpha and gross beta standards for Woman Creek and Walnut Creek Segments 4a, 4b and 5 of Big Dry Creek, South Platte River Basin.

The proposed rule would change the segments 4a, 4b and 5 uranium standards in Rule 38 Table 2, from 10 pCi/L for Walnut Creek and 11 pCi/L for Woman Creek to the Statewide Basic Standard for uranium in Rule 31.16, Table III for the water supply classification, of 30 ug/L. This is approximately 20 pCi/L using the conversion factor of 670 pCi/mg in the Rule 31 Statement of Basis.

The proposed rule would also remove the segments 4a, 4b, and 5 gross alpha and gross beta standards in Rule 38 Table 2. The Statewide Basic Standards adequately protect water quality without the redundant gross alpha and gross beta Site Specific standards.

2. The language of the proposed rule:

It is proposed that Rule 38, Table 2 A. be changed as shown in this Petition (current Table 2 text that is proposed to be deleted is shown with strike through, and new text is shown with underline):

PROPOSED

Table 2
SITE SPECIFIC RADIONUCLIDE STANDARDS*
(in Picocuries/Liter unless other units shown)

The radionuclides listed below shall be maintained at the lowest practical level and in no case shall they be increased by any cause attributable to municipal, industrial, or agricultural practices to exceed the site specific numeric standards.

A. Ambient based site-specific standards:				
	Segment 2 Standley Lake	Segment 3 Great Western Reservoir	Segment 4a Segment 5 Woman Creek	Segment 4a Segment 4b Segment 5 Walnut Creek
Gross Alpha	6	5	~~7~~	~~11~~
Gross Beta	9	12	~~8~~	~~19~~
Plutonium	.03	.03	0.15** ***	0.15** ***
Americium	.03	.03	0.15** ***	0.15** ***
Tritium	500	500	500	500
Uranium	3	4	~~11~~ 30 ug/L ****	~~10~~ 30 ug/L ****

*Statewide standards also apply for radionuclides not listed above.
**0.15pCi/l Statewide Basic Standards.
***For plutonium and americium measurements in Segment 5 in Woman Creek and Segment 5 in Walnut Creek, attainment will be assessed based on the results of a 12-month flow-weighted rolling average concentration (computed monthly).
**** Statewide Basic Standard of 30ug/L is approximately 20 pCi/L using conversion factor of 670 pCi/mg in Rule 31 Statement of Basis.

3. A statement of the Commission's authority to promulgate the rule:

The Commission has the authority to amend a rule pursuant to 5 CCR 1002-21, Rule 21.3 B 2) a). Proposals for Rulemaking, "Any interested person shall have the right to petition the Commission in writing for the issuance, amendment, or repeal of a rule."

The Commission has authority to promulgate water quality standard rules, pursuant to 25-8-201 C.R.S., *et seq.*

Rocky Flats is owned by the United States and Big Dry Creek segments 4a, 4b, and 5 are located on portions of Rocky Flats property under the jurisdiction and control of the U.S. Department of Energy.

4. A concise general statement of the rule's basis and purpose.

Rocky Flats was listed on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List (NPL) in 1989. The final remedy

was selected in the September 29, 2006, Corrective Action Decision/Record of Decision (CAD/ROD) after completion of cleanup and closure by DOE under the *Rocky Flats Cleanup Agreement* (RFCA). The final remedy is being implemented in accordance with the *Rocky Flats Legacy Management Agreement* (RFLMA).

The CWQCC adopted Site Specific water quality standards for Big Dry Creek in 1989 based on ambient conditions. The statewide basic standard, 30 ug/L, was adopted by the CWQCC in 2005 and is anticipated to be adopted as the basin-wide standard in the 2009 triennial review of the South Platte River Basin.

Rocky Flats Points of Compliance (POCs) established in RFLMA are just downstream of Terminal Ponds A-4, B-5 (North and South Walnut Creek respectively) and C-2 (South Interceptor Ditch for discharge to Woman Creek), and further downstream in Walnut Creek and Woman Creek at Indiana Street. The Terminal Ponds are operated by batch and release.

Prior to closure of Rocky Flats, surface water included precipitation runoff from impervious surfaces (parking lots, roads and buildings) and sewer treatment plant effluent (an average of approximately 140,000 gallons per day for fiscal years 1993-2005). Also, leakage from water supply lines ultimately contributed to surface water prior to closure.

Water is no longer imported to Rocky Flats and all impervious surfaces have been removed, and Rocky Flats is returning to a natural ground water base flow condition. However, it is expected to take many years before the hydrologic conditions stabilize. Thus, a post-closure ambient condition has yet to be achieved.

In post-closure conditions the ground water uranium contribution (predominantly natural U) to surface water base flow indicates that the Terminal Pond concentration may approach or exceed the current site-specific standards for segments 4 and 5, which are based on nearly 20 year old ambient levels, developed when the plant was operating.

Terminal pond discharges were not needed in 2006 and have been conducted twice so far for Ponds A-4 and B-5 in 2007. Validated analytical results are not yet available for the second discharge evolution. For the first evolution, the uranium concentration at the Pond B-5 POC was just below the standard.

It is anticipated that uranium concentrations will not exceed the Statewide Basic Standard, which is the equivalent to the Drinking Water Standard promulgated by the U.S. Environmental Protection Agency, and is adequately protective of human health and the environment.

The Terminal Pond dams must be operated to meet dam safety criteria. If a normal discharge volume is reached and the pre-discharge sample is above or close to the current standard, options to manage water within the pond system must be considered to avoid exceeding the standard at the downstream POCs.

Options include pumping water to upstream pond(s) or another series Terminal Pond (e.g., B-5 to A-4) to lower the pond volumes to within acceptable limits, or installing a temporary treatment system, which would be costly and time consuming. Treatment system components would need to be acquired and mobilized and/or transfer piping must be set up and gas/diesel powered pump(s) set up to pump water.

These options involve worker risks (managed through a health and safety plan) and also entail costs that could be avoided if the current uranium standard is replaced by the Statewide Basic Standard.

These water management options would take time to implement and, depending on intervening precipitation events, could result in the need to release water above the current site-specific standard in an emergency discharge to protect the pond dam(s).

Although this issue could be resolved as part of the South Platte River Basin triennial review (to be completed in 2009), a rule making in the near term could obviate the need to employ these management options over the next approximately 2 years.

5. Any information which the petitioner wishes to be available to the Commission for the preparation of a regulatory analysis of the proposed rule.

Analytical results for required surface water and ground water monitoring at Rocky Flats are published in Quarterly and Annual Reports of Site Surveillance and Maintenance Activities, which are available online at:

> www.lm.doe.gov/land/sites/co/rocky_flats/rocky.htm (under the Site Surveillance and Maintenance Reports tab).

Other information may be developed and submitted as we consult with the local municipality stakeholders and the Rocky Flats Stewardship Council regarding the Petition. We intend to consult in a timely manner so that the outcome of the consultation may also be considered during the rule making process, as appropriate.