Department of Energy
Office of Legacy Management

July 31, 2008

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

Subject: Proposed Notice of Public Rulemaking Hearing Regarding 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 proposed notice to facilitate the preparation of the Commission's notice for its January 12, 2009, hearing to consider site-specific uranium standards and the deletion of gross alpha and gross beta standards for the subject stream segments. We understand that the Commission is scheduled to approve a final notice in September 2008 for publication in the *Colorado Register* in October 2008.

The January 12, 2009, rulemaking hearing was scheduled based on the Department of Energy Office of Legacy Management's (DOE-LM's) petition that was accepted for rulemaking at the Commission's August 2007 hearing. The subject stream segments are located on and adjacent to Rocky Flats Site property that is under the jurisdiction and control of DOE-LM.

To keep stakeholders informed regarding this proposed notice, DOE-LM will post a copy on its public website, http://www.lm.doe.gov/land/sites/co/rocky_flats/rocky.htm, in the "Stakeholder Relations" section.

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

Sincerely,

Scott R. Surovchak
LM Site Manager

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

SUBJECT

For consideration of the adoption of revisions to the Classifications and Numeric Standards for South Platte River Basin, Laramie River Basin, Republican River Basin, Smoky Hill River Basin Regulation, Regulation #38 (5 CCR 1002-38).

Revisions are proposed by the U.S. Department of Energy Office of Legacy Management (DOE-LM) to Regulation #38, section 38.6, Table 2, for Big Dry Creek segments 4a, 4b, and 5. These segments are located on the Rocky Flats Site, which is owned by the United States and is under DOE-LM's jurisdiction and control. Portions of segments 4a and 4b are also located on the Rocky Flats National Wildlife Refuge, on land that DOE transferred to the U.S. Department of the Interior in 2007.

PROPOSED STATEMENT OF BASIS

38.6 STATEMENT OF BASIS, SPECIFIC STATUTORY AUTHORITY AND PURPOSE: HEARING DATE

The provisions of C.R.S. 25-8-202(1)(b) and (2); 25-8-204; and 25-8-402 provide the specific statutory authority for the 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

1. Summary

In this rulemaking proceeding, the Commission adopted a revised site-specific water-quality standard for uranium and the removal of site-specific water-quality standards for gross alpha and gross beta in segments 4a, 4b, and 5 of Big Dry Creek shown in Table 2.

2. Background

The Commission adopted site-specific water-quality standards for Big Dry Creek segments 4a, 4b, and 5 in 1989 and 1992, based on ambient conditions that existed during the time Rocky Flats was actively producing components for nuclear weapons. Rocky Flats was listed on the Comprehensive Environmental Response, Compensation, and Liability Act 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 DOE's completion of cleanup and closure in late 2005 under the *Rocky Flats Cleanup Agreement*. The CAD/ROD consolidated the portions of Rocky Flats that were

determined to require additional response actions into the Central Operable Unit (OU). Generally speaking, the Central OU consists of the former industrialized area of Rocky Flats, the Original and Present Landfills, and land east of the former 903 Pad that contains relatively higher levels of residual contamination. The final remedy for the Central OU is being implemented in accordance with the *Rocky Flats Legacy Management Agreement* (RFLMA).

The Rocky Flats Site area surrounding the Central OU was designated the Peripheral OU in the CAD/ROD. The Peripheral OU was determined acceptable for unrestricted use and unlimited exposure, and was deleted from the NPL in 2007. That same year, portions of the Peripheral OU were transferred to the U.S. Department of the Interior to establish the Rocky Flats National Wildlife Refuge.

Changes in Surface Water

Prior to the 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, with maximum flows of up to 500,000 gallons per day during active production prior to 1993). In addition, imported water leaked out of water-distribution lines and into the groundwater, which ultimately contributed to surface water flows prior to closure.

Water is no longer imported to Rocky Flats, and all impervious surfaces have been removed. Rocky Flats is returning to a natural surface-water and groundwater-baseflow condition. However, the hydrologic conditions are expected to take years to stabilize. Thus, a post-closure ambient condition has yet to be achieved.

RFLMA specifies the water-quality monitoring program at Rocky Flats. Surface water Points of Compliance (POCs) established in RFLMA for segment 5 are immediately downstream of Terminal Ponds A-4 (North Walnut Creek), B-5 (South Walnut Creek), and C-2 (South Interceptor Ditch for discharge to Woman Creek). The POCs for segment 4 are farther downstream in Walnut Creek and Woman Creek at Indiana Street. Water-quality data from these locations demonstrate that water flowing from Rocky Flats meets all applicable standards.

Uranium

The uranium in groundwater at Rocky Flats is predominantly natural, as determined prior to closure, through hundreds of samples analyzed using high-resolution analytical methods. Post-closure high-resolution analysis of targeted groundwater and surface water locations also show that the uranium is predominantly natural. Uranium that has been confirmed to be 100 percent natural has been measured in Rocky Flats groundwater at concentrations of more than 30 times the current site-specific standard. As a result, with the quantity of runoff reduced through the removal of impervious surfaces and the elimination of imported water, the relative contribution of groundwater to surface water flows has increased greatly, and consequently, uranium concentrations are also

increasing. The groundwater uranium contribution to surface water base flow indicates that the post-closure ambient uranium concentration may approach or exceed the previously established ambient standards developed when the plant was operating.

3. Basis for Commission Decision

The revised Table 2 standards for segments 4a, 4b, and 5 are adopted due to changed hydrological conditions.

A statewide basic standard for uranium of 30 ug/L was adopted in 2005. This level is equivalent to the drinking water standard promulgated by the U.S. Environmental Protection Agency, and it is adequately protective of human health and the environment. Despite the increased contribution of higher-concentration groundwater, it is anticipated that segment-4 and segment-5 uranium concentrations in surface water will not exceed the statewide basic standard.

The Commission also removed the gross alpha and gross beta because the statewide basic standards for specific radionuclides applied to these segments are adequate to protect water quality and designated uses.

Additions approved by the Commission are shown with double underlining, and deletions are shown with ~~strikeouts~~.

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 equal to 20 pCi/L of natural uranium, using conversion factor of 670 pCi/mg in Rule 31 Statement of Basis.