



Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Dave Freudenthal, Governor

John Corra, Director

June 29, 2010

Mr. Jon Winters
Energy Metals Corporation
Suite 260
907 N. Poplar Street
Casper, WY 82601

**RE: Uranium One's Irigaray-Christensen Ranch Unit 7 Well Field Data Package,
Permit No. 478, TFN 4 2/362**

Dear Mr. Winters:

Enclosed is a review memo containing comments from Mark Taylor's review of the above application.

If you have any questions concerning any comment in this memo, please feel free to contact me or Mark Taylor.

A digital copy of this memo has been emailed to you to aid in your reply.

Sincerely,

Glenn Mooney
Glenn Mooney
Senior Geologist

\gm

Enclosure

Cc: Cheyenne File w/enc.
NRC-MD w/enc.

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MEMORANDUM

TO: File, TFN 4 2/362

THRU: Glenn Mooney, Application Coordinator

FROM: Mark Taylor, Groundwater Geologist *mt*

DATE: June 28, 2010

SUBJECT: Uranium One's Mine Unit 7 Wellfield Permit Revision for the Christensen Ranch
ISL Unit, Permit No. 478

The following are my Third Round review comments in response to Glenn Mooney's request of June 2, 2010:

Comments

- T1. Response is acceptable. (MT)
- T2. Response is acceptable. (MT)
- T3. Response is acceptable. (MT)
- T4. Response is acceptable. (MT)
- T5. Response is acceptable. (MT)
- T6. Appendix II, Attachment A: Uranium One should provide a new page which formally includes the responses to Comment T6 into the CRMU7 revision document. I suggested placing this page immediately in front of the geologic cross-sections. (MT)
- T7. Uranium One's response is acknowledged. I agree that this lignite zone should not be considered an aquifer. However, this lignite zone could theoretically produce a scenario where the lignite provides conduit for production fluids to "escape", given the likely high transmissivity of the lignite and its close proximity to the production zone. If the lignite zone is not monitored, it may result in an undetected excursion or degradation groundwaters adjacent to the production zone. No additional response is required at this time; however I will continue discussing this potential scenario with representatives of Uranium One and Land Quality Division. (MT)

- T8. Response is acceptable. (MT)
- T9. Response is acceptable. (MT)
- T10. Response is acceptable. (MT)
- T11. Appendix III, Table 1, Page 5 of 8 and Page 6 of 8: No data was provided for well 7MW39-2 (data for well 7MW28 was provided twice). Please provide data for well 7MW39-2. Piezometric elevation must be provided for wells 7MW31 through 7MW43. On Page 6 of 8 well "7MW39" should be revised to read well "7MW39" to agree with nomenclature used on maps and tables. I opine that the October 1997 and November 1997 data for well 7DM3A are the result of measurement errors; the December 1997 data (i.e., elevation 4633.3 ft) should be used as "baseline" and Map 4 should be revised accordingly. The "hole-punching" of this table resulted in the loss of useful information, please edit the layout of this table to ensure "hole-punching" with not remove useful information and provide a revised table. Please paginate this table as a component of Appendix III. (MT)
- T12. Response is acceptable. (MT)
- T13. Response is acceptable. (MT)
- T14. Target Restoration Values: I accept Uranium One's position regarding the Target Restoration Values (TRVs) for the all Class 4 wells within interior production zone and all Class 4 wells in the adjacent aquifer (perimeter of production zone), shallow sand aquifer and deep sand aquifer. However, LQD and Uranium One need to reach a agreement as to TRVs for all of the Class 1 and Class 3 (perimeter monitoring wells, shallow zone monitoring wells and deep monitoring wells) separately for each well on a parameter by parameter basis (See NCR&R, Chapter 11, Section 5). The Administrator has stated that for this specific wellfield revision package (i.e., CRMU7, TFN 4 2/362) that he is willing to allow TRVs to be established at five (5) standard deviations above baseline as long these TRVs on a parameter by parameter basis do not exceed pre-mining class of use. (see Don Fischer memo of May 19, 2010). Please respond by providing TRVs for all non-Class 4 wells. (MT)
- T15. Response is acceptable. (MT)
- T16. Response is acceptable. (MT)
- T17. Response is acceptable. (MT)
- T18. Response is acceptable. (MT)

- T19. I accept Uranium One's response; however it is incomplete. Uranium One must formally include the language contained in the response to Comment T19 into the CRMU7 revision document. I suggested placing the response text directly into Section 4 and then submitting a revised page 4.1. In addition, Uranium One must provide maps which illustrate projected drawdown expected during the first year of operation of Mine Unit 7 as wells as the Mine Unit 7 life-of-operation (i.e., during mining phase and groundwater restoration phase) drawdown (1-foot contour intervals) in the K sandstone. Also, see Comment T20. (MT)
- T20. Response is unacceptable. The Administrator, in consultation with the Director, have opined that "addressing potential water impacts upfront has been a key protection measure held out to the public by LQD and identified as one of the public's top concerns." Accordingly, Uranium One must provide maps which illustrate the projected drawdown expected during the first year of operation of Mine Unit 7 as wells as the Mine Unit 7 life-of-operation (i.e., during mining phase and groundwater restoration phase) drawdown (1-foot contour intervals) in the K sandstone. These maps are a key component of the assessment of water impacts {reference: LQD NCR&R, Chapter 11 Section 4 (a) (xxi), and LQD Guidelines Nos. 4 and 8}. (MT)
- T21. Response is acceptable. (MT)

Summary

I do not recommend approval of this wellfield permit revision package at this time.

mt/

cc: Cheyenne File

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WE'VE MOVED!

The Sheridan
Department of Environmental Quality (DEQ)
Has moved to a new location.

Our new address is:

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Sheridan, WY 82801**

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