

April 28, 2003

Mr. Art Kleinrath  
U.S. Department of Energy  
Grand Junction Office  
2597 B 3/4 Road  
Grand Junction, CO 81503

SUBJECT: REVIEW OF REQUEST FOR NRC APPROVAL TO AUTHORIZE DELETION  
OF INSTITUTIONAL CONTROLS (AREA C) AT CANONSBURG,  
PENNSYLVANIA

Dear Mr. Kleinrath:

In a letter dated June 5, 2002, Mr. Cooper Wayman of your staff requested the U.S. Nuclear Regulatory Commission's (NRC's) approval regarding the deletion of institutional controls at the Title I Uranium Mill Tailings Remedial Action (UMTRA) site at Canonsburg, Pennsylvania. During our review, you provided additional information that included site groundwater quality data and groundwater fate and transport modeling. This additional information demonstrated that groundwater levels are below regulatory standards and will most likely remain below regulatory levels in Area C. Based on the information provided to us, the NRC concurs with your proposal to delete institutional controls at the site.

During the technical review of this issue, NRC staff concluded that further groundwater use restrictions are not imperative based on the risk. However, we ask that you implement some groundwater monitoring in Area C in the future to account for the uncertainty of the fate and transport modeling and the potential for unforeseen increases in groundwater concentration levels. We ask that you provide us with a plan for groundwater monitoring at Area C. The Technical Evaluation Report supporting the need for this request is enclosed.

In accordance with 10 CFR 2.790 of NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

A. Kleinrath

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If you have any comments or questions regarding the NRC's review, please feel free to contact the NRC project manager, Jill Caverly, at 301-415-6699 or by email at [jsc1@nrc.gov](mailto:jsc1@nrc.gov).

Sincerely,

***/RA/***

Susan M. Frant, Chief  
Fuel Cycle Facilities Branch  
Division of Fuel Cycle Safety  
and Safeguards  
Office of Nuclear Material Safety  
and Safeguards

Docket No. WM-42

Enclosure: Technical Evaluation Report

A. Kleinrath

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If you have any comments or questions regarding the NRC's review, please feel free to contact the NRC project manager, Jill Caverly, at 301-415-6699 or by email at [jsc1@nrc.gov](mailto:jsc1@nrc.gov).

Sincerely,

**/RA/**

Susan M. Frant, Chief  
Fuel Cycle Facilities Branch  
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<b>NAME</b>	J.Caverly*		B.Garrett *		R.Weller		S.Frant	
<b>DATE</b>	4/23/03		4/24/03		4/25/03		4/28/03	

\*See previous concurrence **OFFICIAL RECORD COPY**

**TECHNICAL EVALUATION REPORT  
DELETION OF INSTITUTIONAL CONTROLS AT CANONSBURG, PA**

DATE: April 21, 2003

DOCKET NO.: WM-42

LICENSEE: U.S. Department of Energy

PROJECT MANAGER: Jill S. Caverly

TECHNICAL REVIEWER: William von Till

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**SUMMARY AND CONCLUSIONS:**

The U.S. Department of Energy Grand Junction Office (DOE) submitted to the U.S. Nuclear Regulatory Commission (NRC) for review, a proposal to lift institutional controls at the Title I Uranium Mill Tailing Remedial Action (UMTRA) site at Canonsburg, PA. Based on information provided by, and discussed with, DOE, NRC staff concluded that the deletion of institutional controls was acceptable. DOE provided supporting information and justification that the changes would not increase the risk to human health and the environment.

By letter dated June 5, 2002, the U. S. Department of Energy (DOE) submitted a request to remove institutional controls on Area C at the Canonsburg, PA UMTRA site. The NRC staff concurred on DOE's Groundwater Compliance Action Plan (GCAP) by letter dated January 24, 2000. DOE's GCAP and application for alternate concentration limits (ACLs) were detailed in letters dated September 9, 1998, April 8, 1999, and September 27, 1999. Additionally, a February 23, 2000, DOE report concluded that uranium was the only groundwater contaminant of concern.

Upon reviewing the most recent request by DOE to remove institutional controls, staff relayed several concerns via conference calls. These concerns were related to DOE's model predictions stating that:

results of the probabilistic analysis for the plume within Area C suggest that the concentrations of uranium will be elevated above the MCL in groundwater for a period of 15 to 20 years (page 24, DOE February 2000 GCAP).

To address NRC's concerns, DOE submitted a supplement to the GCAP by letter dated November 15, 2002, which provided recent site specific water quality data and revised modeling of the fate and transport of potential groundwater contamination.

Groundwater data collected from the point of compliance (POC) well 414 in the time period between 1997 and 2002 suggest that the groundwater contaminant plume may be attenuating

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faster than previously predicted. DOE used the GANDT model to run multiple Monte Carlo simulations using more recent data since 1997. Since 1998, water quality in the POC well has been below the 0.044 mg/L uranium standard. The model results predict that the probability of exceeding the standard after 2005 is negligible.

NRC staff met with DOE on February 5, 2003, where DOE indicated that they would like to lift groundwater use restrictions when site data indicate that the concentrations are below regulatory levels.

**CONCLUSION:**

DOE has demonstrated through site groundwater quality data and groundwater fate and transport modeling that groundwater levels are below regulatory standards and are most likely to remain below regulatory levels in Area C. Therefore, further groundwater use restrictions are not imperative based on the risk. It is suggested, however, that some amount of groundwater monitoring in Area C be implemented to account for the uncertainty of the fate and transport modeling and the potential for unforeseen increases in groundwater concentration levels.