

January 18, 2006

Alan G. Wilson, Garrison Manager  
Office of the Garrison Manager  
Department of the Army  
1 Rock Island Arsenal  
Rock Island, IL 61299-5000

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION TO SUPPORT NRC'S  
EVALUATION OF THE PROPOSED FIELD SAMPLING PLAN FOR  
JEFFERSON PROVING GROUND (LICENSE SUB-1435)

Dear Mr. Wilson:

The U.S. Nuclear Regulatory Commission (NRC) staff is continuing its evaluation of the Army's proposed Field Sampling Plan (FSP) for Jefferson Proving Ground. To support the evaluation of the FSP, the staff hereby requests additional information on three issues (enclosed). We would appreciate your response within 30 days of the receipt of this letter.

If you have any questions, I can be reached at (301) 415-5869.

Sincerely

**/RA/**

Tom McLaughlin, Project Manager  
Materials Decommissioning Branch  
Division of Waste Management and  
Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

License No.: SUB-1435  
Docket No.: 040-08838

Enclosure: Request for Additional Information

cc: JPG Distribution List

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## REQUEST FOR ADDITIONAL INFORMATION TO SUPPORT NRC'S EVALUATION OF THE PROPOSED FIELD SAMPLING PLAN FOR JEFFERSON PROVING GROUND

### QUESTION 1:

The Army should provide additional information on its rationale for postponing the installation of stream and cave gauging stations and measurement of stream and cave flows until the new monitoring wells are operable. The Army also should clarify its phased approach for collecting stream and cave flow data based upon the interrelationships of stream flow, cave flow, and groundwater flow. This should include a discussion on how it will decide if low flow or base flow stream and cave values should be collected and on how it will perform these measurements during the phased stream and cave monitoring program if these items are determined to be needed. The Army should also provide additional information on its rationale for postponing the gathering of climatic data and why it is not installing an automated climatic station.

### BASIS:

Information on the interrelationships of precipitation, recharge to the groundwater, stream flow, cave flow, and groundwater flow is critical to measuring and understanding the fate and potential transport of depleted uranium at Jefferson Proving Ground (JPG). It is important to gather precipitation, stream flow, cave flow, and groundwater flow data over different flow and climatic conditions.

### REFERENCES:

U.S. Department of Army Installation Support Management Activity. 2005. *Field Sampling Plan, Depleted Uranium Impact Area Site Characterization, Jefferson Proving Ground, Madison, Indiana*. Aberdeen Proving Ground, Maryland. May 2005.

Department of Army Installation Management Agency. 2005. *Responses to Action Items Identified at the 8 September 2005 Meeting Between the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Army Regarding NRC License SUB-1435, Jefferson Proving Ground*. Rock Island, Illinois. October 2005.

QUESTION 2:

The Army should provide additional information to justify why a phased approach for determining the hydraulic properties (hydraulic conductivity and storage parameters) of the water-bearing units (both the unconsolidated and limestone units), utilizing aquifer pump test procedures and other approaches, should not be performed at JPG.

BASIS:

The hydraulic properties of the water-bearing units are needed to understand the rate of groundwater flow and storage of groundwater. Both are important factors that impact the fate and potential transport of the depleted uranium at JPG. A phased approach for obtaining the hydraulic properties of the water-bearing units permits the Army to determine these parameters and to evaluate whether additional data should be obtained.

REFERENCES:

U.S. Department of Army Installation Support Management Activity. 2005. *Field Sampling Plan, Depleted Uranium Impact Area Site Characterization, Jefferson Proving Ground, Madison, Indiana*. Aberdeen Proving Ground, Maryland. May 2005.

Department of Army Installation Management Agency. 2005. *Responses to Action Items Identified at the 8 September 2005 Meeting Between the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Army Regarding NRC License SUB-1435, Jefferson Proving Ground*. Rock Island, Illinois. October 2005.

QUESTION 3 :

The Army should provide additional information on its approach or approaches for measuring, calculating, or estimating recharge to each water-bearing unit. The Army should also discuss the parameters that it will use to determine recharge to each water-bearing unit.

BASIS:

The measurement of recharge to each water-bearing unit and the movement of this water through the soils and the unsaturated zone provide important information on the fate and potential transport of the depleted uranium at JPG.

REFERENCES:

U.S. Department of Army Installation Support Management Activity. 2005. *Field Sampling Plan, Depleted Uranium Impact Area Site Characterization, Jefferson Proving Ground, Madison, Indiana*. Aberdeen Proving Ground, Maryland. May 2005.

Department of Army Installation Management Agency. 2005. *Responses to Action Items Identified at the 8 September 2005 Meeting Between the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Army Regarding NRC License SUB-1435, Jefferson Proving Ground*. Rock Island, Illinois. October 2005.

Jefferson Proving Ground Service List

cc:

Mr. Bob Grew  
Director  
JPG Regional Development Board  
1505 Ordnance Drive  
Jefferson Proving Ground  
Madison, IN 47250-5100

Mr. Scott Pruitt  
US Fish & Wildlife  
620 South Walker  
Bloomington, IN 47403

Dr. Norman Hester  
Indiana State Geologist  
Indiana University  
Indiana Geological Survey  
611 North Walnut Grove  
Bloomington, IN 47405-2208

Ms. Karen Mason-Smith  
US Environmental Protection Agency  
Region V  
Mail Code HSRW-6J  
77 West Jackson Blvd  
Chicago, IL 60604-3590

Mr. George Stegner  
Town Council Town Hall  
Versailles, IN 47242

Mr. David Koenig  
865 West US-50  
PO Box 15  
North Vernon, IN 47625

Mr. David Daghir  
2135 Michigan Road  
Madison, IN 47250

Mr. Allen Franklin  
Ripley County Commissioners  
Ripley County Courthouse  
Versailles, IN 47042

Joyce Kuykendall (Site RSO)  
U.S. Army Soldier and Biological Chemical  
Command  
AMSSB-RCB-RS  
5183 Blackhawk Road  
Aberdeen Proving Ground, MD 21010-5424

Paul Cloud  
U.S. Army Soldier and Biological Chemical  
Command  
AMSSB-OET  
5183 Blackhawk Road  
Aberdeen Proving Ground, MD 21010-5424

Richard Hill, Co-Chair  
Jefferson Proving Ground Restoration  
Advisory Board  
P.O. Box 813  
Madison, IN 47250

Kevin Herron, State Project Manager  
Federal Programs Section  
Office of Land Quality  
Indiana Department of Environmental  
Management  
P.O. Box 6015  
Indianapolis, IN 46206

Indiana State Department of Health  
Radiological Health Section  
Attn: John Ruyack  
5<sup>TH</sup> Floor  
2 N. Meridian Street  
Indianapolis, IN 46204