April 6, 2005

MEMORANDUM TO: Scott Flanders, Deputy Director
Environmental and Performance
Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Nuclear Material Safety
and Safeguards

THRU: B. Jennifer Davis, Section Chief /RA/
Environmental and Low-Level Waste Section
Division of Waste Management
and Environmental Protection
Office of Nuclear Material Safety
and Safeguards

FROM: Matthew Blevins, Senior Project Manager /RA/
Environmental and Low-Level Waste Section
Division of Waste Management
and Environmental Protection
Office of Nuclear Material Safety
and Safeguards

SUBJECT: TELEPHONE SUMMARY REGARDING DEPLETED URANIUM DISPOSAL

On February 24, 2005, a conference call between the U.S. Nuclear Regulatory Commission staff and Utah's Division of Radiological Control staff was held to exchange information regarding the potential disposal of depleted uranium at a commercial low-level radioactive waste disposal facility. Attached is the telephone summary.

Docket: 70-7004
70-3103

Attachment: Telephone Summary

cc: See attached list

April 6, 2005

MEMORANDUM TO: Scott Flanders, Deputy Director
Environmental and Performance
Assessment Directorate
Division of Waste Management
and Environmental Protection
Office of Nuclear Material Safety
and Safeguards

THRU: B. Jennifer Davis, Section Chief /RA/
Environmental and Low-Level Waste Section
Division of Waste Management
and Environmental Protection
Office of Nuclear Material Safety
and Safeguards

FROM: Matthew Blevins, Senior Project Manager /RA/
Environmental and Low-Level Waste Section
Division of Waste Management
and Environmental Protection
Office of Nuclear Material Safety
and Safeguards

SUBJECT: TELEPHONE SUMMARY REGARDING DEPLETED URANIUM DISPOSAL

On February 24, 2005, a conference call between the U.S. Nuclear Regulatory Commission staff and Utah's Division of Radiological Control staff was held to exchange information regarding the potential disposal of depleted uranium at a commercial low-level radioactive waste disposal facility. Attached is the telephone summary.
Docket: 70-7004
70-3103

Attachment: Telephone Summary

cc: See attached list

DISTRIBUTION:	EPADr/f	LCamper	MFederline	JStrosnider
LMarshall	JHenson, RII	RVirgilio, OSP	LRakovan, EDO	JGiitter
BSmith	RPierson	SLewis, OGC	MWoods, OGC	DMcIntyre, OPA
SEchols	JHolonich	RLinton	CWalls	MWong
TJohnson	DSollengber, STP	MThaggard	LClark, OGC	DReddick, OGC
MZobler, OGC	JPark	CSchulte	DAyres, RII	
RHannah, RII	DSeymour, RII	RTrojanowski, RII		

ML050770183

OFC	DWMEP		DWMEP	OGC		DWMEP	
NAME	MBlevins		BAbu-Eid	JMoore		BJDavis	
DATE	3/22/05		3/22/05	3/31/05		04/06 /05	

OFFICIAL RECORD COPY

This document should be made available to the PUBLIC MDB 03/22/05

(Initials) (Date)

USEC Service List

cc:

William Szymanski
U.S. Department of Energy
1000 Independence Ave, SW
Washington, DC 20585

Michael Marriott
Nuclear Information and Resource Service,
1424 16th St., NW
Washington, DC 20036

The Honorable Robert W. Ney
Member, United States House of Representatives
2438 Rayburn HOB
Washington, DC 20515

The Honorable George V. Voinovich
United States Senator
317 Hart Senate Office Building
Washington, DC 20510

The Honorable Rob Portman
Member, United States House of Representatives
238 Cannon House Office Building
Washington, DC 20515

The Honorable Mike DeWine
United States Senator
140 Russell Senate Office Building
Washington, DC 20410

The Honorable Bob Taft
Governor of Ohio
77 South High Street
30th Floor
Columbus, Ohio 43215-6117

Ms. Mary Glasgow
601 Chillicothe Street
Portsmouth, Ohio 45662

Mr. Teddy L. Wheeler
Pike County Auditor
Pike County Government Center
230 Weaverly Plaza, Suite 200
Weaverly, Ohio 45690-1289

Mr. Harry Rioer
Pike County Commissioner
230 Weaverly Plaza Suite 1000
Weaverly, Ohio 45690

Mr. Larry E. Scaggs
Township Trustee
230 Weaverly Plaza Suite 1400
Weaverly, Ohio 45690

Kara Willis
16 North Paint St.,Suite 102
Chillicothe, Ohio 45601

Jim Brushart
Pike Co.Comm. Chair
230 Weaverly Plaza Suite 1000
Weaverly, Ohio 45690

Mr. Gary Hager
ATTN: Mailstop-4025
P.O.Box 628
Piketon, Ohio 45661

Mr. Blaine Beekman
Executive Director
Pike County Chamber of Commerce
P.O. Box 107
Weaverly, Ohio 45696

Billy Spencer, Mayor of Piketon
Mayor of Piketon
P. O. Box 547
Piketon, Ohio 45661

Rocky Brown, Mayor of Beaver
7677 State sr335
Beaver, Ohio 45613

Mr. Geoffrey Sea
340 Haven Ave. Apt. 3C
New York, NY 10033

Ms. Vina K. Colley, President PRESS
3706 McDermott Pond Creek
McDermott, Ohio 45652

Mr. Peter J.Miner, Director
Regulatory and Quality Assurance
USEC Inc.
6903 Rockledge Drive
Bethesda, MD 20817

Randall Devault, Regulatory Oversight Manager
Department of Energy - Oak Ridge
P.O. Box 2001
Oak Ridge, TN 37831-8651

Dan Minter
Southern Ohio Development Initiative
P.O.Box 467
Piketon, OH 45661

Mr.James R. Curtiss, Winston & Strawn
1400 L Street, NW
Washington, DC. 20005-3502

Teddy West
2170 Wakefield Mound Road
Piketon, OH 45661

Carol O'Claire, Supervisor
Radiological Branch
Ohio Emergency Management Ag ency
2855 West Dublin-Granville Road
Columbus, OH 43235-2206

Rod Krich, Vice President
Licensing Projects
Exelon Generation Co.
4300 Winfield Road
Warrenville, IL 60555

Patricia Marida
Central Ohio Sierra Club
1710 Dorsetshire Rd.
Columbus, OH 4322

Elisa Young
48360 Carmel Road
Racine, Ohio 45771

LES Service List

cc:

James R. Curtiss, Winston & Strawn
1400 L Street, NW
Washington, DC 20005-3502

Peter Miner, Licensing Manager
U.S. Enrichment Corporation
6903 Rockledge Drive
Bethesda, MD 20817-1818

William Szymanski
U.S. Dept. of Energy Headquarters

James Ferland
Louisiana Energy Services
One Sun Plaza, 100 Sun Avenue, NE
Suite 204
Albuquerque, NM 87109

Michael Marriotte
Nuclear Information and Resource Service
1424 16th St., NW
Washington, DC 20036

Rod Krich, Vice President
Licensing Projects, Exelon Generation Co.
4300 Winfield Road
Warrenville, IL 60555

Jerry Clift
Hartsville/Trousdale County Executive
Trousdale County
210 Broadway, Room 5,
Hartsville, TN 37074

Lue Ethridge
100 North Main St., Suite 4
Lovington, NM 88260

James Brown, Mayor
City of Eunice
P.O. Box 147
Eunice NM 88231

Claydean Claiborne, Mayor
City of Jal
P.O. Drawer 340
Jal, NM 88252

Troy Harris, Mayor
City of Lovington
214 South Love
P.O. Box 1269
Lovington, NM 88260

Betty Rickman, Mayor
Town of Tatum
P.O. Box 416
Tatum, NM 88267-0416

Monty Newman, Mayor
City of Hobbs
300 North Turner
Hobbs, NM 88240

Glen Hackler, City Manager
City of Andrews
111 Logsdon
Andrews, TX 79714

John Parker, Manager
Radiation Protection Program, Environment Dept.
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, NM 87502

Richard Ratliff, Chief
Bureau of Radiation Control
1100 West 49th St.
Austin, TX 78756-3189

Derrith Watchman-Moore, Deputy Secretary
New Mexico Environment Dept.
P.O. Box 26110
Santa Fe, NM 87502-6110

Lee Cheney
Citizens Nuclear Information Center
420 W. Humble
Hobbs, NM 88240-7116

Carol O'Claire, Supervisor Radiological Branch
Ohio Emergency Management Agency
2855 West Dublin-Granville Rd.
Columbus, OH 43235-2206

Joseph P. Malherek, Public Citizen
215 Pennsylvania Ave. S.E.
Washington, DC 20003

Ron Curry, Secretary
Clay Clarke, Assistant General Counsel
New Mexico Environmental Dept.
1190 St. Francis Dr.
Santa Fe, NM 87502-6110

Patricia A. Madrid, N.M. Attorney General
P.O. Box 1508
Santa Fe, NM 87504-1508

Lindsay A. Lovejoy, Jr.
Nuclear Information and Resource Service
618 Paseo de Peralta, Unit B
Santa Fe, NM 87501

Glenn Smith, Deputy Attorney General
P.O. Box 1508
Santa Fe, NM 87504

Tannis Fox, Asst. General Counsel
New Mexico Environmental Dept.
1190 St. Francis Drive
Santa Fe, NM 87502-6110

TELEPHONE SUMMARY

Date and Time: February 24, 2005; 3:30 PM - 4:15 PM

Participants:

U.S. Nuclear Regulatory Commission:

B. Abu-Eid/DWMEP
M. Blevins/DWMEP
R. Linton/DWMEP
Y. Faraz/FCSS
S. Flanders/DWMEP
T. Johnson/FCSS
M. Wong/DHLWRS

Division of Radiological Control, State of Utah:
D. Finerfrock
J. Hultquist
L. Morten

Background:

On February 24, 2005, a conference call between the U.S. Nuclear Regulatory Commission (NRC) staff and Utah's Division of Radiological Control (DRC) staff was held to exchange information regarding the potential disposal of depleted uranium (DU) at a commercial low-level radioactive waste (LLW) disposal facility.

Question 1:

NRC staff: The waste acceptance criteria [WAC] at Envirocare under License Number UT 2300249, Amendment #19, allows waste disposal of uranium isotopes at the following average concentrations limits: U-234: 3.7E+05 pCi/g; U-235: 1.90E+03 pCi/g; and U-238: 3.3E+05 pCi/g. These concentrations are within the range of DU oxides isotopic concentrations. Does the DRC have any conditions in its regulations or license that may exclude disposal of DU in the form of oxides at Envirocare? If so, please explain the rationale and the physical or chemical parameters used for such exclusion? Does the WAC address any volume restrictions for disposal of DU?

DRC staff: DRC staff pointed out that Amendment #19 has been superceded by Amendment #20. In the most recent amendment, isotopic concentrations for the listed nuclides have been eliminated. The new amendment refers to Class A limits.

NRC staff: Requested clarification of Amendment #20. Because 10 CFR 61.55 limits have no specific value for uranium, were the corresponding concentration values set to the theoretical specific activity for each isotope of uranium?.

DRC staff: Confirmed this statement and indicated that this was consistent with the uranium values under the old Amendment #19.

DRC staff indicated that at this time they have no reservations about accepting DU in an oxide form (specifically DU_3O_8). DRC staff further noted that there are no volume restrictions in the Envirocare license.

Question 2:

NRC staff: Are there any special considerations that need to be taken into account for disposal of DU material at the Envirocare facility from Utah's perspective?

DRC staff: Responded that no special considerations came to mind. These disposal decisions are something that the DU generator and Envirocare would have to explore.

Question 3:

NRC staff: NRC staff asked DRC to provide further information on its position that the on-site residential and agricultural intruder pathways for the Envirocare site are unrealistic.

DRC staff: Stated that onsite residential and/or farming scenarios at the Envirocare facility are unrealistic for several reasons. First, the site conditions of low precipitation (i.e., approximately 5-6 inches/year) and high evapotranspiration rates (i.e., approximately 40 - 50 inches/year). Also, there is a lack of suitable irrigation water (see Question 6) and the soil is extremely saline. Secondly, Tooele County has designated this part of the county as Heavy Industry and Hazardous Waste Zones which bars any such residential and/or farming uses.

Question 4:

NRC staff: Does the DRC staff have any updated PA studies for Envirocare? Was the Rogers & Associates study used to support the MCLs or WAC? [e.g., "Evaluation of the Potential Public Health Impacts Associated with Radioactive Waste Disposal at a Site Near Clive, Utah," June 1990; "Additional Radionuclide Concentration Limits for the NORM Disposal Site at Clive, Utah," August 1990].

DRC staff: Responded that the 1990 reports were used in initial licensing work for Envirocare. There are more updated reports from approximately 1997 - 2000. DRC staff will provide a list of these reports in a future electronic mail. DRC staff also noted that all of these reports are publicly available.

Question 5:

NRC staff: Does the DRC staff have detailed information regarding subsurface geology and hydrology beneath the Envirocare facility and whether this information is available to the public? Does the DRC staff have any performance assessment studies on radionuclide transport or radionuclide migration at your licensed facilities? If so, please direct NRC staff to the source of this information.

DRC staff: Indicated that DRC staff has an abundance of information about the geology and hydrology and that this information is also publicly available. Any information that NRC needs should be forwarded to the DRC. DRC staff also noted that all of these reports are publicly available.

Question 6:

NRC staff: What are the parameters DRC staff used to conclude that the groundwater beneath the Envirocare facility is non-potable?

DRC staff: Responded that the driving factor was the high saline content which is approximately 30,000 - 80,000 mg/L total dissolved solids. This high value precludes any use for either human or animal consumption and also would not be suitable for irrigation.

Question 7:

NRC staff: NRC understands that DEQ requires compliance with radionuclide concentrations limits in the aquifer and that these limits are used for monitoring purposes. Does the DRC staff have any corresponding dose/risk values for these limits? If none, please explain the health and safety basis for these limits and the timeframe of its intended use.

DRC staff: Responded in the affirmative and stated that these were spelled out in the groundwater discharge permit using three factors:

- Four mrem/yr exposure assuming use as drinking water source;
- EPA MCL's (i.e., gross alpha); and
- EPA Federal Report Number 13.

DRC staff did not apply the sum of fractions rule because it would be difficult to predict which contaminant would arrive at a well and because of the high total dissolved solids, the water would never be used as a drinking water source.

NRC staff: Clarified their question and asked how DRC obtained limits if there were no receptor to use or consume the water?

DRC staff: Clarified response and indicated that these limits relate to the State's "anti-degradation" policy decision made in 1990. The decision meant that even though there were no uses for the groundwater, eventual groundwater discharges to the Great Salt Lake would not be allowed to further degrade the water quality.

Question 8:

NRC staff: What is the average distance from the disposal cell to the boundary at Envirocare? What are the current activities of the off-site public at the boundary?

DRC staff: First, DRC requires a buffer zone from the edge of the waste to the edge of the disposal cell of approximately 90 feet. This buffer zone would contain monitoring equipment, ditches, and roads. Second, Tooele County requires a buffer zone of 300 feet between the edge of the disposal cell and the site boundary. In total, there is approximately 390 feet between the edge of the waste and the boundary. Currently, there are no public activities at the boundary. This is Bureau of Land Management land and on very rare occasions there may be sheep or cattle grazing.

NRC Staff: Extended its thanks to DRC staff for participating in this exchange and noted that it would keep DRC staff informed of its environmental review findings relative to DU disposal.