

February 28, 2005

MEMORANDUM TO: B. Jennifer Davis, Section Chief
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
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SUBJECT: TELEPHONE SUMMARY REGARDING ENVIRONMENTAL REVIEW
AND REQUESTS FOR ADDITIONAL INFORMATION ON USEC INC.
PROPOSED AMERICAN CENTRIFUGE PLANT

On February 10, 2005, staff from the U.S. Nuclear Regulatory Commission and its technical assistance contractors, ICF Inc. and Trinity Engineering and Associates held a telephone conference call with staff from USEC Inc. (USEC) to discuss "Requests for Additional Information" pertaining to USEC's Environmental Report for the American Centrifuge Plant proposed to be built in Piketon, Ohio. These telephone conference calls were intended to allow USEC to begin response preparation at an early stage. Attached is the telephone summary.

Docket: 70-7004

Attachment: Telephone Summary for Environmental Review

cc: See attached list

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**TELEPHONE SUMMARY
Environmental Review**

Date and Time: February 10, 2005; 9:00 AM

Call Participants:

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J. Oliver
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USEC Inc.:

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Background:

On February 10, 2005, a conference call between the U.S. Nuclear Regulatory Commission (NRC) staff, it's contractors, ICF Inc. and Trinity Engineering and Associates, and USEC Inc. (USEC) was held to discuss environmental issues related to USEC's environmental report for the proposed American Centrifuge Plant (ACP). The NRC staff requested further information as described below which is listed by chapter number and title in the USEC's Environmental Report.

SECTION 1 – INTRODUCTION

1-1 Maps and Figures:

- A. Provide hard copy maps (5 sets) in "E" size (34" by 44") with a north arrow and scale that display the following features. These maps would not be released to

Attachment

the public (and thus do not need to be purged of proprietary or secure information), but are required to assist in assessing impacts on specific resources.

- 1.) All existing buildings and cylinder storage yards that will be used for the ACP and all new buildings and cylinder storage yards that will be constructed for the ACP; please provide hatching to distinguish the location of the existing facilities from the new facilities.
 - 2.) Figure 1.0.1-2 originally included in the ER modified to also show the locations of water supply wells, water supply pipelines to the onsite distribution center, and power lines.
 - 3.) The location of the 14 archaeological sites and two historic area cemeteries that may be eligible for listing in the national register, as referenced in Section 3.8.1, page 3-62.
 - 4.) Figure 3.5.4-1 originally included in the ER modified to show the locations of the Indiana Bat Habitat in relation to the closest ground-disturbing activity associated with the proposed action (e.g., construction of cylinder storage yard X-745H).
- USEC acknowledged the request.
- B. Provide a series of maps that have the same background information shown on Figure 3.4.2-1, including the north arrow and scale, minus any proprietary information, plus all existing building and cylinder storage yards that will be used for the ACP hatched one way, plus all new buildings and cylinder storage yards that will be constructed for the ACP hatched another way, and plus the specific features listed below. If possible, please provide electronic files in AutoCADD format; if that is not possible, please provide jpg images that can be inserted into a WordPerfect file. The following maps should be appropriate for release to the public in the DEIS.
- 1.) Figure 1: Proposed location of DOE's UF₆ conversion facility on the reservation (adapted from Figure 3.1-2).
 - 2.) Figure 2: Stormwater drainage associated with the proposed action (adapted from Figure 4.4.3-1).
 - 3.) Figure 3: National Pollutant Discharge Elimination System (NPDES) discharge locations and associated buildings/areas that discharge/drain to those outfalls (adapted from Figure 3.4.2-2).
 - 4.) Figure 4: Locations of point source airborne emissions from all buildings associated with the proposed action (there is not a comparable figure currently in the ER).
 - 5.) Figure 5: Locations of tenant organizations (e.g., the Ohio National Guard and the OVEC office building) on the DOE Reservation (there is not a comparable figure currently in the ER).
 - 6.) Figure 6: Boundaries of the environmental restoration quadrants together with the location of Phase I and Phase II Cultural Resource Surveys completed on the reservation (adapted from Figure 3.4.1-1).
 - 7.) Figure 7: Location of environmentally sensitive areas on the reservation, with separate hatchings or symbols used to denote wetlands, floodplains, and sensitive or unique habitats (but not a specific symbol for rare,

threatened, or endangered species habitat, which cannot be disclosed in a public document) (adapted from Figures 3.5.4-1 and 4.5.3-1).

- USEC acknowledged the request.

1-2 Permits, Licenses, and Approvals:

- A. Provide an update on the status of the following permits and discussions listed in Table 1.3-1 of the ER, especially as they apply to the construction of cylinder storage yard X-745H and other new cylinder storage yards.
- 1.) Clean Water Act Section 404 (Dredge and Fill) Permit and related discussions with the U.S. Army Corps of Engineers, as noted on page 1-19 of the ER.
 - 2.) Ohio General Permit for Filling Category 1 and Category 2 Isolated Wetlands and related discussions with the Ohio Environmental Protection Agency (OEPA), as noted on page 1-19 of the ER.
 - 3.) Ohio Individual Isolated Wetland Permit and related discussions with the OEPA, as noted on page 1-20 of the ER.

- USEC acknowledged the request.

- B. Provide a copy of the existing Spill Prevention Control and Countermeasures (SPCC) Plan referenced on page 1-20 in Table 1.3-1 of the ER. Also provide any revisions made to that plan to include ACP operations, if available. If such revisions are not yet available, provide information on the anticipated content of the revisions to include the ACP.

- USEC indicated that the SPCC plan was being revised to incorporate ACP activities, however, the most recent SPCC would be submitted.

1-3 Informal Consultations:

- A. Provide a copy of the March 2, 2004 consultation letter to the State Historic Preservation Officer (SHPO).

- USEC acknowledged the request.

SECTION 2 – ALTERNATIVES

2-1 Manufacturing Activities:

- A. Provide a complete description of the centrifuge manufacturing activities that would occur as part of the proposed action, as referenced on page 2-4 and elsewhere in the ER. This description should include the location(s) of the proposed manufacturing facility(ies), any new construction activities (including new construction footprints), the proposed manufacturing operations (including the quantities and contaminant concentrations of planned air emissions and liquid effluents), the potentially affected environment at the proposed

manufacturing site(s), the impact on the environment, and any related mitigation measures and environmental measurement and monitoring programs.

- USEC acknowledged the request.
- B. Clarify whether all the machine components listed in Table 4.2.3.1-6 on page 4-26 of the ER would be manufactured and tested at the same site(s) addressed in response to the preceding question or at different sites. If different sites, provide the same information requested in the preceding question for each affected site.
- USEC acknowledged the request.

2-2 Cylinder Storage Yards:

NRC requested that descriptions of cylinder storage yards be expanded.

- USEC acknowledged the request.

2-3 Sewage Treatment Plant:

Clarify whether building X-6619 is considered a primary or secondary facility. Provide a detailed description of building X-6619, including design, capacity, treatment methods, outfall locations, discharge limits, and volumes of treated wastewater discharged.

- USEC acknowledged the request.

2-4 Interplant Transfer Corridor:

Describe the specific modifications to be made to the X-7727H Interplant Transfer Corridor during construction of the ACP, including earthmoving activities, that could result in environmental impacts.

- USEC acknowledged the request.

2-5 Other Support Facilities:

A. Provide the size, location, and primary function of the existing X-112 Data Processing Building, X-1020 Emergency Operation Center, X-6002 Boiler System, and X-6002A Oil Storage Facility. Also, provide the size of the proposed X-2215A Power Ductbank System, X-2220D Communications Ductbank System, and any other support facilities not described in detail.

- USEC acknowledged the request.

2-6 Process Piping:

Provide details on the location of the proposed 5,000 feet of additional process piping and its primary function.

- USEC acknowledged the request.

2-7 Heat Plant:

Describe the process of relocating the X-6002 Heat Plant from the X-3002 building to an area adjacent to X-6002A (part of the refurbishment activities described on page 2-7 of the ER). If construction is involved, indicate how much land will be disturbed and the methods employed to limit erosion and surface water sedimentation and contamination.

- USEC acknowledged the request.

2-8 Feed and Customer Services Building:

A. Clarify whether heated cylinders in the feed area would be raised by crane up and over other heated cylinders when the cylinders are moved between rows of feed ovens.

- USEC acknowledged the request.

B. Verify that liquid UF₆ cylinders in the customer services area will not be moved and will not be in an area where they may be hit by heavy equipment moving in their vicinity. NRC also requested that USEC Inc. commit to this in the Environmental Report or License Application.

- USEC indicated that it would consider adding such a commitment.

2-9 Utilities and Other Services:

Provide additional detail on suppliers of utilities and services and how these services are to be provided for the proposed action through existing buildings and services. (See related question 4-8F.)

- USEC acknowledged the request.

SECTION 3 – DESCRIPTION OF THE AFFECTED ENVIRONMENT

3-1 Geology and Soils:

With respect to page 3-13 in Section 3.3.2 of the ER, provide information on existing chemical or radiological contamination of soils and groundwater observed in wells STSW-103G, F-23G, and X-749-58g.

- USEC acknowledged the request and indicated it would provided the most recent site Annual Environmental Report.

3-2 Ecological Resources:

Provide a description of the site-specific terrestrial resources and wildlife within and adjacent to new cylinder storage yard X-745H.

- USEC acknowledged the request.

3-3 External Gamma Radiation Monitoring:

With respect to Section 3.5.5.2 starting on page 3-39 of the ER, provide the last five years of results of the external gamma radiation monitoring program described on pages 4-79 and 6-4 of the ER, along with a map showing the location of monitoring stations.

- USEC acknowledged the request and indicated it would provide the most recent site Annual Environmental Report.

3-4 Meteorology, Climatology, and Air Quality:

A. Provide the site-specific population and joint frequency data files used to generate the National Emission Standards for Hazardous Air Pollutants (NESHAPs) compliance analysis using CAP88, as described in Section 3.6.3.2 starting on page 3-55 of the ER.

- USEC acknowledged the request.

B. Also with respect to the NESHAPs compliance analysis described in Section 3.6.3.2 starting on page 3-55 of the ER, provide the distances used for the manual grid input when running CAP88 for NESHAPs compliance cases using individual assessments rather than population assessments. Alternatively, provide the CAP88 input files for individual assessments.

- USEC acknowledged the request.

3-5 Historic and Cultural Resources:

A. With respect to page 3-63 in Section 3.8.2 of the ER, clarify which existing buildings are contributing resources to the historic property.

- USEC acknowledged the request.

B. Provide a copy of the following material cited on pages 3-62 and 3-63 in Sections 3.8.1 and 3.8.2 of the ER:

- 1.) DOE 2001b – The Environmental Assessment Reindustrialization Program at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio.
- 2.) Dobson-Brown et al 1996 – Dobson-Brown, D., Church, F., and Schweikart, J., Management Summary for the PORTS Cultural Resource Literature Review, Predictive Model, and Preliminary Reconnaissance Survey in Scioto and Seal Townships, Pike County Ohio.

- 3.) Schweikart et al 1997 – Schweikart, J.F., Coleman, K., and Charles F., Phase I Archaeological Survey for the Portsmouth Gaseous Diffusion Plant (PORTS Facility) in Scioto and Seal Townships, Pike County, Ohio.
- 4.) Coleman et al 1997 – Coleman, K., Dobson-Brown., and Herr, D. Phase I Architectural Survey for the Portsmouth Gaseous Diffusion Plant (PORTS Facility) in Scioto and Seal Townships, Pike County, Ohio.

- USEC acknowledged the request and indicated that Phase II Cultural Resources Survey would be submitted.

3-6 Socioeconomics:

A. With respect to page 3-74 in Section 3.10 of the ER, provide additional detail on the institutional, transient, and seasonal populations in the region of influence (ROI) and whether these populations are likely to be affected by the proposed action.

- USEC Acknowledged the request.

B. With respect to page 3-74 of Section 3.10 of the ER, clarify whether Pike Community Hospital, the closest hospital to the DOE Reservation, will provide healthcare services to workers at the proposed ACP.

- USEC acknowledged the request.

3-7 Traffic:

A. Provide information on the likely schedules of the new employees who will work in the proposed facility. What percentage of the new workers will likely have a day shift and what would a typical day shift be? Are there likely to be staggered schedules? If there are other shifts, what are they likely to be? What percentage of the new work force will work on the other shifts?

- USEC acknowledged the request.

B. Will all the employees be required to exit the facility through the access road to Route 23? What other routes are there and what percent of the employees may be expected to use other routes?

- USEC acknowledged the request.

SECTION 4 – ENVIRONMENTAL IMPACTS

4-1 Transportation Impacts:

- A. Analyze and provide a complete summary of all the radiological and environmental impacts of transportation accidents for the proposed action based on NUREG-0170 and the specific volumes and origins and destinations described in Section 4.2.3.2.1 of the ER. Also provide the TRAGIS node names and node numbers used in the analysis.
- USEC acknowledged the request.
- B. Describe in detail and clarify the scaling process that was used to apply the results from ANL/EAD/TM-112 to the proposed ACP shipments to a range of destinations, as mentioned on page 4-34 of the ER.
- USEC acknowledged the request.
- C. Provide a summary of the analysis based on ANL/EAD/TM-112 and justify how shipments from East Tennessee can be leveraged for use nationwide.
- USEC acknowledged the request.
- D. Clarify and summarize all methodologies applied and inputs used to assess transportation impacts. NRC pointed out that the tables were inconsistent. For example:
- 1.) The basic accident rates and emission factors are listed in some instances, but not all;
 - 2.) Route information is not provided;
 - 3.) Pages 4-5 to 4-6, section 4.2.3.1, describe the sources of various inputs, but does not include any discussion on the suitability of the values selected;
 - 4.) Page 4-34, section 4.2.3.2.1.7, refers to DOE 2001, the 2000 census, and TRAGIS model runs, but no data are provided; and
 - 5.) Page 4-36 refers to ANL/EAD/TM-112 and the scaling of its results, but the scaling assumptions are not provided.
- USEC acknowledged the request.
- E. Provide all of the basic information for the equipment and material tables in Section 4.2 in a consistent format. Include all waste shipments, including shipments of used centrifuges, in this table.
- USEC acknowledged the request.
- F. Provide the same information on hazardous materials (e.g., hydrofluoric acid) shipments, using a table similar to that provided above.
- USEC acknowledged the request.

4-2 Geology, Soils, and Seismicity Impacts:

With respect to Site Preparation activities listed in Table 4.3.3-1 in Section 4.3.3 of the ER, provide soil quality data (along with a map showing corresponding sampling locations) for each of the areas to demonstrate that materials to be excavated and transported during the construction phase of the proposed action pose no unacceptable risk to workers or the environment. If no soil quality data are available, or data indicate potential contamination, provide a description of how soil will be managed to minimize release.

- USEC acknowledged the request.

4-3 Water Resources Impacts:

A. With respect to Table 4.4.3-2 on page 4-54 of the ER, confirm that the projected withdrawal rate for water supply wells at the 7 million SWU operating capacity is within permitted levels and provide a map that shows the location of domestic, residential, or irrigation supply wells that tap the Scioto River aquifer.

- USEC acknowledged the request.

B. With respect to Section 4.4.3 starting on page 4-59 of the ER, provide:

- 1.) Existing permit conditions for the NPDES outfalls potentially impacted by the proposed action.
- 2.) Results of non-radiological and radiological analyses of samples taken from those NPDES outfalls during current plant activities, distinguishing to the extent possible what is due to DOE versus United States Enrichment Corporation discharges.
- 3.) Estimated concentrations of non-radiological and radiological contaminants at the NPDES outfalls under the proposed action.

- USEC acknowledged the request.

C. With respect to the West and Southwest Drainage Ditches described on page 4-52 of the ER, clarify whether water in those ditches is used (e.g., for agricultural, drinking, commercial/industrial, or recreational purposes) between the points where they receive effluent from the DOE site and the points where they discharge into the Scioto River.

- USEC acknowledged the request.

D. Provide information and analysis regarding the potential for the TCE plume associated with X-749/X-120/Peter Kiewit Landfill to generate unacceptable volatile organic vapors during construction or operation.

- USEC acknowledged the request.

4-4 Ecological Resources Impacts:

- A. Provide a site-specific description of the ecological effects associated with construction and operation of the cylinder storage yard X-745H.
 - USEC acknowledged the request.
- B. In Section 4.5.3 (page 4-62) and Section 5 (pages 5-1 and 5-2), elaborate on any mitigation measures that would be implemented in addition to required best management practices (BMPs) for mitigating impacts to ecological resources. Such mitigation measures may include: flexible construction schedules to avoid sensitive wildlife breeding or rearing periods, revegetating temporarily disturbed areas with native vegetation, enhancing bat habitat by installing bat houses, and using natural material for slope stabilization instead of engineered materials (concrete retaining walls).
 - USEC acknowledged the request.

4-5 Air Quality Impacts:

- A. Specify the units used to report the typical emission rates in Table 4.6.3.2-1 on page 4-77 of the ER and review the data to ensure that the sum of the rows and columns is equal, within round-off errors, to the totals reported in the table.
 - USEC acknowledged the request.
- B. With respect to page 4-78 within Section 4.6.3.2 (Radiological Air Quality) of the ER, provide one or more maps showing the location of:
 - 1.) All airborne sources of radiological emissions associated with the ACP.
 - 2.) All cylinder storage yards associated with the ACP (along with the type and quantity of material to be stored in each yard, both short- and long-term).
 - 3.) Primary onsite roads for transporting radiological materials into and out of the ACP.
 - 4.) All onsite tenants (along with the approximate number of people working in each building or area).
 - 5.) All buildings or areas where there are onsite non-radiological (i.e., non-badged) workers (along with the approximate number of people working in each building or area).
 - 6.) The current actual offsite residences nearest to the DOE Reservation boundary in each compass direction.
 - USEC acknowledged the request.
- C. Provide the total square footage of land to be excavated for the new roads and new parking areas listed in Table 4.3.3-1 on page 4-43.
 - USEC acknowledged the request.

- D. With respect to the manufacturing discussion on page 4-74 in Section 4.6.3.1 (Non-Radiological Air Quality), provide estimates of the quantities and concentrations of non-radiological contaminants expected to be emitted to the air from the proposed centrifuge manufacturing operations.
- USEC acknowledged the request.
- E. With respect to the operations discussion on page 4-75 in Section 4.6.3.1 (Non-Radiological Air Quality), provide information on how many diesel generators may be used in a given year for the proposed action at the 7 million SWU operating level.
- USEC acknowledged the request.
- F. With respect to the operations discussion on page 4-75 in Section 4.6.3.1 (Non-Radiological Air Quality), provide the number of tons of coal that would be used annually under the proposed action at the 7 million SWU operating level.
- USEC acknowledged the request and indicated no coal would be used under the proposed action.
- G. For the aboveground storage tanks (ASTs) listed in Table 4.4.3-3 on page 4-55, provide information on whether the tanks are going to be vertical or horizontal fixed roof tanks or floating roof tanks.
- USEC acknowledged the request.
- H. With respect to the discussion of the Product and Tails Withdrawal Building Operations, provide the expected concentration of hydrogen fluoride (HF) in the workspace atmosphere from cylinder connections and disconnections.
- USEC acknowledged the request.

4-6 Noise Impacts:

With respect to the noise impact analysis on page 4-86 in Section 4.7.3 of the ER, clarify whether the proposed ACP construction will occur only during normal working hours in the day or may also occur at night. If construction activities may occur at night, provide estimated noise levels at the closest DOE Reservation boundary during night-time construction activities.

- USEC acknowledged the request.

4-7 Historic and Cultural Resources Impacts:

Elaborate on how the new facilities would be constructed to be consistent with nationally recognized standards and how such activities would not alter the property's significant historic settings.

- USEC acknowledged the request.

4-8 Socioeconomic Impacts:

A. Provide documentation of the input-output (RIMS-II) modeling assumptions, calculations, and multipliers referenced on page 4-92 of the ER.

- USEC acknowledged the request.

B. With respect to page 4-96 of the ER, provide the estimated number of jobs created during each of the following unique phases of the proposed action. Provide details on whether these positions are full- or part-time, as well as the timeline in which the jobs will be active.

- 1.) Refurbishment, site preparation, and construction
- 2.) Manufacture of gas centrifuges and components
- 3.) Facility operation
- 4.) Decontamination and decommissioning

- USEC acknowledged the request.

C. If there are any updates to the estimated number of jobs in response to 4-8B above, provide revised estimates of the secondary employment impact of the proposed action that reflect any changes in total direct employment based on all four project phases listed in 4-8B.

- USEC acknowledged the request.

D. With respect to page 4-96, provide a reference for the cited percentage of new jobs that would be filled from outside the ROI for each unique phase (as listed in 4-8B) of the proposed action.

- USEC acknowledged the request.

E. Provide details about the capacity of the Pike Sanitation Landfill and which communities/municipalities depend on it for waste disposal. Provide details on alternative landfills in the area available for use by ROI communities.

- USEC acknowledged the request.

F. If utilities (electric power, natural gas, sanitary water, wastewater treatment, municipal waste disposal) will be procured from off-site providers for any phase of the proposed action, provide details on how the increased demand (if any)

from the proposed action will affect the availability and cost of utilities to communities in the ROI.

- USEC acknowledged the request.

4-10 Waste Management Impacts:

A. Provide information on the types and quantities of LLRW and RCRA wastes that are expected to be generated from cleanup and refurbishment activities needed prior to turning over existing facilities from DOE to USEC to begin ACP upgrade activities. This should include information on any wastes from DOE's accelerated cleanup of the Gas Centrifuge Enrichment Plant (GCEP) facilities to be used by USEC for the ACP.

- USEC acknowledged the request.

B. Clarify if wastes from centrifuge failures, lubricants, and other vacuum system components and wastes from start-up testing activities are included in Table 4.2.3.2-2 on page 4-33 and Table 4.13.3.3-1 on page 4-125. If so, explain where these wastes are accounted for in the tables. If not, revise the tables to account for these wastes.

- USEC acknowledged the request.

C. Specify the practices for the onsite management of LLRW and LLMW associated with the proposed action, including the location and design of onsite management facilities and the length of time the waste will be stored onsite prior to shipment offsite.

- USEC acknowledged the request.

D. Provide information on the quantity, form, and isotopic content of all LLRW and LLMW – other than depleted uranium wastes – to be managed onsite at Piketon as result of the proposed action.

- USEC acknowledged the request.

E. Clarify what the “non-regulated” waste streams are in Table 4.2.3.2-2 on page 4-33 and Table 4.13.3.3-1 on page 4-125.

- USEC acknowledged the request.

SECTION 7 – COST BENEFIT ANALYSIS

Pursuant to 10 CFR 51.45c), the ER is required to consider the economic, technical, and other benefits and costs of the proposed action and alternatives.

A. Provide estimates of the average operating and maintenance costs per SWU for the following alternatives. Also indicate the source of these estimates.

- 1.) No-action alternative (continued operation of the Paducah Gaseous Diffusion Plant (PGDP)), and
 - 2.) ACP located at Piketon (7 million SWU capacity).
- USEC acknowledged the request.
- B. Provide references for studies/literature that discuss the comparative operating costs and/or relative resource consumption (coal/oil, water) of the gaseous diffusion and gas centrifuge technologies for uranium enrichment.
- USEC acknowledged the request.
- C. Provide cost estimates and timeframes for the decommissioning of the:
- 1.) No-action alternative (continued operation of PGDP), and
 - 2.) ACP located at Piketon (7 million SWU capacity).
- USEC acknowledged the request.
- D. Clarify whether the Portsmouth Gaseous Diffusion Plant would be decommissioned under either the no-action alternative or the proposed action. If yes, provide cost estimates and timeframes for its decommissioning.
- USEC acknowledged the request.
- E. Provide details of the comparative waste generation rates from operation-phase activities for the no-action alternative (continued operation of PGDP) and the ACP located at Piketon.
- USEC acknowledged the request.