



Paducah Gaseous Diffusion Plant  
Citizens Advisory Board

March 15, 2007

## Proposed Agenda for the March Board Meeting

**Chair**  
Allen Burnett

**Chair-Elect**  
Janet Miller

**Board Members**

John Anderson  
Judy Clayton  
Shirley Lanier  
Bobby Lee  
Elton Priddy  
John Russell, Ph.D.  
Jim Smart, Ph.D.  
James Tidwell

**Board Liaisons**  
Reinhard Knerr  
*DOE DDFO*

Mitch Hicks  
*DOE Federal Coordinator*

Jon Maybriar  
*Division of Waste  
Management*

David Williams  
*Environmental Protection  
Agency*

Mike Hardin  
*Fish and Wildlife Resources*

Dr. John Volpe  
*Radiation Health Branch*

**Support Services**  
EHI Consultants, Inc.  
111 Memorial Drive  
Paducah, KY 42001  
Phone 270.554.3004  
Fax 270.554.3248  
[www.pgdpcab.org](http://www.pgdpcab.org)  
[paducahcab@bellsouth.net](mailto:paducahcab@bellsouth.net)

**5:30**

Informal discussion

**6:00**

Call to order, introductions  
Review of agenda  
Approval of February minutes

**DDFO's Comments**

-- 15 minutes

**Federal Coordinator Comments**

-- 5 minutes

**Liaison Comments**

-- 10 minutes

**Review of Action Items**

-- 5 minutes

**Public comments and questions**

-- 10 minutes

**Presentations**

- Soil/Rubble Piles Sampling and Analysis Plan

-- 30 minutes

**Subcommittee Reports**

- Waste Disposition/Water Quality Subcommittee
- Community Outreach Subcommittee
- Long Range Strategy/Stewardship Subcommittee
- Executive Committee

-- 15 minutes

**Public comments and questions**

-- 10 minutes

**Administrative Issues**

- Motions
- Review of Work Plan
- Review Next Agenda

-- 15 minutes

**Final Comments**

**Adjourn**

*Break Taken As Appropriate*



# PADUCAH GASEOUS DIFFUSION PLANT CITIZENS ADVISORY BOARD

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111 Memorial Drive • Paducah, Kentucky 42001 • (270) 554-3004 • [PaducahCAB@bellsouth.net](mailto:PaducahCAB@bellsouth.net) • [www.pgdpcab.org](http://www.pgdpcab.org)

## **Paducah Gaseous Diffusion Plant Citizens Advisory Board Meeting Minutes March 15, 2007**

The Citizens Advisory Board (CAB) met at the CAB office in Paducah, Kentucky, March 15, 2007, at 6 p.m.

**Board members present:** John Anderson, Allen Burnett, Judy Clayton, Shirley Lanier, Bobby Lee, Janet Miller, Elton Priddy, John Russell, Jim Smart, and James Tidwell

**Board Liaisons and related regulatory agency employees:** Bill Clark, Mike Guffey, Jon Maybriar, Kentucky Division of Waste Management (KDWM); Tim Kreher, Kentucky Department of Fish and Wildlife Resources (KDFWR); and John Volpe, Kentucky Radiation Health Branch (RHB)

**Deputy Designated Federal Official:** Reinhard Knerr

**DOE Federal Coordinator:** Mitch Hicks

**U.S. Department of Energy (DOE) related employees:** David Ashburn, Rachel Blumenfeld, Rich Bonczek, Tracey Brindley, Yvette Cantrell, Pete Coutts, Paul Corpstein, Kim Crenshaw, Paul Gagnon, Bruce Gardner, Michael Gerle, Steve Golian, Pat Gourieux, Guy Griswald, Roy Helton, Patricia Holsapple, Craig Jones, Steve Manning, Chris Marshall, Bruce Phillips, Eric Roberts and Scott Smith

**Public:** Ruby English, Charles Jurka, Vicki Jurka and Gary Vander Boegh

## **Agenda**

Helton asked for modifications to the proposed March agenda. **The Board approved the agenda as submitted.**

## **Minutes**

Helton asked for modifications to the draft February minutes. **The Board approved the minutes as submitted.**

## **Deputy Designated Federal Official Comments**

- Knerr provided project updates to the Board. The presentation is available on the CAB Website at [www.pgpdcab.org](http://www.pgpdcab.org).
- A Land Acquisition Study public meeting is scheduled for March 30 at Heath High School Auditorium at 6 p.m. The project started last Spring and the first draft was received in September 2006. Headquarters has approved the final draft for public distribution. Comments are due to DOE on April 16 and will be incorporated into Appendix H of the document.

## **Federal Coordinator Comments**

- A small source of radium is unaccounted for at the Portsmouth, Ohio site. The ingot is the size of a medical gel capsule and was stored inside a lead cylinder and a wooden box with lead shielding. The source was found missing on February 26 when it was being transferred to Energy Solutions for disposal. All employees and appropriate agencies were notified and investigations have been conducted including assistance from a Radiological Program Team from Oak Ridge. The source has not been located. Volpe asked the size of the source. Hicks said it was 22.5 millicuries and the surface dose is 90 milliroentgens per hour. Someone sitting 10 feet away from the source for 24 hours would get as much radiation as a single chest X-ray. All sources at the Paducah site were physically verified and checked to ensure positive controls are in place. Volpe asked if appropriate port of entry procedures are used. Hicks said yes, locks are in place and only a certain number of individuals have access to the sources.
- Hicks presented a plaque to the Citizens Advisory Board for their assistance in the Scrap Metal Removal Project.

## **Liaison Comments**

### **Kentucky Division of Waste Management**

- KDWM has invoked informal dispute on the Southwest Plume Site Investigation/Risk Assessment (SI/RA) document. On March 2, KDWM requested 15 days extension. DOE submitted a proposal in December 2006 to resolve the dispute and a counter proposal was offered to DOE from KDWM on March 14. The University of Kentucky (UK) will be assisting with studies on the modeling to resolve outstanding groundwater issues. Russell

asked if the Kentucky Research Consortium for Energy and the Environment (KRCEE) would be conducting the study. Maybriar said KRCEE has a grant that enables them to conduct the kind of study needed for the modeling. A member of the KDWM Agreement in Principle (AIP) is on the team to help develop the study and have input into the decision making process. Russell questioned a DOE grantor conducting a study to resolve a dispute between a regulatory agency and DOE. Independence is usually sought on this type of study and there are eight other institutions in the state that could conduct this kind of study. Bonczek said other institutions are participating in the study such as Southern Illinois University and representatives from the Idaho National Lab and the Savannah River National Lab. The study will show if there is biodegradation of trichloroethylene in the sub-surface in the dissolved portions of the plume. KRCEE holds a grant, not a contract, from Earmark money established by Senator McConnell.

- Comments have been submitted on the Soil Piles Sampling and Analysis Plan (SAP). Fieldwork could begin early in April.
- KDWM submitted comments on the Surface Water Operable Unit SI/RA Report. Most of the comments have been resolved.
- Comments have been submitted on the 2007 Site Management Plan to incorporate additional milestones and add dialog on the Soil Piles.

### **Kentucky Fish and Wildlife Resources**

- The U.S. Army Corps of Engineers will host a public meeting on March 27 for comments on plans to address a gravel pit that was used for Kentucky Ordinance Works debris located in the woods between the six ponds and Bethel Church Road on KDFWR owned land.
- KDFWR has received a grant for environmental projects to improve the wildlife habitat and improvements for recreational users.
- KDFWR received an AIP grant to study the turtles in and around the outfall ditches coming out of the plant.
- Spring is burn season for the area around the site.

### **Radiation Health Branch**

- The RHB website was sent to the CAB for distribution. All upcoming reports will be on that website.
- Comments were submitted to DOE on the Surface Water Operable Unit SI/RA Report.
- RHB has serious concerns on the Soil Piles SAP. The branch believes fieldwork should not begin until the comments have been addressed. Burnett asked if KDWM has to sign off on RHB's comments to DOE. Maybriar said that under the Federal Facilities Agreement, KDWM is the lead agency but RHB comments are forwarded to DOE and DOE must address those comments. The comments are submitted in separate letters but the comments are of equal importance.
- The 2005 data has been reviewed, added to the database and will be sent to the Oak Ridge Environment Information System. The 2006 air data is currently being reviewed.

## Action Items

The AIP data and summary was presented to the Waste Disposition/Water Quality subcommittee meeting. Lee requested that the information be forwarded to Miller and the action closed.

Maybriar said he has received approval to include the CAB on future distribution for all finalized document comments that are submitted to DOE. This distribution will include comments from KDWM, RHB or Cabinet of Health and Family Services, Division of Air Quality and KDFWR.

Establishing a task group to discuss the recommendations in the Energy Communities Alliance's "Politics of Cleanup" is still pending for discussion at the Executive Committee.

Burnett read the proposed changes to the CAB's Operating Procedures. **The Board approved the CAB's Operating Procedures as submitted.** Burnett read the proposed changes to the CAB's Bylaws. One change was proposed to change the wording from subcommittees to task forces. **The Board approved the CAB's Bylaw as modified.**

## Public Comment

English asked if extensive written comments on the Land Acquisition Study would be added to the appendix was sent to Congress or would only selected bits and pieces be added. Blumenfeld said written comments would be included in the appendix.

Jurka questioned the Executive Committee minutes regarding a statement made that the CAB had no jurisdiction on health related issues. She has made comments in CAB meetings for over seven years on health related issues. All DOE documents issued for public comments use the verbiage "human health." Clayton said the minutes reflect a conversation that she had where a worker wanted DOE to pay worker insurance and medical costs until death regarding worker health, not community health. Jurka said the minutes should be amended. Helton said the minutes would need to be amended in the committee.

Jurka said that last year an individual from Southern Illinois University provided a presentation regarding development of a database on land buyout. She asked the status of the database. Kreher said the database is not complete.

Vander Boegh said he had sent an e-mail to DOE Secretary Bodman and others regarding the radium that is unaccounted for at the Portsmouth site. Laura Schachter, Portsmouth/Paducah Public Affairs Officer, provided a response to him. He said News Channel Six did not address his issue of a dirty bomb. He asked what the impact would be if the lead cylinder of the Radium 226 was breached. Hicks said that under the International Atomic Energy Agency requirements, what is unaccounted for at Portsmouth is 1/40 of the material necessary for a dirty bomb. Under international law, it is not a concern.

Vander Boegh said that in July when the C-613 sedimentation basin overflowed, Knerr said DOE was notified. There was thirteen pounds of uranium that was released through the outfall into the creek. Volpe said the levels over the whole year were 28 pounds rather than 13 pounds. Vander Boegh asked for the sampling data. Knerr said numerous sampling has been conducted at the outfalls and samples have been split with Kentucky. All of the results indicate that DOE is within permitted limits. Miller said she was provided the sampling data in July and would forward the information to Vander Boegh.

Vander Boegh said if regulations are established by the legislative body in Kentucky, any one bringing changes to the regulations once the parameters are exceeded must be reviewed by the legislative body and act according. He asked if DOE or the RHB is looking to minimize any of the water standards such as the polychlorinated biphenyl (PCB) limits. Maybriar said there are radiological water quality standards that the Division of Water is considering when the permit is updated. The contact for that information is Tom VanArsdall.

### Presentations

Jones provided a presentation of the Soil Piles SAP. The presentation is available on the CAB Website at [www.pgpcab.org](http://www.pgpcab.org). Questions and answers (paraphrased) appear below.

Questions/Comments	Answers
<p><b>Maybriar:</b> The schedule is very important because the Hazardous Waste permit requires a tighter schedule than what is being proposed but this sampling effort is larger than anything done at the site. KDWM is in agreement with that schedule.</p>	
<p><b>Smart:</b> Is there language in the document that addresses action levels for hot spots?</p>	<p><b>Jones:</b> That language is not in the SAP but it will be addressed in another document.  <b>Knerr:</b> DOE is looking at submitting a Removal Notification to the state to have the ability for hot spot removal. It is being discussed with Kentucky and EPA.</p>
<p><b>Burnett:</b> When would DOE have to begin the sampling to finish by October 31?</p>	<p><b>Jones:</b> Sampling would have to begin in April to finish by the projected October 31 date.</p>
<p><b>Maybriar:</b> There are some areas that would be handled differently than others.</p>	<p><b>Knerr:</b> There are two Solid Waste Management Areas (SWMUs) that have elevated concentrations of PCBs and uranium to be addressed in a Removal Notification.</p>
<p><b>Maybriar:</b> Kentucky is interested in accelerating those areas as well and wants to include the CAB in that process.</p>	

<p><b>Russell:</b> As DOE is moving forward on removing and disposing of the soil piles, work with KDFWR to improve wildlife habitat.</p>	
<p><b>Burnett:</b> Since there are issues on the SAP and resolution of these issues would put sampling past April, would it be possible for conditional approval for sampling to begin.</p>	<p><b>Maybriar:</b> KDWM would need to review DOE's response to the comments before considering the next step.</p>

## Subcommittee Reports

### Waste Disposition/Water Quality Subcommittee

- The Waste Disposition/Water Quality subcommittee reviewed the Remedy Review Report. Russell will review the document for the April meeting. Lee asked Bonczek to attend the April meeting for discussion on the report.
- Maybriar updated the subcommittee on the environmental indicators regarding the signage along the creeks. Lee asked DOE to provide the CAB with the brochure that is given to hunters explaining the off-site contamination.
- Maybriar presented the AIP summary and data. Russell said the Kentucky Pollutant Discharge Elimination System (KPDES) should establish an outfall limit for uranium as a metal at Outfall 001. Maybriar said there is an Agreed Order coming up in the future and there will be a major modification to the KPDES permit. Blumenfeld suggested a presentation on the water quality standards for the April subcommittee meeting. Maybriar said the CAB could request a representative from the Division of Water attend the April CAB meeting or DOE could provide a presentation. If the Board decides on a presentation from the Division of Water, include what topics should be covered. Lee will send suggestions to staff.
- The subcommittee discussed the Geographic Information System (GIS) for Long Range planning. Lee requested layers on a GIS system for potential sites for a Class C Hazardous Waste Landfill indicating wetland areas and fault lines.

### Executive Committee

- The CAB submitted a recommendation on the End State Vision to DOE in 2004 and has not received a response. The committee is seeking input from the individuals that commented on the recommendation to see if the recommendation should be resubmitted as it stands or needs modifications.
- The Committee is preparing a recommendation for consolidation of all previous investigations into one reference document due to the findings of all of the soil/rubble piles. Knerr suggested that Paducah Remediation Services present to the CAB their record keeping on past SWMUS, Areas of Concern and future findings. He said the data could be presented at the April Executive Committee meeting. Kreher suggested that the CAB wait until the KRCEE's ecological data project is complete.

- Members were asked their preference on receiving the Board packets by e-mail or regular mail and receiving hard copies at the meeting. All members preferred e-mail except Clayton and Priddy.

### **Long Range Strategy/Stewardship Subcommittee**

Russell requested that the Long Range Strategy/Stewardship Subcommittee meet prior to the April Board meeting and asked for a list of subcommittee members.

### **Administrative Issues**

### **Work Plan/April Agenda**

The Board scheduled a presentation on the C-400 90% Design Report. A presentation on the Remedy Review Report would be provided if the C-400 90% Design Report was not possible due to regulatory review.

The meeting adjourned at 8:30 p.m.

# Progress at Paducah

## Paducah Citizens Advisory Board



Reinhard Knerr  
Paducah Site Office Lead  
March 15, 2007



# February Highlights

- DMSAs
- Legacy Waste
- Burial Grounds
- Inactive Facilities
- DUF6



# DOE Material Storage Areas



- Final shipment of outside DMSA material made
  - Six months ahead of schedule
  - More than 40 semi-trailer equivalents of material disposed of to date

A worker uses a torch to cut up a cooler for shipment.

**Characterization ~84% completed**

**Disposition ~61% completed**



# Legacy Waste

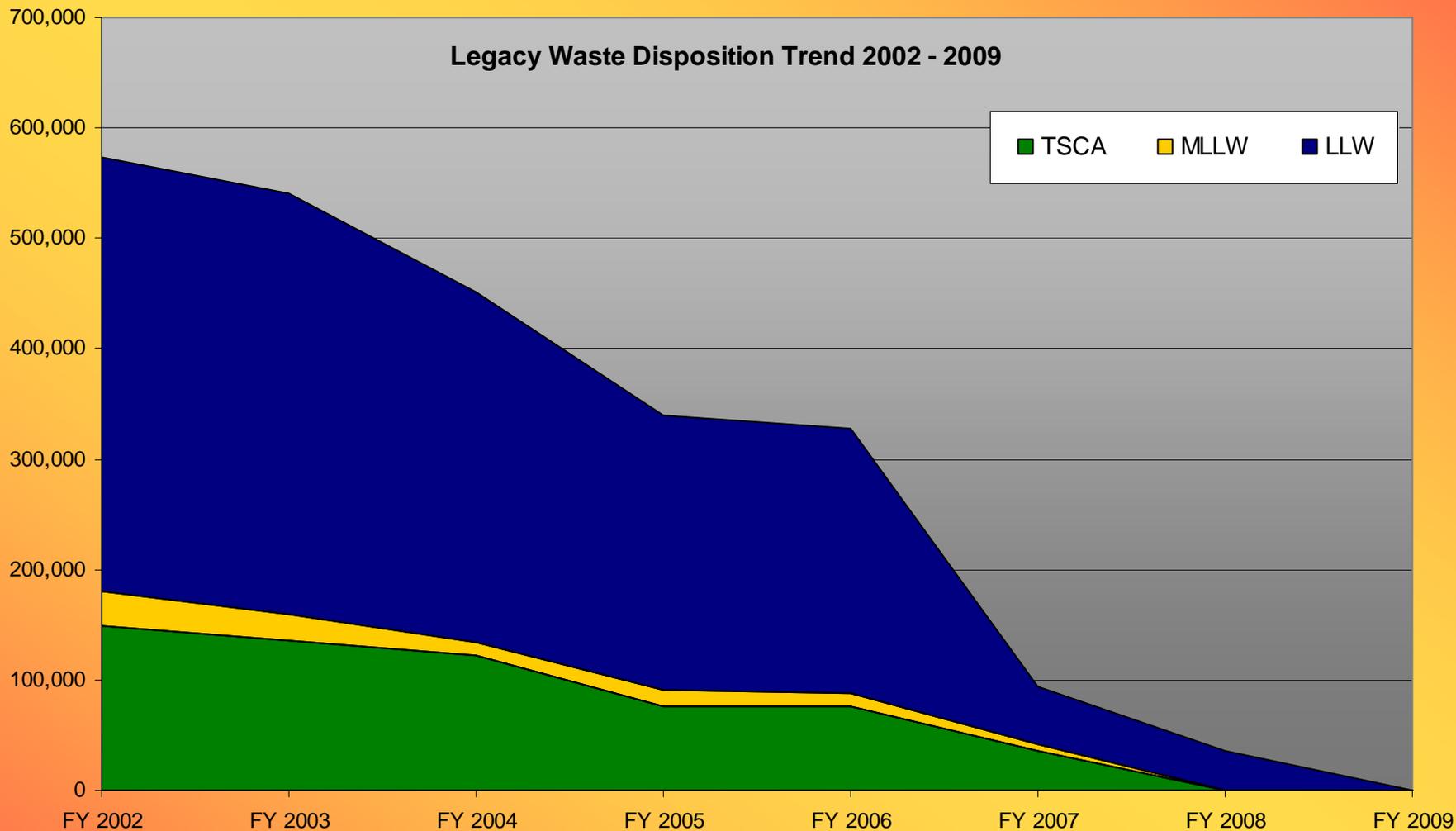


Outside-stored legacy waste is prepared for off-site disposal.

- Will complete project to dispose of legacy LLW stored outside by March 30
  - ~32,000 ft<sup>3</sup> at project start, ~90 percent complete



# Legacy Waste



# Burial Grounds Operable Unit



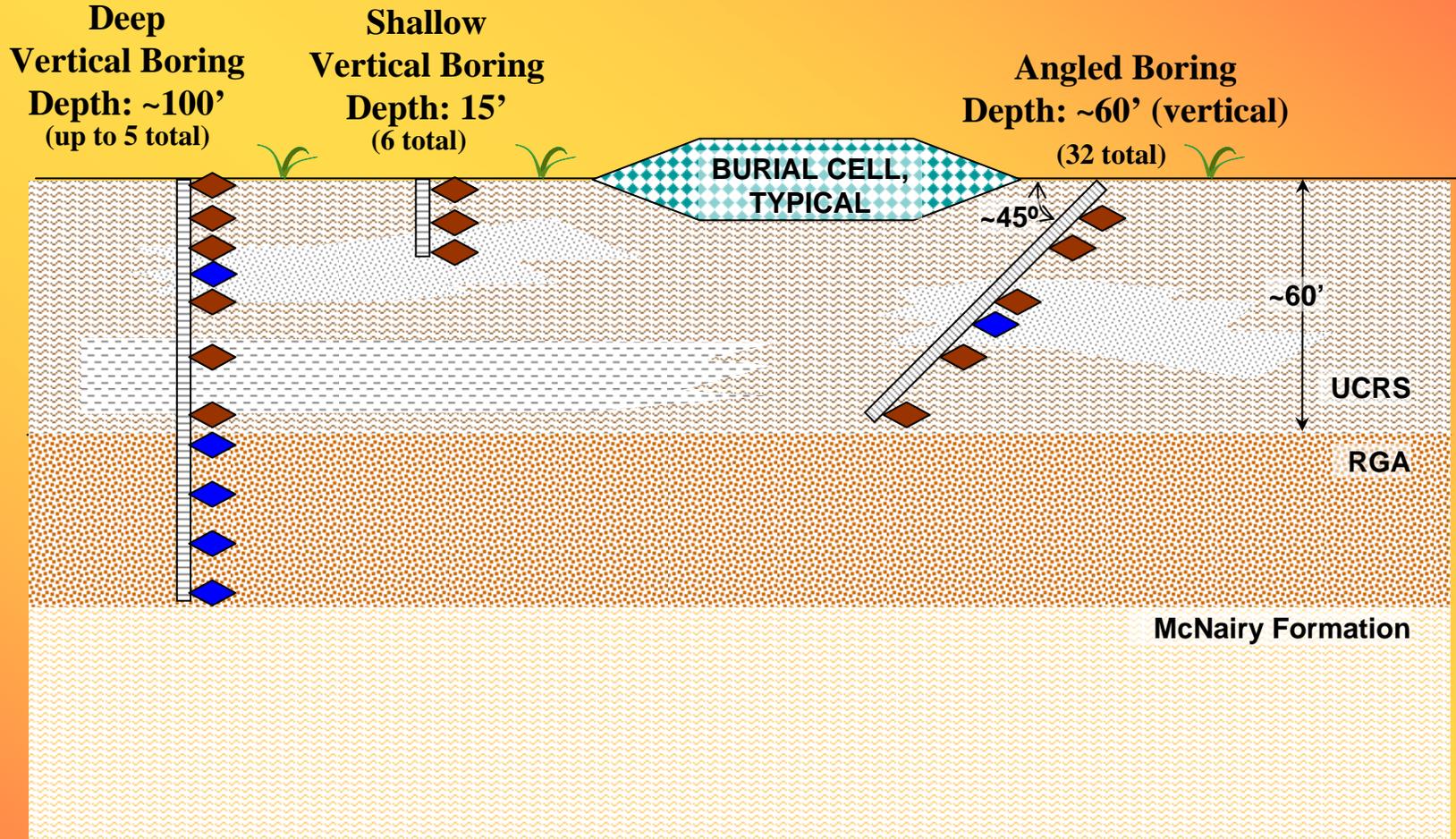
## Remedial Investigation

- Fieldwork on schedule for May completion
- 99 samples taken to date

An angled boring at SWMU 30 in the northwest corner of the plant - angled borings allow samples to be taken underneath a burial ground without penetrating the waste cell.



# Burial Grounds Operable Unit



Types of borings used  
as part of the Burial  
Grounds RI/FS



# DUF6 Conversion Project



- Conversion Building ground floor concrete topping slabs completed; remaining floors and roof concrete scheduled for completion by the end of April
- Administration and Warehouse buildings are complete

Workers install a reinforced concrete pad for equipment at one of the smaller process buildings.





DOE Portsmouth/Paducah Project Office



# Soil Piles Sampling and Analysis Plan

Craig Jones  
Paducah Remediation Services  
March 15, 2007

# Soil Piles

- Sampling data will be used to determine nature and extent of contamination and if future actions are required
  - If future actions are required, data obtained will minimize waste disposal sampling
- Phased approach allows for refining of techniques as sampling proceeds
- SAP submitted 2/9/07
  - KDEP comments 2/26/07
  - KY Radiation Control comments (draft) 2/27/07
  - EPA comments 3/13/07



# Proposed Phase II, Step 1 Sampling

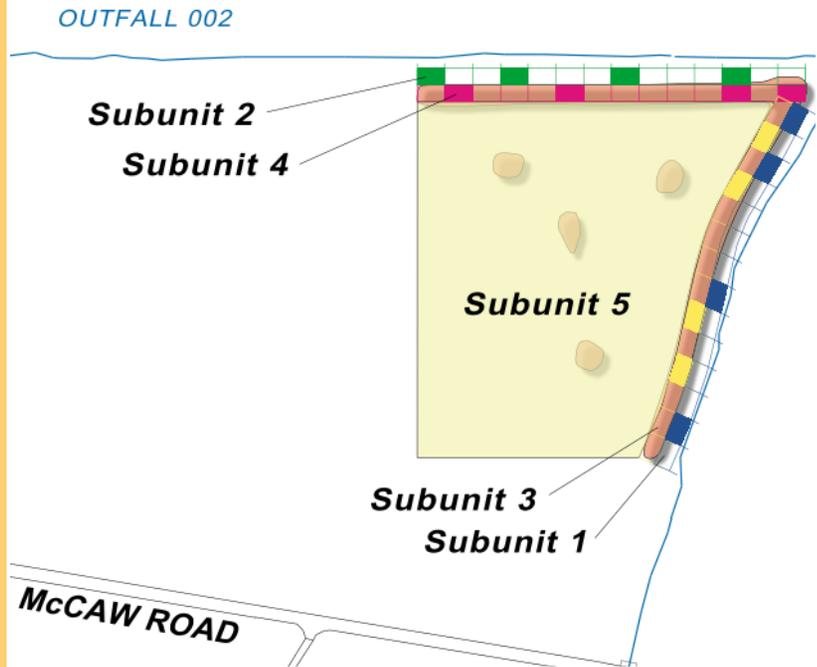


- Sampling soils and five trees
- Sampling at more than 700 locations/depths
  - 218 samples will be sent to lab for analysis
  - Lab samples for PCBs, radiation, volatile and semi-volatile organic compounds and metals
  - Remainder of sampling consists of field samples for radiation, PCB and metals

This is the instrument that will be used for field radiation detection.



# Proposed Phase II, Step 1 - Soil Pile "I"



- Pink and yellow blocks, surface and subsurface samples taken
- Green and Blue blocks, surface samples only
- Subunit 5, surface samples only

- Soil Pile I is not a single distinct pile, but an area covering several acres
  - Two 700-foot long, 30-foot wide piles
  - Multiple small piles
- Area divided into five subunits for sampling purposes; subunits selected based on process knowledge, initial sampling results
  - Subunit 1 and 2 - buffer areas
  - Subunit 3 and 4 - soil pile, divided into 30X50-foot blocks for sampling purposes
  - Subunit 5 - area south and west of the soil piles



# Phase II, Step 1 - Soil Pile "I"

	Surface Samples Analyzed by Lab	Subsurface Samples Analyzed by Lab	Surface and Subsurface Samples Analyzed in Field
Subunit 1	20	NA	128
Subunit 2	20	NA	128
Subunit 3	20	60	188
Subunit 4	20	60	188
Subunit 5	18	NA	97

Totals

98\*

120

729

NOTE: Each subunit 1-4 surface sample analyzed in a lab is a composite of 5



# Sample Management & Quality Control



- Kentucky and U.S. EPA will split samples with DOE and use separate labs to analyze data
- Quality Control samples will be taken
- Contingency samples will be collected from Subunit 5 if required by SAP criteria

One of the portable radiation detectors with a GPS unit.



# Schedule

- Field work for Step I sampling will take 30-40 days to complete
- Will start immediately (24 hours) after regulatory approval
- Lab analysis/data validation will follow
- Develop sampling plans for Phase II Steps 2 and 3
  - Accuracy of field tests in Step 1 will determine if field tests, lab samples or both are used
- Complete all sampling by 10/31/07 pending continued timely regulatory approvals
- Determine if future actions are needed
- CAB will be updated monthly on sampling results



# Schedule

Sampling and Analysis Plan #1							
Addenda	Scope	SAP Submittal Date	Start of Field Sampling	Estimated Field Duration	Sample Analysis	Sample Validation and Risk Analysis/Data Assessment	SWMU Assessment Report Schedule
Addendum 1-A	Soil areas identified along Little Bayou Creek - between McCaw Road to Outfall 002	2/9/07	Immediately after receiving KY and EPA approval of SAP Addendum	40 days	30 days from when last sample is collected	45 days	Within 45 days of receipt of final validated data for entry into OREIS
Addendum 1-B	Remaining soil areas <sup>(1)</sup> identified along Little Bayou Creek and along North South Diversion Ditch	Within 7 days of receipt of final validated data from Addendum 1-A for entry into OREIS	Immediately after receiving KY and EPA approval of SAP Addendum	Duration will be defined in Addendum based on approved scope	30 days from when last sample is collected	45 days	Within 45 days of receipt of final validated data for entry into OREIS
Addendum 2	Soil areas identified along Bayou Creek and unnamed tributary	15 days after EPA and KY approval of Addendum 1-A	Immediately after receiving KY and EPA approval of SAP Addendum	Duration will be defined in Addendum based on approved scope	30 days from when last sample is collected	45 days	Within 45 days of receipt of final validated data for entry into OREIS
Sampling and Analysis Plan #2							
N/A	Rubble areas located on DOE reservation	45 days after EPA and KY approval of Addendum 1-A	Immediately after receiving KY and EPA approval of SAP	Duration will be defined in SAP based on approved scope	30 days from when last sample is collected	45 days	Within 45 days of receipt of final validated data for entry into OREIS





DOE Portsmouth/Paducah Project Office