PADUCAH GASEOUS DIFFUSION PLANT
SITE SPECIFIC ADVISORY BOARD

Chartered under th
Federal Advisory Committee A

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Special Meeting Minutes

April 8, 1999

A special meeting was held April 8, 1999, between the Site Specific Advisory Board (SSAB) and Representative Ed Whitfield. The meeting took place at the Information Age Park Resource Center in Paducah at 6:00 p.m.

The following board members were present: Nola Courtney, Mark Donham, Judy Ingram, Ronald Lamb, Craig Rhodes, Jim Smart, and Bill Tanner. Representative Ed Whitfield was present along with Heidi Eyer of his staff. The *ex officio* members present were Todd Adams and Wayne Davis. The United States Department of Energy (DOE) federal coordinator present was John D. Sheppard. Also present were the following members of the public and contractors and subcontractors of the DOE: Shelley Hawkins, Dennis Hill, Merryman Kemp, and Douglas Raper.

Representative Ed Whitfield introduced himself to the board and thanked the members for inviting him to come talk to them. He opened the floor for questions from the members.

Mark Donham said one of the main concerns of the Paducah SSAB is that the Paducah Gaseous Diffusion Plant (PGDP) will not have enough funding for cleanup. He said a lot of waste is stored on the site and a considerable sum of money is needed for the cleanup. Rep. Whitfield said Karen Long of his staff had been working on this issue. He said he also had been talking to members of the appropriations subcommittee and it is his priority to obtain adequate funding for the PGDP. Rep. Whitfield said he meets with the DOE almost every month to discuss funding issues.

Rep. Whitfield asked how much funding the board thought Paducah needed for Fiscal Year 2000. Bill Tanner said the major concern for Paducah is that its funding falls under Oak Ridge and that Paducah is funded for only approximately eight percent of what Oak Ridge receives. He said Paducah should receive at least 20 percent. Tanner said Paducah has groundwater contamination, cylinders that need to be cleaned up as well as legacy and landfill waste. He said the area needs to be cleaned for other industrial purposes. Whitfield asked if the SSAB has ongoing communication with Oak Ridge. Tanner said not much, but contractors from Oak Ridge will come to board meetings to answer questions or discuss issues on certain topics.

Donham said Paducah is funded out of the decontamination and decommissioning (D&D) fund. John Sheppard said the funding for Paducah this year is about $37.5 million and about $45 or $47 million was what was requested for Paducah in the President's budget. Dennis Hill said he thought the Oak Ridge budget for this year was about $292 million. Rep. Whitfield said he would be in Washington, DC, Monday and he would stay in touch with Paducah to ensure adequate funding is obtained for cleanup.

Ronald Lamb said Paducah is working so hard to get the Atomic Laser Vapor Isotope Separation (AVLIS) plant, that the problems of the PGDP are considered minimal in order to have a better chance in obtaining AVLIS. He said this probably has caused the budget to decrease. Whitfield said he would love for Paducah to have AVLIS, but he is puzzled because scientists and other people he talks to do not know if AVLIS is commercially viable.

Donham asked if Secretary Bill Richardson signed a bill on the Russian uranium recently. Rep. Whitfield said this purchase continues to be a problem for the United States Enrichment Corporation (USEC) in its production of uranium. Rhodes asked if Rep. Whitfield had consulted with Congressmen in Illinois on any of these issues, because four of the members live in Illinois. He also asked if there would be anything the SSAB could do to help. Rep. Whitfield said he has talked to Glenn Poshard about the issues. He said it would be helpful for the board to raise the issue with David Phelps and he then would also speak to Phelps and reiterate the importance of the issues.

Rep. Whitfield asked if the SSAB has noticed any impact due to the privatization of USEC. Tanner said, as far as production, he had not noticed an impact. Hill said because of the nature of privatization, there will be shifting dynamics in the near future. Rep. Whitfield said USEC has an employment policy in maintaining a percentage of the workers and hopes that it will abide by the policy. Lamb said he thought it would be two to three years before the full extent of privatization is seen. Rep. Whitfield said he could make a strong argument that the government should maintain an interest in these plants.

Tanner said he personally hoped that Paducah is able to obtain AVLIS, but he does not think it will happen. He said this area is dependent on federal jobs and he said more assistance is needed than what had already been set aside for the depleted uranium hexafluoride cylinders and the Paducah-Area Community Reuse Organization (PACRO). Rep. Whitfield said Congress is pushing hard for the DOE to build the conversion facility. He said this reiterates the need to eliminate the environmental issue in Paducah and make the area more appealing to industry.

Donham said it does not seem like $385 million will be sufficient to get far in the process of conversion. Rep. Whitfield said the $385 million was set aside so it would not be lost during the privatization of USEC. He said he realized there would be a need for more money on this project. He said Mitch McConnell is holding up a nomination process for the deputy secretary of energy in order to get the DOE conversion plan finished.

Rep. Whitfield asked the board about its composition and membership. Donham said there is a sincere effort for the board to try to have balanced representation. He said the board has a facilitator, so the co-chairs do not actually facilitate the meetings. Donham said the Paducah SSAB is a pretty cost-efficient board.

Rep. Whitfield asked the SSAB what the most frustrating thing was to the members. Donham said it was not getting information early enough to make input. He said, however, there has been a slow improvement in this area. Tanner said this community relies on the DOE as a security blanket for jobs and everyone is apathetic to the problems of the plant. He said the board has not been very successful in obtaining public input. Rhodes said one reason for this is the reporters in this area, and that people are not very well informed. Tanner said the public is supposed to provide the board with input so the SSAB can advise the DOE. Rep. Whitfield said it must be difficult not to have technical support on the board. Tanner said Bechtel Jacobs Company LLC and the DOE help with this, but the SSAB is in the process of trying to obtain a technical support consultant.

Rep. Whitfield asked if the board was concerned that once the DOE was gone, environmental problems would still be left in the area. Lamb said DOE once had the attitude to back out of its problems. He said he lives two miles from the PGDP and would like to see it cleaned up. Wayne Davis said the site originally was a trinitrotoluene manufacturing area. Judy Ingram said the Kentucky Ordnance Works (KOW) area is a whole new issue in cleanup. Tanner said the KOW's solution to cleanup in the waste ponds has been to put chemicals in the ponds to kill the mercury-contaminated fish. Davis said there was a need to remove the fish because warning signs that were posted to deter fishing had been ignored. He said he would like to keep it that way until the source of the mercury contamination is determined. He said the West Kentucky Wildlife Management Area (WKWMA) surrounds the plant and he wants to ensure that it is a safe area for its recreational users.

Rep. Whitfield asked if anyone from the board spoke to civic groups. Rhodes said he has spoken to KWANIS and the Rotary Club on occasion. Tanner said that more open public involvement could help lead to more economic development and cleanup for the area. He said the area actually is defeating industry recruitment by keeping the environmental problems quiet. Rhodes said the media in Paducah are afraid to report these issues.

Sheppard said the DOE meets frequently with the WKWMA. He said the DOE is interested in protecting people first, but it also is concerned with the environment and the creatures in that environment. He said because of this, much or more input is needed. Sheppard said there always is a question of how much balance is needed between obtaining information and actually starting

cleanup. He said the DOE is trying to focus on cleanup at the PGDP. Donham said the information phase is important because when we move into the cleanup phase, we don't want to make the situation worse.

Rep. Whitfield asked if there have been any human illnesses the SSAB was aware of the in area that could be related to the PGDP. Sheppard said the Agency for Toxic Substances and Disease Control (ATSDR) is working on a community study for Paducah. Nola Courtney said it looks like there might be a high incidence of certain types of cancer in the area. Sheppard said the Paper, Allied-Industrial, Chemical and Energy Workers International Union was starting a former-worker health study for Paducah. Courtney said it seems like it takes a long time to get these reports completed. Tanner said one of his concerns is the DOE's level of contracting. He said he wished the DOE could hire enough people to get the cleanup done without having to go through all the layers of subcontracting.

Donham said the board has been given lots of information, but he said the problem is that the information is being contained within the SSAB and is not relayed much to the public. He said the SSAB does not have the resources to fix the problems itself. Lamb said the DOE had public meetings before the board was formed, but now the DOE relays information only to the SSAB. Lamb said he does not feel very confident with the ATSDR reports. Rhodes said it is difficult to make a connection between cancer and the cause.

Rep. Whitfield said he has heard more concerns about health during this meeting than the entire time he has been in Congress. He said he would like to stay in touch with the SSAB and maintain a dialogue to help solve some of these issues.

Sheppard read a letter co-authored by Rep. Whitfield and Rep. Ted Strickland from Ohio to the ranking members of the subcommittee of Congress. The letter was a request for more funding for Paducah and Portsmouth for cleanup. The letter stated there is a need for accelerated cleanup at the sites to help mitigate job loss and enhance human health. The request was for an additional $28.5 million for D&D, characterization of waste, and the repair of polychlorinated biphenyl systems.

SIDE A

Paducah Gaseous Diffusion Plant (PGDP)
Site Specific Advisory Board (SSAB)
1999 Workplan

ISSUE	EXPECTED ACTIONS	STATUS/APPROACH	Jan 99	Feb 99	Mar 99	Apr 99	May 99	Jun 99	Jul 99	Aug 99	Sep 99	Oct 99	Nov 99	Dec 99
Waste Management		Transuranic Waste												
Waste Minimization/ Pollution Prevention	Review documents	Monitor and provide suggestions as appropriate												
Transportation of Wastes/ Hazardous Materials		Discuss issues for Paducah			✔									
Decontamination & Decommissioning	Review documents	Monitor and provide suggestions as appropriate						✔						
Economic Impact on Community	Monitor	Monitor and provide suggestions as appropriate												
Protection/Restoration of Natural Resources & Ecological Values	Review documents	Monitor and provide suggestions as appropriate												
Protection of Workers, Public Health, and Safety	Monitor projects	Monitor and provide suggestions as appropriate												
Technology Development and Transfer	Review documents	Monitor and provide suggestions as appropriate												
Strategies for Effective and Meaningful Public Input	Work 2 DOE/CRP	Monitor and provide suggestions as appropriate												
Cost Effectiveness	Review documents	Monitor and provide suggestions as appropriate												
WAG 6	Review documents	Innovative Technology Remediation Demonstration (ITRD) Update	✔		✔	✔								
WAG 22, SWMUs 2 and 3	Review documents	Review DOE's reply to regulator comments	✔ SWMU 2		✔									
WAG 22, SWMUs 7 and 30	Review documents	Monitor and provide suggestions as appropriate	✔											
WAGs 9 & 11 Preliminary Assessment/Site Inspection (PA/SI) Process Site Evaluation Report			✔		✔	✔								
WAG 17		Record of Decision (ROD) signed 9/29/97												
Lasagna														
Drum Mountain (WAG 24)	Review documents	Monitor and provide suggestions as appropriate												
Site Treatment Plan Annual Report														

March 24, 1999

SIDE B

Paducah Gaseous Diffusion Plant (PGDP)
Site Specific Advisory Board (SSAB)
1999 Workplan

ISSUE	EXPECTED ACTIONS	STATUS/APPROACH	Jan 99	Feb 99	Mar 99	Apr 99	May 99	Jun 99	Jul 99	Aug 99	Sep 99	Oct 99	Nov 99	Dec 99
Federal Facilities Agreement (FFA)	Review progress of update	Discuss milestones and schedule			✔									
Integrated Waste Management Plan		IWMP yearly update completed 12/15/97												
Vortec	Receive update		✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Board Evaluation	Receive recommendations	Conclusions presented by the SSAB Evaluation Committee		✔	✔	✔								
Bechtel Jacobs M&I														
National Environmental Protection Act (NEPA)														
Environmental Report														
Accelerating Cleanup Plan - Paths to Closure	Review documents	Monitor and provide suggestions as appropriate												
Depleted UF_6 PEIS	Receive update	Review budget	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Northeast and Northwest Plumes Pump and Treat Facilities		Discuss hiring technical support	✔	✔	✔									
Training Options for SSAB	Review catalog	Discuss hiring technical support												
DOE Rulemaking Process														
Membership and Public Outreach		Review membership applications	✔								✔			
Paducah-Area Community Reuse Organization (PACRO)		Discuss how PACRO relates to the SSAB	✔											
Risk Assessment		Receive training and relate to WAGs 6 and 22	✔											
Cumulative Effects on the Site		Open discussion, review NRDC settlement information		✔	✔	✔								
Groundwater Operable Unit	Review Feasibility Study	Monitor and provide suggestions as appropriate		✔										
Surface Water Operable Unit	Review documents					✔								
Risk Profile	Review documents	Monitor and provide suggestions as appropriate			✔									

March 24, 1999

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Tentative agenda for the April 15, 1999, meeting:

- Public Comments from Guests
- Minutes
- Information (Handouts — HEPA Filters)
- EM&EF Project Updates
- Vortec Update
- Depleted UF_6 Programmatic EIS Update
- Surface Water Operable Unit
- WAG 6 — Gregory Waldrop
- WAGs 9 and 11
- Recommendations from SSAB Evaluation Subcommittee — Jim Smart
- Cumulative Effects on the Site
- DOE Response to SSAB Recommendations — Jimmie Hodges
- Administrative Issues for the Board
  - Review of the SSAB Draft Workplan
  - Financial Update
  - SSAB Letterhead

Action Items

- John Sheppard to provide Mark Donham with a list of people who serve on the ITRD.
- Shelley Hawkins to work with Bill Tanner on preparing the RFP for technical support and mailing the RFP along with a list of the potential consultants to Nola Courtney, Mark Donham, Judy Ingram, Vicki Jones, Ronald Lamb, Jim Smart, and Gregory Waldrop.
- Mark Donham to send Jimmie Hodges and Vicki Jones copies of the e-mails he received from four sites regarding their opinions of sitewide EISs.
- Walter Perry to provide SSAB members with information on the national settlement between DOE and citizens groups over environmental restoration.
- Shelley Hawkins to remind SSAB members through e-mail and phone calls of the May 6, 1999, site tour and contact five new members to invite them on the tour.
- Mark Donham to send press release from LLNL on the HEPA filters to Jimmie Hodges and John Sheppard.
- Dennis Hill and Shelley Hawkins to provide projection for hours that will be charged monthly through the Jacobs task including a decrease in web page hours and an increase in Hawkins' hours to include some of Brandstetter's responsibilities.

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Meeting Minutes

April 15, 1999

The April 15, 1999, Site Specific Advisory Board (SSAB) meeting took place at the Information Age Park Resource Center in Paducah at 5:30 p.m.

The following board members were present: Edward Duff, Angela Farmer, Judy Ingram, Vicki Jones, Ronald Lamb, Linda Long, Craig Rhodes, and Jim Smart. Proposed members in attendance were: Merryman Kemp, Douglas Raper, and Rosa Scott. The facilitator present was Steve Kay. The *ex officio* members present were Todd Adams, Carl Froede, and Tuss Taylor. The United States Department of Energy (DOE) federal coordinator present was John D. Sheppard. Also present were the following members of the public and employees, contractors, and subcontractors of the DOE: Raul Castaneda, Bruce Gardner, Shelley Hawkins, Pat Hopper, Fraser Johnstone, Norm Jetta, Bill Lindsey, Jimmy Massey, Shirley Speer, and Debbie Wattier.

Agenda

Steve Kay called the meeting to order and asked if there were any modifications to the agenda. Judy Ingram said that Bill Tanner had requested that his report on hiring a consultant be added at end of meeting. An update to membership also was added. The modified agenda was approved and adopted.

Facilitator's Orientation

Kay said the orientation was primarily for the new members. He reviewed highlights of the SSAB bylaws. Kay said the facilitator's role is to help the board stay on the agenda, to reach closure on issues, and to check for consensus when there are decisions to be made. His role also includes making sure all views are heard and valued until a decision is reached.

Public Comments from Guests

There were no comments made during this period.

Minutes

The minutes from the March 18, 1999, minutes were approved by consensus. John Sheppard stated that the last paragraph of the Special Meeting Minutes dated April 8, 1999, should be amended to read "letter co-authored by Rep. Whitfield and Rep. Ted Strickland from Ohio." The modified minutes were adopted.

Information Handouts

No comments.

Environmental Management and Enrichment Facilities Project Updates

Debbie Wattier said a map has been included at the back of the Project Update handout. Wattier asked members to give feedback to her or John Sheppard as to whether or not the map should be included at every meeting.

Vortec Update

John Sheppard stated that the EA is targeted for completion in September 1999.

Depleted Uranium Hexafluoride (DUF_6)Programmatic Environmental Impact Statement Update

John Sheppard stated DOE has begun its part of the procurement process for DUF_6 conversion facilities. Tuss Taylor said the EIS is on the Internet. Taylor attended a meeting last week regarding DUF_6 and indicated that the Record of Decision (ROD) is expected in May 1999. They are trying to accelerate this quickly and get an RFP out by 1999.

Surface Water Operable Unit (SWOU)

Chris Marshall, the task lead for Bechtel Jacobs Company on the Surface Water Operable Unit (SWOU), presented a summary of the SWOU scoping document. Marshall's presentation included an outline of the sections in the document just produced referred to as the Surface Water Operable Unit Scoping Document. It is the first document in the RI/FS CERCLA process. It will help to develop the RI Workplan for the SWOU.

Angela Farmer asked about section 3-7, when the field investigation is scheduled. Marshall said it is scheduled for fall of 2000. Steve Kay asked if there were other questions about that material. He asked if this should be kept on the agenda. Tuss Taylor commented that this document is one of the first of its kind. It is under the new environmental remediation strategy.

Raul Castenada reported there had been a meeting yesterday and part of today with representatives from the State, the EPA, and Fish and Wildlife to talk about this scoping document, issued March 30, 1999. The idea was to have a meeting today to discuss what is going to be the workplan to be submitted September 30, 1999.

Carl Froede said: the document is a scoping document, a predecision document. It is not officially available for public comment. The official Federal Facility Agreement submittal will come out September 30, 1999, and that is really the first opportunity for public comment. Angela Farmer asked once it comes out, will it specify information; like what and where $^{99}T_c$ concentrations are? Froede said no, that would be a workplan. Froede said the next step is to generate the RIFS Workplan. The workplan itself won't come out till the end of September. Kay suggested that the board spend more time tonight looking at the SSAB workplan and thinking about the way it might need to be restructured, given the new system for organizing the work on the site. John Sheppard said the SWOU scoping document represents a briefing of the agencies of the intent to move forward with the idea of getting more information. He said the board is welcome to read the scoping document, and make suggestions. Froede noted that the meetings this week will result in numerous changes to the SWOU scoping document. The next document will be the D1 Workplan FFA Primary Document. Froede says from a DOE standpoint, they would probably like to see comments if the board sees glaring inconsistencies, there is a good chance these were caught in the meetings this week.

Waste Area Group 6

Gregory Waldrop was not present. Leave this item on the agenda for May.

Waste Area Group 22, Solid Waste Management Units 2 and 3

Nola Courtney was not present. Nothing new was reported in this area.

Waste Area Groups 9 and 11

Fraser Johnstone said WAGs 9 and 11 are a collection of seven SWMUs as described in the Project Update handout. There is a three page executive summary photocopied out of the front of the Site Evaluation report issued in December, 1998, if anyone who has not had a chance to look at that report would like to see the executive summary. There also is a map of the seven SWMUs.

Recommendations from SSAB Evaluation Subcommittee

Jim Smart said a couple of things prompted this subcommittee meeting. One is that the board has several new members coming in and there are several changes.The second reason is, about a month ago, the two ladies from DOE, Judith Bradley and Christie Branch, gave a report. They visited SSABs and reported on how the SSABs were working together as a team. In this particular report, was a lot of good information. Three SSAB members got together to come up with ideas on how to make the Paducah board work more effectively. There are six

recommendations from this Paducah SSAB subcommittee. Presented as ideas for discussion:

More community involvement.

- A proposal to have an ad in *The Paducah Sun* before the next meeting was made and approved.
- Craig Rhodes, Judy Ingram, Merryman Kemp, and Jim Smart agreed to serve on a community relations subcommittee with Judy Ingram as chair.
- Carl Froede said there is a Community Relations plan that has been approved for the facility. He suggested that this subcommittee get a copy of that Community Relations plan to see what information is in it that can be used and supplemented. It is intended to be a public outreach document. Kay said the board members received that a while back. Froede said if it needs to be revised it should be.

Need for the board members to interact more.

- Board agreed to start the SSAB meeting with an informal discussion session from 5:30 p.m. to 6:00 p.m.

Hiring a local person from the community as a technical manager to assist the board.

- It was decided to hold item three until Bill Tanner is present.

Offer more tours of plant.

- General plant tour being planned for May.
- Tours focused on SSAB workplan topics can be planned.

Develop a new member orientation packet.

- Froede suggested mentoring by pairing a new member with an experienced member for a meeting.
- It was suggested that an acronym list be one of the items in the orientation packet.

At each board meeting, a member could spend a few minutes covering past, current, and future goals of a particular area/issue.

Cumulative Effects on the Site

Shelley Hawkins said the internet Environmental Impact Statement (EIS) file is too big to open in PDF format. A list of those websites will be on the Paducah SSAB website.

Site Specific Advisory Board Membership

John Sheppard said the member packet that includes the background on the five candidates along with the complete matrix of makeup of the board has been provided to DOE headquarters and approval of those five individuals is pending.

Site Tour

A general site tour is planned for May 4, 1999, beginning at 4:00 p.m. at the DOE site office. Information will be sent to members.

Workplan

John Sheppard said there is a group from Oak Ridge called National Recycle Scrap Metal that would like to come to the next meeting. They will give a report on the options and opportunities of scrap metal. John Sheppard will provide examples for the workplan based on the new operable unit strategy.

Financial Update

Debbie Wattier presented the report. John Sheppard said an additional $25,000 is expected for SSAB budget.

Site Specific Advisory Board Web Page and Letterhead

New letterhead choices will be put back in the packet to be decided on next meeting.

John Sheppard discussed the transportation seminar at Fernald in May; there is money for travel if the board is interested.

The next meeting will be held May 13, 1999, at the Information Age Park Resource Center at 5:30 p.m.

The meeting was adjourned.

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MEMORANDUM
SITE SPECIFIC ADVISORY BOARD

TO: SSAB Members
Ex Officio Members

FROM: Mark Donham
Vicki Jones

DATE: April 5, 1999

SUBJECT: **MEETING REMINDER**

The next meeting will be held April 15, 1999, at the Information Age Park Resource Center at 5:30 p.m.

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- Minutes
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  - Financial Update
  - SSAB Letterhead

PADUCAH GASEOUS DIFFUSION PLANT SITE SPECIFIC ADVISORY BOARD

Chartered under the Federal Advisory Committee Act

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Meeting Minutes

March 18, 1999

The March 18, 1999, Site Specific Advisory Board (SSAB) meeting took place at the Information Age Park Resource Center in Paducah at 5:30 p.m.

The following board members were present: Nola Courtney, Mark Donham, Edward Duff, Judy Ingram, Vicki Jones, Ronald Lamb, Linda Long, Jim Smart, Bill Tanner, and Gregory Waldrop. The facilitator present was Steve Kay. The *ex officio* members present were Todd Adams, Jimmie Hodges, Carl Froede, and Tuss Taylor. The United States Department of Energy (DOE) federal coordinator present was John D. Sheppard. Also present were the following members of the public and employees, contractors, and subcontractors of the DOE: Mike Guffey, Shelley Hawkins, Dennis Hill, Norm Jetta, Jimmy Massey, John Morgan, Walter Perry, Sandra Plant, Cathy Sheppard, and Debbie Wattier.

Agenda

Steve Kay called the meeting to order and asked if there were any modifications to the agenda. Nola Courtney proposed adding a discussion on the site tour and a membership update to the agenda. The items were added under administrative issues. The amended agenda was approved.

Facilitator's Orientation

Kay said the orientation was primarily for the new members. He reviewed highlights of the SSAB bylaws. Kay said the facilitator's role is to help the board stay on the agenda, to reach closure on issues, and to check for consensus when there are decisions to be made. His role also includes making sure all views are heard and valued until a decision is reached.

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Public Comments from Guests

There were no comments made during this meeting.

Minutes

Linda Long asked to change a sentence on Page 3, Paragraph 3, to read "... an environment that has been so badly damaged that it cannot really be restored." The modified minutes from the February 18, 1999, meeting were approved by consensus.

Information Handouts

Dennis Hill said the members had been given a fact sheet containing a list of sitewide environmental impact statements (EISs) from other sites along with a Notice of Intent (NOI) for the Y-12 Plant sitewide EIS in Oak Ridge. The fact sheet was part of an action item from February's meeting. John Sheppard said the members also received a calendar with possible dates for a site tour and a handout on the Fernald Workshop on Waste Transportation.

Environmental Management and Enrichment Facilities Project Updates

Members received a handout on the Environmental Management and Enrichment Facilities (EM&EF) updates. Courtney asked about the land-use control plan for Solid Waste Management Units 2 and 3. John Morgan said the United States Environmental Protection Agency (EPA) issued a policy in April 1998 that stated if remediation involves institutional controls, the federal facility relying on the controls must issue a land-use control plan. This is an effort to provide assurance that the area will be monitored to remain under its intended use after remediation. Courtney asked if the SSAB members could get copies of the land-use control plan when it is issued to the regulators. Morgan said the members are on the distribution for the D1 document. Carl Froede said the regulators should receive the plan in about one month. Mark Donham asked if the plan would have an environmental review. Jimmie Hodges said the plan is still being reviewed by the legal staff and he did not know what the plans were for an environmental review. Donham asked if the plant has Year 2000 (Y2K) concerns. Hodges said a team has looked into this for several months and is not aware of any problems. He said most of the work at the plant is done on personal computers rather than mainframes. Jimmy Massey said Bechtel Jacobs Company LLC has been going through the process of preparing for Y2K also.

Vortec Update

Hill said there was nothing new to report for Vortec, but suggested the item stay on the agenda.

Depleted Uranium Hexafluoride Programmatic Environmental Impact Statement Update

Hill said the *United States Department of Energy Initial Plan for the Conversion of Depleted Uranium Hexafluoride* had been given to the members along with current newspaper articles from *The Paducah Sun* on the issue.

Transportation of Wastes/Hazardous Materials

Sheppard said Fernald is sponsoring a workshop on the transportation of wastes and would like to have up to five representatives from each board attend along with up to five members of the public from each site. He said this is a national workshop. Sheppard said the board might like to review the information it received on the workshop to see who might be interested in attending. A registration form is included in the packets the SSAB members received and the registration deadline is April 9, 1999.

Waste Area Group 6

Gregory Waldrop said Waste Area Group (WAG) 6 has been combined with WAGs 27 and 28 to make the Groundwater Operable Unit in an effort to achieve a larger perspective on the site. Waldrop said WAG 6 is a big source of the groundwater difficulties at the plant. Tuss Taylor said there is currently a group called the Innovative Technology Remediation Demonstration (ITRD) that is focusing on a remedy for the whole site. He said the group is meeting in Cincinnati, Ohio, next month and the regulators could come back from the meetings with more information for the SSAB. Froede said in the case of WAG 6, the group is targeting trichloroethene for remediation. Sheppard said about 16 technologies are on the list for review at the next meeting. He said it would be helpful to have a monthly status of the ITRD for the SSAB.

Donham asked to see a list of people who serve on the ITRD. Sheppard said there are representatives from the EPA, national laboratories, the DOE, and the industry that serve on the ITRD. He said he would provide Donham with a list of names. Donham asked how private industry representatives could be part of the group, but SSAB representatives could not. Froede said he did not know why the SSAB could not have representation, but said industry representatives were there because they contribute technology that they have used to the group. He said the ITRD is not a committee, it is a special study group. Sheppard said the ITRD began out of the DOE Environmental Management Program to address new technologies to proceed with remediation. He said individuals were identified from DOE research organizations who were doing a front-line look at remediation technologies. Paducah asked for help from the ITRD.

Donham said the bottom line is the final remedy that would be of great public interest because it may have environmental effects. Donham said he has procedural concerns with the ITRD because a remedy is being chosen. Sheppard said the ITRD is working in parallel with the site group on the Comprehensive Environmental Response, Compensation, and Liability Act Feasibility Study (FS). He said the ITRD is only recommending technologies for the site. Froede said there is no remedy selection in the ITRD and that it is the DOE's responsibility to go through the public process after recommendations are made. Hodges said there is no reason why the SSAB cannot be involved with the ITRD and said monthly updates can be provided if desired. He said Waldrop or any other member interested was welcome to attend the Cincinnati meeting. Waldrop said the monthly updates would be helpful. Sheppard handed out an agenda for the next ITRD meeting.

Ronald Lamb asked if the board could seek an independent consultant to represent the SSAB with the ITRD. Sheppard said the more input the ITRD receives, the more the DOE will be informed. He said one person the SSAB might consider would be Jim Smart since he has a technical background. Smart said he felt someone outside of the board might be a better choice in providing feedback to the board on the ITRD. Waldrop said it would be useful to have someone contribute ideas to the board so the SSAB could make recommendations. Donham said the SSAB does not really have a procedure for selecting and hiring a consultant. Kay said Bill Tanner has been investigating possible consultants for the SSAB. Tanner asked if the discussion of hiring technical consultants could be held until the Northeast and Northwest plumes discussion so the SSAB could see if the consultants he is considering might be useful for both areas.

Waste Area Group 22, Solid Waste Management Units 2 and 3

Courtney said there is nothing new to report in this area.

Waste Area Groups 9 and 11

Hill said there is nothing new to report in this area and suggested moving the agenda item to April.

Federal Facility Agreement Review

Morgan provided the SSAB with fact sheets on the Federal Facility Agreement (FFA) and the Fiscal Year (FY) 2001 Budget Update. Morgan said the SSAB was briefed in August and October 1998 on the new remedial action strategy that is being incorporated into the Site Management Plan (SMP). He said the FFA fact sheet has the latest set of enforceable milestones that go along with the new strategy. Morgan said the DOE currently is in the process of preparing the FY 2001 budget. He said the Paducah budget has a request of $47 million for FY 2001; however, $41 million is what the Office of Management and Budget is reporting that Paducah will receive. Morgan said some work will be impacted if the budget is cut.

Site Specific Advisory Board Evaluation Subcommittee Recommendations

Smart said the subcommittee was not able to meet before the meeting to develop recommendations and asked that the discussion could be delayed until April.

Northeast and Northwest Plumes Pump and Treat Facilities

Tanner said he has completed the request for proposals (RFP) for the SSAB to hire a hydrogeologist or geologist and has a list of about 10 or 12 names to which the RFP will be sent. Tanner said the RFP would be on an hourly salary and a specific number of trips to the site specified for the consultant to prepare a presentation to the SSAB and public. These presentations would be on the groundwater remediation at the plant and would help to determine if the remediation is feasible. Tanner said the SSAB might want to consider including an investigation of WAG 6 in the RFP.

Seven members requested to view a copy of the RFP before it was mailed to the potential consultants. They also requested to receive a list of the consultants being considered for the RFP. Smart said it made sense to incorporate WAG 6 into the RFP. Waldrop asked about the timeframe of work on the ITRD. Sheppard said it would be about a year and a half to two years. He said the ITRD would provide input to the FS that is due June 2000 and continue to advise the site after that point. Froede said the technology should be identified in eight months. Donham asked if all the technologies would be demonstrated. Froede said a group of technologies would be identified and potential technologies will be narrowed. He said, of the final list of technologies, some may be demonstrated. Froede said the ITRD will look at all technologies possible and focus on the effective ones.

Donham asked if Tanner's proposal was to hire two groundwater experts with different backgrounds and views. Tanner said the job responsibility would be bigger now, and said it would be helpful to hire someone that could cover both issues. Donham said his only concern was that there possibly should be more names considered for the RFP since the scope has increased. Tanner suggested the board look at the proposals when they are returned and determine if more names need to be considered.

Cumulative Effects on the Site

Donham said the list of sitewide EISs from other sites was helpful. He said he received four messages from people at Lawrence Livermore National Laboratory (LLNL), Los Alamos National Laboratory, Idaho National Laboratory, and Pantex. These messages were from non-agency people who had participated in the sitewide EIS process. Three of these people thought the EISs were worthwhile, while one thought the EIS was not very helpful. Hodges asked if Donham could send him copies of the messages and Donham said yes. Vicki Jones also requested a copy.

Donham asked what triggered the NOI for a sitewide EIS at the Y-12 Plant in Oak Ridge. Hodges said the Y-12 Plant is taking on a slightly different mission. Walter Perry, DOE community relations manager in Oak Ridge, said many of the sitewide EISs are funded through the defense program. Hodges said the DOE is consolidating areas at different sites and numerous mission changes have taken place in the defense program. Donham referred to a national settlement between DOE and citizens groups a few months ago over environmental restoration and asked if the SSAB could receive a copy of the settlement. Perry said there has been a discussion at DOE Headquarters and the DOE is considering holding regional meetings for the public. Perry said the details of the settlement can be provided to the SSAB.

Donham asked if a copy of the sitewide EISs could be placed in the SSAB office and Hawkins said she is working on downloading the EISs from the Internet and some of the copies are already in the office. Donham said he prefers to keep this issue on the agenda. Hodges said he did not consider the issue of a sitewide EIS at Paducah closed, even after the DOE's response to the SSAB's first recommendation. Hodges said this is an important issue and feels it is a good thing to keep on the agenda.

Risk Profile Document

Sheppard said the Risk Profile document was part of the Paths to Closure document. He said the feedback to DOE Headquarters on the document has been negative so far. Sheppard said the comment period for this document would go along with the release of the updated Paths to Closure document. He said the SSAB has received a draft risk profile statement including a section on Paducah. The SSAB agreed to put the topic back on the agenda when the document is to be released for public comment.

DOE Response to SSAB Recommendations

Hodges said there is nothing pending in this area. Donham asked about the comments on the Fernald Environmental Assessment (EA). Hill said they were considered more as comments to Oak Ridge rather than a recommendation to the DOE. Donham asked if there was a difference between a comment and a recommendation. Waldrop said so long as the comments carried the weight of the full board, it was fine to consider them as comments. Kay said last month's recommendations were considered formal comments from the board on the EA.

Site Specific Advisory Board Membership

Kay said that Ray McLennan had contacted him and said he was resigning from the board for personal reasons. He said he appreciated the support from the members, the DOE, and the regulators and said serving was a very valuable experience. Courtney asked if an official notice had been received for the new members. Sheppard said Hodges has the authority to appoint five members per year to replace previous members. He said the new members have to be sent to Headquarters for approval, since three members recently had been approved. Courtney asked how long the process would take. Hodges said hopefully not too long.

Tour of the Site

Courtney said there are several new members and there is a need for another tour of the site. Courtney asked about a time for the tour and Waldrop said he preferred late afternoon. Waldrop proposed to invite the five new members to go on the tour. The SSAB decided to set the tour for May 6, 1999, at 3:30 p.m. Courtney said the tour would take about three hours.

Site Specific Advisory Board Workplan

The SSAB Workplan was updated. Sheppard said representatives from the Agency for Toxic Substances and Disease Registry (ATSDR) would like to visit in April to give a status review of the report that is being prepared. He said since the report is not yet finished, the ATSDR can give only a status review and not a summary of the report. Courtney said she would prefer to hold the ATSDR visit until more information could be provided by the ATSDR on the report. Donham said the ATSDR could send a fact sheet on the report if the board prefers.

Donham said he received a press release this week concerning safety issues with high-efficiency particulate air (HEPA) filters. He said some groups from LLNL received a response from a Freedom of Information Act request on the efficiency of the filters. Donham said this might be something to look into, since the filters also are used in Paducah. Sheppard said, from time to time, there have been some criticality safety questions with the filters. Donham said he would forward the press releases he had received to Hodges and Sheppard. Massey said the HEPA filters at Paducah are used primarily for cleanup in the laboratories. Kay suggested putting this issue on the agenda for April as an information item.

Financial Update

The SSAB received a financial report containing the budget and amounts spent from Jacobs Engineering and Roberts and Kay, Inc. Hill said Jacobs Engineering is about $18,000 underspent on the task and has been averaging approximately $3,000 per month under budget. Sheppard said the FY 2000 budget might have an additional $25,000 for the SSAB.

Jones asked why there were 77 total hours of support for January under Jacobs, when Hawkins had charged 22 hours of that support. She said she was not aware that so many people would need to be charging under that task. Hill explained that there were some extra costs during the month for graphics support in the creation of the web page. He said project management support has been added to the task to fulfill contract requirements for Jacobs. Hill said this support is added to all Jacobs tasks to cover overhead costs.

Judy Ingram asked if the SSAB has administrative authority over the budget. Hill said the board wanted to use Hawkins and Jacobs as administrative support. Hill said when the Jacobs contract expires, the money would still have to be administrated through Bechtel Jacobs since it is a direct contractor to the DOE. Ingram asked if the SSAB would still see project management costs if it was with another contractor and Hill said, yes. Donham said he did not understand the process from the beginning and said the SSAB made decisions based solely on what it was told. He said he has come to the conclusion that the SSAB does not have control over the money. Hodges said the SSAB has control over how much is spent; however, any contractor charging time to the task will have to spread overhead costs across the task. He said the costs in this case might seem a bit excessive, but said there might be ways some of the costs can be cut back a bit.

Tanner said the options at the time of selection of administrative support also were to consider temporary agencies. He said Jacobs provided more technical possibilities at the time. Ingram asked if the overhead costs would be reflected with a temporary agency. Hill said there would still be overhead costs in any kind of contract. Courtney said the SSAB decided the technical familiarity of the contractor with the site was valuable.

Tanner asked under which contract would the technical support for the SSAB be hired. Hill said the SSAB currently has money in three places, including $86,000 with Jacobs; $25,000 with Bechtel Jacobs for Steve Kay; and a travel fund with the DOE. He said the new contract would have to be taken out of a task already funded by the DOE. Hill said the cost for procurement would have to be administered through the existing task. Smart asked how the board would have

independent technical support if the support had to be through a contract such as Jacobs. Hill said the money spent is directed by the board. Donham asked what would happen if the expert picked by the SSAB happened to have a conflict of interest with the contractor. Hodges said the contractor is only responsible for administrative functions and that the contractor is not responsible for picking the person or determining his or her pay.

Donham asked when the SSAB would have to find new administrative support. Hodges said the Jacobs contract is up March 31, 2000. Hill said the hours Jacobs charges will drop over the next few months as web site support will diminish. He said, however, Hawkins' time charged may increase since she will pick up some of Jeannie Brandstetter's responsibilities. Hodges asked if there might be a projection for monthly hours for Jacobs that could be provided to the board. Smart asked if there were other contractors under the DOE in case the SSAB wanted to discontinue its task with Jacobs. Hodges said there are two direct service contracts under the DOE for administration.

Sheppard brought up another issue that he said related to the site tour. He said the need for posters or maps of the site for the SSAB was discussed. He said this would allow the SSAB to see the sites being discussed during each meeting. Ingram said the maps are a good idea; however, she preferred having a notebook-size map included with the minutes or project updates each month so it can be reviewed during the meeting. Jones suggested the board try a small-scale map first and then get larger maps made if needed. Donham said the Five-Year Report for the Agreement in Principle (AIP) has a good map of the site in the back of the document. Waldrop asked if the AIP map could be brought to the next meeting. Jones said she would help Hawkins work on small-scale maps for the SSAB.

Site Specific Advisory Board Web Page

Hill said there were a few minor mistakes that are being corrected and some information is being updated on the web page. Hill said the members are welcome to make suggestions on modifications to the web page if needed. The address for the SSAB web page is www.oro.doe.gov/pgdpssab/.

Hill said Hawkins has designed some examples of new letterhead for the board. He said the addresses for members have been excluded due to the lack of space, but other information has been added. Hill asked the SSAB to look over the examples of the letterhead and provide comments or preferences for the meeting next month.

Hill also said he had been in contact with Representative Ed Whitfield's office and had some dates when Rep. Whitfield would be available to visit the SSAB. He said Rep. Whitfield's timeframes for meeting would be July or August. Hill said Saturday, April 10, 1999, also was an option for the visit. This early meeting date would allow the SSAB to have input on the budget request. Waldrop said he preferred the visit to be in April to have input on the budget. Waldrop suggested getting Rep. Whitfield to meet with the SSAB two times this year. The SSAB decided to schedule the meeting with Rep. Whitfield April 10, 1999, and for the July 1999 SSAB

monthly meeting. The SSAB also agreed that the five new members should be invited to those meetings.

Hill made an announcement that this was his last SSAB meeting in Paducah. He accepted another job in Oak Ridge and will be working with the SSAB there. His last day in Paducah is April 9, 1999. Hill said his replacement for SSAB responsibilities in Paducah will be Debbie Wattier, Bechtel Jacobs. Kay said he was grateful for the Hill's contributions to the SSAB.

Waldrop referred back to the FFA update fact sheet concerning the revision of the remedial action strategy under the SMP. He said Morgan stated that this revision has the potential to save approximately $50 million and the revision was initiated due to an SSAB recommendation. Waldrop stated this was a positive achievement for the board and it reinforces the purpose of the members on the board.

The next meeting will be held April 15, 1999, at the Information Age Park Resource Center at 5:30 p.m. The meeting was adjourned.

Tentative agenda for the April 15, 1999, meeting:

- Public Comments from Guests
- Minutes
- Information (Handouts — HEPA Filters)
- EM&EF Project Updates
- Vortec Update
- Depleted UF_6 Programmatic EIS Update
- Surface Water Operable Unit
- WAG 6 — Gregory Waldrop
- WAGs 9 and 11
- Recommendations from SSAB Evaluation Subcommittee — Jim Smart
- Cumulative Effects on the Site
- DOE Response to SSAB Recommendations — Jimmie Hodges
- Administrative Issues for the Board
  - Review of the SSAB Draft Workplan
  - Financial Update
  - SSAB Letterhead

Action Items

- John Sheppard to provide Mark Donham with a list of people who serve on the ITRD.
- Shelley Hawkins to work with Bill Tanner on preparing the RFP for technical support and mailing the RFP along with a list of the potential consultants to Nola Courtney, Mark Donham, Judy Ingram, Vicki Jones, Ronald Lamb, Jim Smart, and Gregory Waldrop.
- Mark Donham to send Jimmie Hodges and Vicki Jones copies of the e-mails he received from four sites regarding their opinions of sitewide EISs.

- Walter Perry to provide SSAB members with information on the national settlement between DOE and citizens groups over environmental restoration.
- Shelley Hawkins to remind SSAB members through e-mail and phone calls of the May 6, 1999, site tour and contact five new members to invite them on the tour.
- Mark Donham to send press release from LLNL on the HEPA filters to Jimmie Hodges and John Sheppard.
- Dennis Hill and Shelley Hawkins to provide projection for hours that will be charged monthly through the Jacobs task including a decrease in web page hours and an increase in Hawkins' hours to include some of Brandstetter's responsibilities.
- Vicki Jones and Shelley Hawkins to work on creating site maps to be included in the packets for SSAB members. Also bring map from the Five-Year Report for the AIP to the next monthly meeting.
- Dennis Hill to schedule April 10, 1999, and July 15, 1999, meeting with Rep. Whitfield. Shelley Hawkins to invite five new SSAB members to the April 10 meeting.

PLEASE SIGN IN

Paducah Gaseous Diffusion Plant
Site Specific Advisory Board

Name	Affiliation
Linda Long	SSAB
JOHN D. SHEPPARD	DOE
Douglas F. Nagel	SSAB
Norm Jetta	Vortec
J. RAUL CASTANEDA	DOE
Carl Froede Jr.	US EPA Region 4
Todd Adams	Radiation Program - State KY
ROSA Scott	
Pat Hopper	Waste Management Nuclear Services
Merryman Kemp	SSAB
Ben Kley	ELN CONSULTANTS
[illegible]	SSAB
[illegible]	SSAB
Jimmy Massey	BJC
Judy [illegible]	SSAB
FRASER JOHNSTONE	BJC
Craig Rhodes	SSAB
Ronald [illegible]	SSAB
Cassie Walter	Bechtel Jacobs Company
[illegible]	Jacobs
Shirley Speer	Jacobs

April 15, 1999

Bechtel Jacobs Company LLC
Paducah Project

07-Apr-99
9:17 AM

Site Specific Advisory Board

Actual Costs to Date thru
March, 1999: $ 94,080

Participant	Prior Year	Actual OCT	Actual NOV	Actual DEC	Actual JAN	Actual FEB	Actual MAR	Actual APR	Actual MAY	Actual JUNE	Actual JULY	Actual AUG	Actual SEPT	TOTAL FY 99
Bechtel Jacobs Company LLC	3,508	176	(176)	42	42	88	87	0	0	0	0	0	0	260
BJC Sub. - Roberts & Kay, Inc.	15,570	0	1,292	1,186	0	1,202	1,015	0	0	0	0	0	0	4,696
BJC Sub. - Jacobs Engineering Group	19,713	0	0	10,171	2,996	3,204	19,669	0	0	0	0	0	0	36,040
Overhead	7,979	51	160	2,601	611	352	2,540	0	0	0	0	0	0	6,314
Total Project	46,770	227	1,276	14,001	3,649	4,846	23,311	0	0	0	0	0	0	47,310

Bechtel Jacobs Company LLC
Paducah Project

07-Apr-99
9:17 AM

Participant	Description	Prior Year	Actual OCT	Actual NOV	Actual DEC	Actual JAN	Actual FEB	Actual MAR	Actual APR	Actual MAY	Actual JUNE	Actual JULY	Actual AUG	Actual SEPT	TOTAL FY 99
BJC Engineering Cost Center	OR - Ron Wells - Task Support	858	84	(84)	42	42	88	87	0	0	0	0	0	0	260
BJC Procurement	Contract Work	982	92	(92)	0	0	0	0	0	0	0	0	0	0	0
BJC Project Controls	Project Analyst/Finance Officer Support	829	0	0	0	0	0	0	0	0	0	0	0	0	0
SSAB - Misc Expenses	ents, Food, Sound Recording, Public Notice, et	840	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project		3,508	176	(176)	42	42	88	87	0	0	0	0	0	0	260

Roberts & Kay, Inc.
Paducah Project

07-Apr-99
9:17 AM

Material Charge Number
54 / P / JEC04

Participant	Type of Service	Prior Year	Actual OCT	Actual NOV	Actual DEC	Actual JAN	Actual FEB	Actual MAR	Actual APR	Actual MAY	Actual JUNE	Actual JULY	Actual AUG	Actual SEPT	TOTAL FY 99
BJC Sub. - Roberts & Kay, Inc. (Payments)	Subcontractor Independent	13,033	0	1,292	1,186	0	1,202	1,015	0	0	0	0	0	0	4,696
BJC Sub. - Roberts & Kay, Inc. (Accruals)	Facilitator to the SSAB	2,537	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Project		15,570	0	1,292	1,186	0	1,202	1,015	0	0	0	0	0	0	4,696

Jacobs Engineering Group, Inc.

Paducah Project

07-Apr-99
9:17 AM

TASK NUMBER:

35 - H831 - 48

Participant	Prior Year	Actual OCT	Actual NOV	Actual DEC	Actual JAN	Actual FEB	Actual MAR	Actual APR	Actual MAY	Actual JUNE	Actual JULY	Actual AUG	Actual SEPT	TOTAL FY 99
BJC Sub. - Jacobs Engineering (Payments)	8,381	0	0	1,402	3,836	3,694	3,161	0	0	0	0	0	0	12,094
BJC Sub. - Jacobs Engineering (Accruals)	11,332	0	0	8,769	(840)	(490)	16,507	0	0	0	0	0	0	23,946
Total Project	19,713	0	0	10,171	2,996	3,204	19,669	0	0	0	0	0	0	36,040

INVOICES

35-H831-48 Statement of Cost - Voucher Number: N/A

Total Amount Due $ 107.00 **PAID - JUNE**

35-H831-48 Statement of Cost	Voucher Number: 59	Voucher Number: 60	Voucher Number: 61	Voucher Number: 62	Voucher Number: 63	Voucher Number: 64	Voucher Number: 65	Voucher Number: 66
LABOR @ Office	95.63	107.58	234.49	46.26	439.87	495.27	386.97	286.59
LABOR @ Site	182.28	130.21	294.94	286.75	477.19	870.92	1,468.86	763.57
Teaming Subcontractors: PAI Corporation	258.03	680.28	1102.53	950.04	0.00	1570.63	1,013.77	754.99
Other Direct Costs	1,195.00	16.21	2706.46	94.80	485.07	899.24	824.41	1356.22
Amounts Previously Invoiced	(137.76)	0.00	0.00	0.00				
Total Amount Due	$ 1,593.18	$934.28	$4,338.42	$1,377.85	$1,402.13	$3,836.06	$3,694.01	$3,161.37
	PAID - JULY	**PAID - SEPT**	**PAID - SEPT**	**PAID - SEPT**	**PAID - DEC**	**PAID - JAN**	**PAID - FEB**	**PAID - MAR**

Overhead

07-Apr-99
9:17 AM

Participant	Prior Year	Actual OCT	Actual NOV	Actual DEC	Actual JAN	Actual FEB	Actual MAR	Actual APR	Actual MAY	Actual JUNE	Actual JULY	Actual AUG	Actual SEPT	TOTAL FY 99
OVERHEAD	7,979	51	160	2,601	611	352	2,540	0	0	0	0	0	0	6,314
Total Project	7,979	51	160	2,601	611	352	2,540	0	0	0	0	0	0	6,314

JACOBS EM TEAM

Paducah Project

TASK NUMBER: 35 - T081 - 48

BUDGETED BASELINE (BCWS) FY1999

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
Hours	73	74	80	74	73	82	73	74	80	74	74	82	913
Cumulative Hours	73	147	227	301	374	456	529	603	683	757	831	913	913
$	$7,057	$7,096	$7,376	$7,096	$7,057	$7,441	$7,057	$7,096	$7,376	$7,096	$7,145	$7,417	$86,310
Cumulative $	$7,057	$14,153	$21,529	$28,625	$35,682	$43,123	$50,180	$57,276	$64,652	$71,748	$78,893	$86,310	$86,310

ACTUAL COSTS (ACWP)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
Hours	84	87	98	77	126								472
Cumulative Hours	84	171	269	346	472								
$	$2,973	$3,279	$3,435	$3,544	$7,208								$20,439
Cumulative $	$2,973	$6,252	$9,687	$13,231	$20,439								

CUMULATIVE COST VARIANCE

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOTAL
(BCWS - ACWP)	$4,084	$7,901	$11,842	$15,394	$15,243								

Apr-05-1999

DOE F 1325.8
(04-93)

United States Government **Department of Energy**

memorandum

DATE: April 3, 1999

REPLY TO ATTN OF: EM-24

SUBJECT: PEIS Lawsuit Settlement

TO: Distribution

As you are aware, on December 12, 1998 the Department settled the long running lawsuit regarding the Programmatic Environmental Impact Statement (PEIS)[1]. The "settlement agreement" requires the Department to do the following:

- Develop and deploy a central Internet database providing specified information including data on waste, contaminated media, spent nuclear fuel, and facilities.
- Perform a study on long-term stewardship; and
- Establish a fund of $ 6.25 million to support independent technical and scientific reviews

The settlement agreement (section II, G-1) also requires DOE to identify a Point of Contact (POC) regarding the central Internet database. I have identified James D. Werner as the POC and have asked him to take responsibility for implementing the terms of the settlement agreement. I would like to emphasize that the settlement agreement generally does not require any additional data to be collected by the field offices beyond what the Department already collects or plans to collect. Consequently, Mr Werner is responsible for working with ongoing data collection efforts to organize the appropriate data and make it available in a manner that has technical fidelity to the source of data and is useful to a variety of users. Because the PEIS Settlement database requires information from across DOE, EM is only one, albeit the largest, source of data to be included.

The settlement agreement was developed with the expectation that the "PEIS Settlement Database" would use the information residing in the following existing data systems to the maximum extent possible:

For EM waste and contaminated media, virtually all information can be supplied from the EM Corporate Database, particularly the data currently collected by the Analysis and Visualization System (AVS). I expect Mr. Werner to coordinate closely with the newly formed EM Data team led by Stephen Warren , pursuant to my recent memorandum, on all matters and issues related to EM Data and information Management.

---

[1] NRDC et al. v. Richardson et al., Civ No. 97-936 (SS) (Joint Stipulation and Order)

- Information on facilities can be supplied by the Facilities Information Management System (FIMS) maintained by Office of Field Management.

- Spent fuel data can be supplied from the National Spent Fuel Database maintained at the INEEL.

- Information on hazardous waste can be obtained from the *Annual Report of Waste Generation and Pollution Prevention* as well as the data reported to EPA's Toxic Release Inventory.

This approach underscores the need that the data supplied to these systems be complete and of high quality. For waste managed by other programs (Offices of Defense Programs, Science, and Nuclear Energy), I expect Mr. Werner to work with those offices to obtain the required information in a cost-effective, manner. We have set a target date of January 2000 to have the database operational.

The settlement agreement also requires the Department to hold a national stakeholder forum on the database. Based on discussions with a number of DOE offices and a representative group of stakeholders, the forum has been scheduled for **June 3-4, 1999 in Columbia, MD**. Planning for that forum is underway and is being done in conjunction with some of the plaintiff organizations who were involved in the lawsuit. A *Federal Register* notice officially announcing the meeting date and location will be published and additional information on the forum will be forthcoming soon.

Another requirement of the settlement agreement is that, in addition to the central database, the Department must provide Internet linkages to other available site specific DOE databases that may contain relevant or useful information. We will work closely with field offices to identify such potential databases before establishing any linkages.

In order to facilitate communication and coordination on this effort and compliance with the terms of the settlement, I would like to request that you identify a (POC) for your office. Please provide the POC name to Jim Werner (202-586-9280; <James.Werner@em.doe.gov>) by March 31, 1999. I expect Mr. Werner to coordinate with the group of POCs regularly, and to report to me monthly on the status of the implementation of the requirements of the settlement agreement or as events deem appropriate.

A fact sheet that provides additional information on the settlement and the status of the various activities is attached. In addition, a Settlement Website where more information can be obtained has been established. The URL for the site is http://www.em.doe.gov/settlement.

James M. Owendoff
Acting Assistant Secretary for
Environmental Management

Distribution:

Field and Operations Office Managers
Field and Operations Office AM/EMs
EM DASs
Henry Garson, DP-45
Beverly Cook, NE-2
Jim Cayce, FM-20
Arnold Edelman, SC-83

cc:
Matt Zenkowich, EM-24
James Werner, EM-24
Dan Berkovitz, EM-20
Lisa Feldt, EM-1
Jim Owendoff, EM-1
Mary Ann Sullivan, GC-1
David Berick, CI-30
Steve Lerner, CI-30
Betty Nolan, CI-10
Jay Vivari, CI-10
Joyce Brady, CI-20
Dean Monroe, GC-51
Annita Capoferri, GC-52
Martha Crosland, EM-22
Fred Butterfield, EM-22
Eli Bronstein, EM-23
Suzanne Rudzinski, EM-24
Douglas Tonkay, EM-35
Jonathan Kang, EM-35
Jay Rhodrick, EM-35
Jennifer Clay, EM-43
Stephen Warren, EM-43
Cynthia Hilland, EM-60
Dinesh Gupta, EM-67
Marilyn Tolbert-Smith, EM-43
Jo Ann Lowry, EM-70
Jeanne Beard, EM-20
Rich Brancato, EM-70
Susan Johnson, EM-50
Jim Cayce, FM-20

Ken Baker, FM-20
Andy Duran, FM-20
John Marchetti, DP-45
Jim Cannon, NE-40
Greg McBrien, EM-77
Steve Livingstone, EM-24
Greg Sullivan, EM-24
Shelby Perkins, EM-24

DOE NEWS

NEWS MEDIA CONTACT:
Steven L. Wyatt, (423) 576-0885
www.oakridge.doe.gov

April 14, 1999

DOE SELECTS PORTSMOUTH SITE FOR STORAGE OF FERNALD URANIUM

OAK RIDGE, TN – The U.S. Department of Energy (DOE) has selected the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio, as the storage site for 3,800 metric tons of uranium now in storage at the DOE's Fernald, Ohio site.

The uranium will be stored at Portsmouth on a temporary basis until the material is reused or sold. This material has both commercial and military value and potential applications within the DOE complex.

The Portsmouth facility was selected upon completion of an Environmental Assessment (EA) that evaluated impacts for receipt and storage of the uranium. Other DOE facilities in Tennessee and Kentucky were considered, but the Portsmouth Site was chosen based primarily on the availability of suitable storage space. The EA determined that no significant environmental impacts will result from the transfer of the uranium to the Portsmouth Site.

The uranium will be stored in the 744G Building at Portsmouth, which is currently being used for storage of similar uranium materials. Shipments from Fernald, under Department of Transportation certification and packaging, will begin in late June 1999. This schedule will enable the Fernald Site to meet agreements with the State of Ohio to move the uranium from Fernald to meet site closure milestones.

Potential commercial uses for the Fernald uranium include use as a shielding material and as an agent for special alloy metal applications. The depleted and slightly enriched uranium compounds to be stored at Portsmouth are in the form of metal and powder. The compounds were produced at Fernald as part of the nation's nuclear weapons program.

-DOE-

R-99-019

DOE/OR/07-1785&D1
PRIMARY

WAGs 9 & 11 Site Evaluation Report at the Paducah Gaseous Diffusion Plant Paducah, Kentucky

This document has received the appropriate reviews for release to the public.

at SWMU 28. Risks from use of groundwater contaminated by migration from soil are regarded acceptable low even though one detected concentration of one contaminant, antimony, exceeds the groundwater protection screening criteria. It is believed that this detection is either anomalous or indicates that the contamination, if any, is not widespread at SWMU 28. Therefore, no impacts on groundwater can be reasonably expected.

The recommendation for SWMU 28, based on field data and calculated risk, is for no further action.

WAG 9 - SWMU 165

It is concluded that the contamination present at SWMU 165 does not present risks to industrial workers, potential residential groundwater users, or non-human receptors that exceed de minimis levels. Direct contact risks are regarded acceptably low even though a confirmatory sample it was determined that PAHs may be present at SWMU 165 at concentrations that exceed de minimis levels. The results of this confirmatory sample are declared suspect because all other data collected at SWMU 165 indicate that PAHs are not present in soils at concentrations that are above screening criteria. Risks from the use of groundwater that contaminated by migration from soil are de minimis because the concentrations of all contaminants detected at SWMU 165 are below screening criteria.

The recommendation for SWMU 165, based on field data and calculated risk, is for no further action.

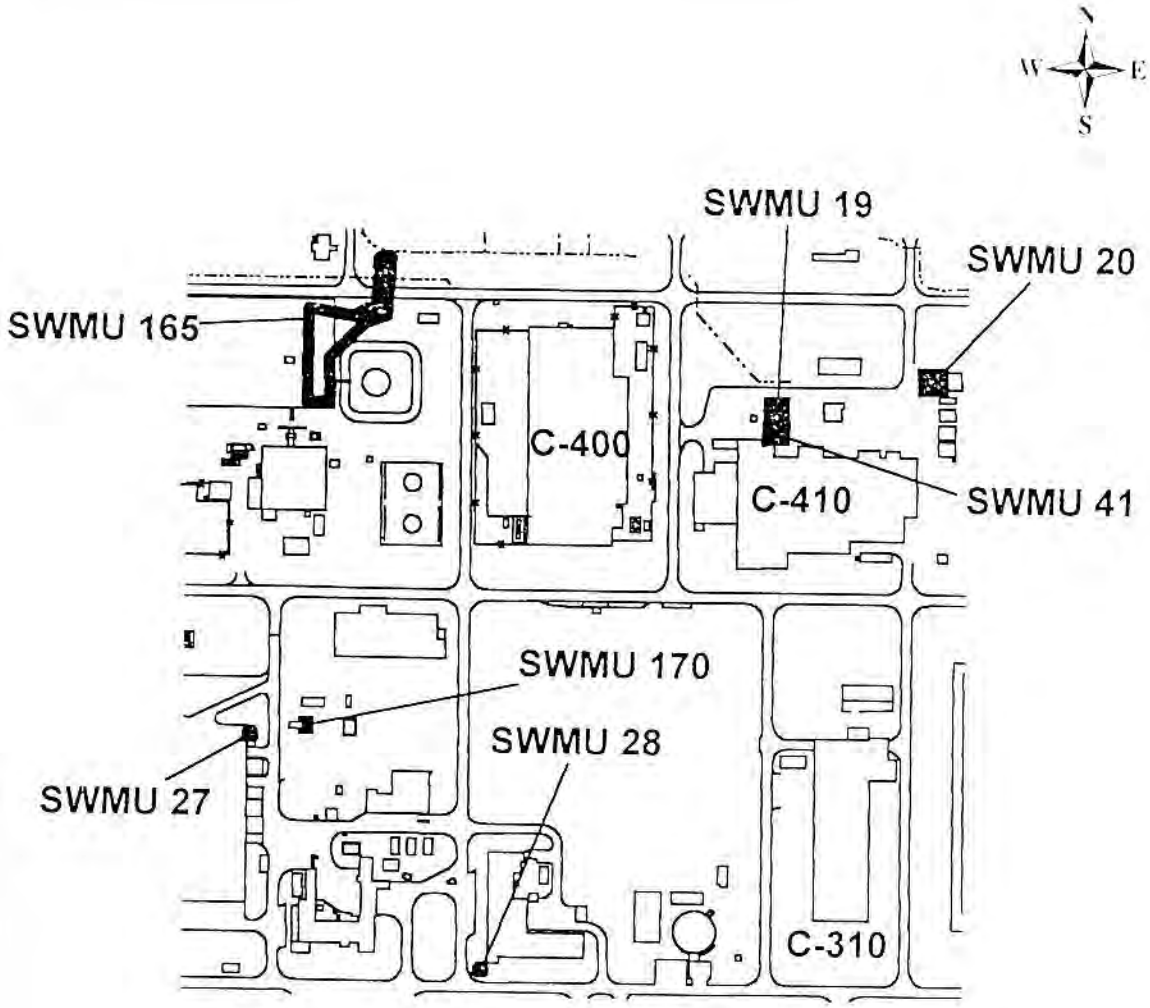
WAG 9 - SWMU 170

From the SE of SWMU 170, it is concluded that the contamination present does not present risks to industrial workers, potential residential groundwater users, and non-human receptors that exceed de minimis levels. Direct contact risks are de minimis because contaminated media are not available for direct contact at SWMU 170. Risks from the use of groundwater where contamination has migrated from soil are also regarded acceptably low even though two detections of, ^{238}U exceed background. These exceedances are deemed to be of little significance because the magnitude of the exceedence is minor. (i.e., 1.40 and 2.55 pCi/g versus a background of 1.20 pCi/g) and because previous work has determined that uranium has limited mobility in the subsurface at PGDP (DOE 1997b).

The recommendation for SWMU 170, based on field data and calculated risk, is for no further action.

WAG 11 - SWMU 19 (including SWMU 41)

It is concluded from the SE of SWMU 19 that additional analyses (i.e., risk assessment) are necessary to determine the extent risks to industrial workers and non-human receptors. Several organic compounds and inorganic chemicals were detected at concentrations that exceed their direct contact screening criteria. However, the additional evaluation can be limited to direct contact risks only because it does not appear that contaminants are present in soil at concentrations that exceed the groundwater protection screening criteria for residential groundwater users. Two PAHs were detected at concentrations that exceed the groundwater protection screening criteria, but these PAHs were detected in surface soil only and apparently have not migrated to the subsurface. This observation is consistent with previous work where it was determined that PAHs are not mobile in the subsurface at PGDP (LMES 1996).



N.T.S.

Fig. 1.2 WAGs 9 & 11 SWMUs
Paducah Gaseous Diffusion Plant - WAGs 9&11 SE Report

December 18, 1998

TEAM BUILDING

4/15/99

Subcommittee members: Vicki Jones, Greg Waldrop, Jim Smart

WHY?

* Increase effectiveness of the board as a whole.
* Emphasize values and the search for agreement, maintaining a balance between technical and policy orientations.
* Set a conducive atmosphere for work, creating a productive environment, and encouraging member participation.
* Develop a sense of "group" and promote consensus building.

RECOMMENDATIONS:

(1) Members need to feel what they're doing is important => set up subcommittee to explore increased community involvement (TV, newspaper, public engagement, outreach, etc.). Prepare a list of media sources and stakeholders.

(2) Move meeting start time to 6 PM. Offer mixer/refreshments from 5:30 - 6 PM. Set up 3 groups with rotating members (board and ex officio members) to encourage interaction.

(3) Identify and hire local person (technical manager-type) familiar with plant and community to help assimilate information for board members (review, summarize, and prioritize issues). 20 hr/wk

(4) Offer more tours (3 - 4 a year) in lieu of a meeting to remain familiar with equipment and new progress in remedial areas.

(5) Improve integration of new members (tours, slow release of prioritized material, new member orientation packet).

(6) Each board meeting, an existing member to spend 5 - 10 minutes covering past, current, and future goals of a particular area/issue.

MEMORANDUM

DATE: **April 26, 1999**

TO: **SSAB Members**

FROM: **Shirley Speer**

SUBJECT: **May 4, 1999, Site Tour**

A few notes regarding May 4th Tour:

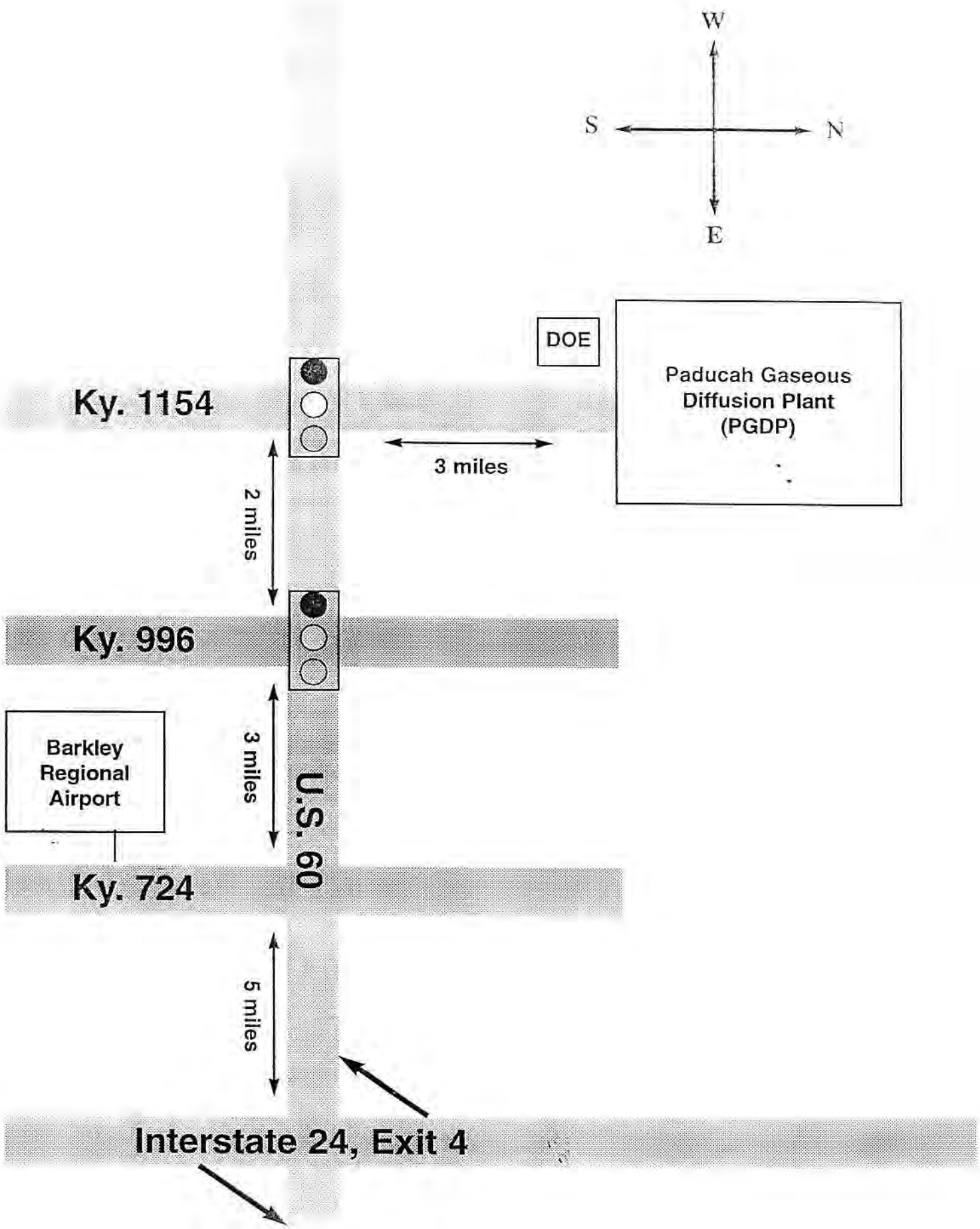
- Please read Orientation Handbook prior to meeting for tour.
- Meet at DOE Site Office at 4:00 p.m. (map included)
- Wear comfortable shoes and attire. There will be some walking.
- Tour plans to be complete around 7 p.m.
- Bring Drivers License for ID.

Please give me a call at 502-462-25 [illegible] forward to seeing you at the tour.

cc: Debbie Wattier

Materials mailed to:

Ed Duff
Judy Ingram
Mefryman
Ronald Lamb
Linda Long
Doug Raker
Rosa Scott
Jim Smart
Pat Stephenson
Bill Tumner
Greg Wilkey
Craig Rhodes
Debbie Jones


W
S
N
E
DOE
Paducah Gaseous Diffusion Plant (PGDP)
Ky. 1154
3 miles
2 miles
Ky. 996
Barkley Regional Airport
3 miles
U.S. 60
Ky. 724
5 miles
Interstate 24, Exit 4

PADUCAH GASEOUS DIFFUSION PLANT

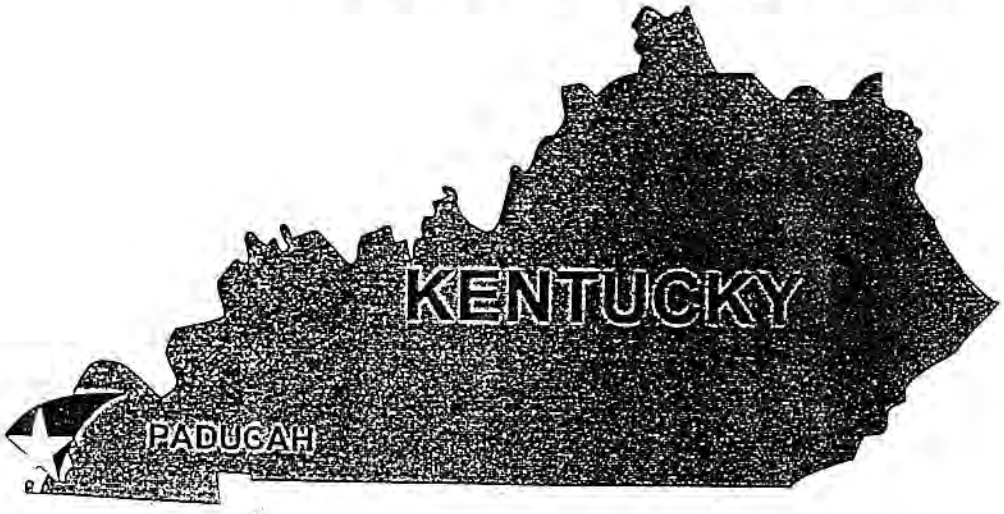
INFORMATION ONLY

PGDP Document Control
Controlled Document

KC 7/1/98 JUN 30 1998

Control Copy # 941

ORIENTATION HANDBOOK



U.S. ENRICHMENT CORPORATION **USEC**

PADUCAH, KENTUCKY

Reviewed for Classification and UCNI by:

[signature] 4399 6-30-98
(Derivative Classifier) (Number) (Date)

OPERATION TRAINING
(Title) (Organization)

Derived From: CG-PGD-5 12-15-95
(Source Document or Classification Guide and Date Guide)

UNCLASSIFIED - NOT UCNI

INTRODUCTION

Welcome to the Paducah Gaseous Diffusion Plant. Reading and understanding this orientation handbook is mandatory for all non site employees, and must be completed prior to receiving access to this facility.

This handbook is provided as a reference to be used during your visit. It identifies specific programs that workers are involved with daily. Being familiar with the requirements of these programs will enable you to knowledgeably and safely work at, or visit the Paducah facility.

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5. Vehicles will be inspected daily by the operator and in proper condition prior to use at PGDP.
6. Headlights will be used at night, during twilight, and during inclement weather.
7. Windows will be free of frost, dew, dirt, etc., that could impair the operator's vision.
8. Loads will be secured.
9. Speed limits, barricades, and other postings will be obeyed.
10. Right of way will be yielded to pedestrians or emergency vehicles.
11. Turn signals will be used.
12. Parked and unattended vehicles will be turned off and transmission placed in park for automatic and in gear for manual. Tractor trailers and similar large trucks may be occupied and have the engine running with the brakes set while stopping for activities such as registering and being inspected at entrance gates. The wheels must be chocked if:
    a) the roadbed is inclined away from the dock.
    b) the truck is entered with power equipment.

In the event of an accident on plant property, prompt notification will be given to the Plant Shift Superintendent (Alpha 1 on plant radio or 6333 bell phone system) and Industrial Hygiene and Safety (6238).

Failure to follow the above rules can have you and/or your company removed from the plant, up to and including permanent removal.

PERSONAL PROTECTIVE EQUIPMENT

Plant visitors must comply with posted signs requiring specific types of personal protective equipment before entering certain areas of the plant. Safety glasses, hard hats, hearing protection, and/or safety shoes will be provided for your use when needed to enter in these areas.

Signs are posted to specify the types of personal protective equipment listed below that are required in areas of the plant such as:

* Eye protection
* Head protection
* Safety shoes
* Hearing protection
* Head protection
* Respiratory protection.

RADIATION PROTECTION

EXPOSURE

Many tasks at the plant are performed in areas where ionizing radiation may be present. Exposure to ionizing radiation, like exposure to other industrial hazards, is controlled to minimize the potential adverse health effects to employees and visitors. Among potential health effects are increased risks of cancer and possible birth defects to an exposed fetus.

An unborn child is much more sensitive to radiation than an adult. Therefore, more conservative limits and controls are established for pregnant employees and visitors.

There are a variety of pathways (Figure 1) by which people are exposed to ionizing radiation. Cosmic radiation, immersion in and inhalation of indoor and outdoor air, exposure to radiation from rocks and soil, and ingestion of food and drink are most important.

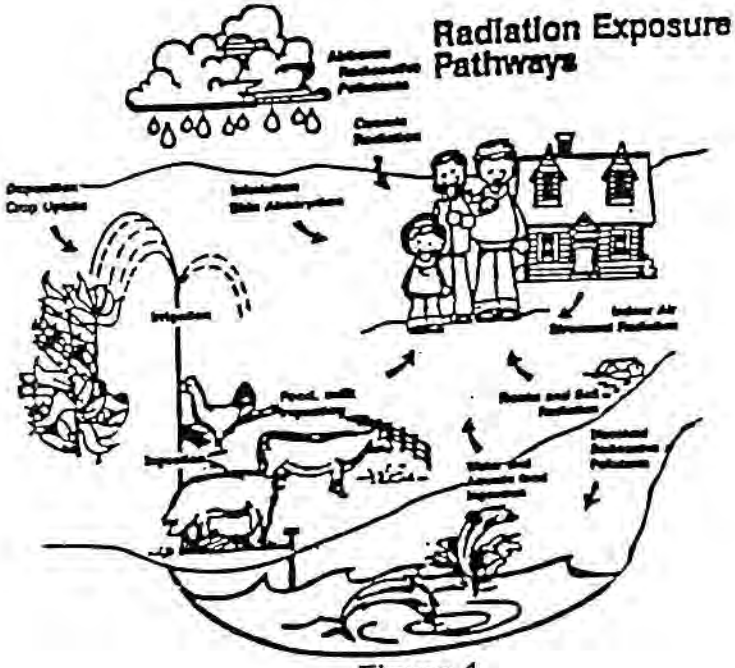

Figure 1

POSTINGS AND CONTROLS

The Health Physics Department at each site is responsible for radiation protection programs.

Some areas of the plant are considered Restricted Areas or Radiological Areas (i.e., Contamination Control Zone, Contamination Area, High Contamination Area and Airborne Radioactivity Areas). In these areas, a Thermoluminescent Dosimeter, also known as a TLD, is required to be worn. This device measures external radiation received while in areas of the plant. If you need to enter a Restricted Area or Radiological Area, a TLD will be issued to you by the Health Physics Dosimetry Center. Personnel supporting LMUS will report to the LMUS Dosimetry Center. LMES will report to the LMES Dosimetry Center. The TLD must be properly worn on the front of your chest. If it is damaged or lost, contact Health Physics immediately. When exiting the plant, leave your TLD with the Security Police.

To enter posted radiological areas, you must be properly prepared and informed. You must wear your TLD, appropriate protective clothing, and either have received the appropriate level of Radiation Worker Training ("radworker") or be escorted by a "radworker" trained individual who can brief you on specific precautions associated with the area you are visiting.

In radiological areas, you are <u>not</u> allowed to eat, drink, or use tobacco.

It is **your** responsibility to read and comply with all radiological postings. If you have any questions, call Health Physics at extension 6411.

When you are ready to leave the radiological area, you are required to monitor your whole body for the presence of radioactive contamination. At the Boundary Control Station you will find monitoring instruments. Monitor your whole body (from the top of your head to the bottom of your feet). If not trained, your escort or Health Physics personnel will assist your with this task.

HEARING CONSERVATION

Another important program managed by Industrial Hygiene is the Hearing Conservation Program. This is a program that is designed to protect individual's hearing from the effects of noise. All hazardous noise areas and operations are posted as such and approved hearing protection devices are available when required. If hearing protection devices are not available at that location contact the Industrial Hygiene Department for the appropriate equipment. **Note: If you have a severe hearing loss, notify your company representative. This representative may be your escort. This is extremely important -- such hearing loss could prevent your hearing emergency alarms or P.A. announcements.**

CONFINED SPACE ENTRY

There are areas in the plant that may be posted as a confined space entry hazard. Areas such as tanks, rail cars, pits, vaults, open trenches or excavations, tank dikes, etc. These areas have the potential for dangerous levels of chemical or flammable vapors or for an absence of oxygen. Never enter any area where such potential conditions exist.

RESPIRATORY PROTECTION

Respiratory protection is required for various jobs around the plant. Individuals may perform tasks that require such protection only after passing a medical exam, attending a training class, and a successfully passing a quantitative fit test. Areas where this protection is required will be posted. Do not enter areas where employees are wearing respiratory protection.

HAZARD COMMUNICATIONS

Hazardous materials in the plant will be properly labeled.

Figure 2. Paducah Assembly Points

Personnel		Assembly Point	Point Location
C-331 C-337-T01 C-337-A C-360-T1 Post 47	C-337 C-337-T02 C-360 C-360-T02 C-754-A C-637 C-331/C-410 Tie KC 10/29/98	1	C-631 Pumphouse
C-408 C-710 C-720-A C-720-B C-720-C C-720-M C-720-P C-720-R C-720-T C-728 Wooden storage shed adjacent to C-710	C-409 C-710-10 (Boundary Control Station) C-720 (east side) C-720-K C-720-M-T01 C-720-M-T02 C-720-S C-721 C-729 C-709 KC 10/29/98	2	C-200 (northwest corner)
~~C-302~~ KC 10/29/98 C-310-A C-310-C C-333 C-333-A C-333-T07 C-746-Q	C-310 C-310-B C-310 (Sprinkler vault) C-333-T06 C-727 C-746-Q-T01 C-746-Q1	3	C-304
C-720 Receiving dock area		4	C-720-G
C-604 C-720-J Pesticide shed adjacent to C-720	C-605 C-720 (west side)	5	C-744
C-335 C-400 C-400-T01 C-402 C-410-D C-411 C-420	C-350 C-400-A C-400-T02 C-410 C-410-K C-415 C-754 C-335/C-410 Tie KC 10/29/98	6	C-635-1 Pumphouse

CONTROLLED ACCESS AREA:
(inside security protected fence)

Uncleared individuals and their escorts must observe the following:

- Uncleared visitor/employee must not have visual access to classified information or material.

- Point of contact notifies Security of all visits and enters appropriate information on Visitor Program (e-mail).

- Uncleared visitor/employee must be under continuos audible/visual escort at all times.

- All uncleared visitors/employees must remain within their work areas. Travel to additional plant site facilities will require Security Department approval.

- If escorted to a meeting, the escorted, the escort must announce the fact that you are an uncleared visitor/employee so that classified information will not be inadvertently discussed in your presence.

- When your escort transfers escort responsibilities to someone else, the original escort must ensure the new escort accepts full responsibilities as your escort.

All visitors to each plant site must sign a Visitors Register/Log. A picture ID will be required as a proof of identification (i.e. drivers license).

PROHIBITED ITEMS

DOE/USEC has procedures prohibiting certain items in this facility. The following items are prohibited by the Atomic Energy Act of 1954:

- Cameras & film
- Audio or video recorders
- Radio transmitters
- Privately owned cellular phones
- Firearms, ammunition, or weapons
- Explosives
- Controlled substances, illegal drugs, drug paraphernalia and intoxicants
- Other items prohibited by law
- Computer equipment and computer media are security concerns and are strictly controlled/authorized by the plant Computer Security Officer for use at each site.

PLANT PHONE NUMBERS

EMERGENCY	333-BELL 555-PAX (See Note)
Plant Manager	6301
Training Manager	6655
Industrial Safety	6238
Health Physics	6411
Industrial Hygiene	6134
Medical Facility	6266
Respirator Facility	6597
Security Department	6222
Police Department	6246
Fire Department	6031
Plant Shift Superintendent	6211

Note: Dialing 911 will not reach an emergency response. When on the Bell System, dialing a 9 will generate a dial tone of an outside local line; thus, 911 would be dialing 11 on an outside local line.

Paducah ITRD Project
Technical Advisory Team

Froede Jr.	Carl R.	US EPA, Region 4	61 Forsythe Street	Atlanta	GA	30303	404-562-8550	404-562-8517	Froede.Carl@EPAmail.EPA.GOV
Volpe, PhD.	John A.	KY Radiation Health, & Toxic Agents Branch	225 E. Main St., MS HS2E-D	Frankfort	KY	40621	502-564-3700	502-564-6533	John.Volpe@mail.state.ky.us
Rightmire	Craig T.	Bechtel Jacobs Co.	P.O. Box 4699	Oak Ridge	TN	37831-8402	423-574-7285	423-241-5049	Rightmirect@ornl.gov
Seifert	Rob W.	Systematic Management Services, DOE Site Office	5600 Hobbs Rd.	Paducah	KY	42001	502-441-6823	502-441-6801	seifertrw@ornl.gov
Bodenstein	Gary	Paducah DOE Site Office	5600 Hobbs Rd.	Paducah	KY	42001	502-441-6831	502-441-6801	bodensteingw@ornl.gov
Taylor	Tuss	KY Division of Waste Management	14 Reilly Rd.	Frankfort	KY	40342	502-564-6716	502-564-5096	taylor@nr.state.ky.us
Guffey	Mike	KY Division of Waste Management	14 Reilly Rd.	Frankfort	KY	40342	502-564-6716	502-564-5096	guffey_m@nr.state.ky.us
Richards	Walt	Bechtel Jacobs Co.	761 Veterans Blvd.	Kevil	KY	42053	502-441-5189	502-441-5149	wr7@ornl.gov
Early	Tom	Oak Ridge National Laboratory	P.O. Box 2008	Oak Ridge	TN	37831-6038	423-576-2103	423-574-7420	eot@ornl.gov
Redfield	Bill	Systematic Management Services, DOE Site Office	P.O. Box 1410, 5600 Hobbs Rd.	Paducah	KY	42001	502-441-6805	502-441-6825	redfieldwjr@ornl.gov
Maudlin	Sarah	Jacobs EM Team	175 Freedom Blvd.	Kevil	KY	42053	502-462-2550	502-462-2551	sarah.maudlin@jacobs.com
Davis	Kenneth	Jacobs EM Team	175 Freedom Blvd.	Kevil	KY	42053	502-462-2550	502-462-2551	Ken.Davis@jacobs.com
Hightower	Mike	Sandia National Laboratories	P.O. Box 5800, MS 0755	Albuquerque	NM	87185-0755	505-844-5499	505-844-0968	mmhight@sandia.gov
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EPA speeds technology implementation

The ITRD program—with government, industry, and regulatory agencies working together—chooses promising remediation technologies. Cost and performance data are developed for these using small one- and two-acre sites.

M. Michael Hightower

Common barriers block the use of innovative remediation technologies. These barriers include the lack of validated full-scale cost and performance data for these technologies, a lack of industry and regulatory involvement in technology evaluations, and the fear of penalties or fines for delays or failure of a new technology to meet required cleanup levels. The Innovative Treatment Remediation Demonstration (ITRD) Program at the U.S. Department of Energy's (DOE's) Sandia National Laboratories was initiated in 1993 in cooperation with the U.S. Environmental Protection Agency's (EPA's) Technology Innovation Office in an attempt to reduce these barriers and accelerate the implementation of innovative remediation technologies.

The ITRD program is based on a public–private technology demonstration concept that improves communications and teamwork among key participants (Figure 1). Government, industry, and regulatory agencies are directly involved in assessing, implementing, and evaluating innovative technologies. Sandia National Laboratories, as technical coordinator for the ITRD Program, is responsible for forming advisory groups for each project. Groups are composed of technical representatives from DOE and the national laboratories, EPA and its laboratories, user industries with similar problems, and state and federal regulatory agencies.

The innovative technologies considered for evaluation by the ITRD program lack the cost and performance information that would otherwise permit their full consideration as remedial alternatives. These technologies have often shown promise in pilot-scale applications but have limited full-scale data. Some examples in this category include

- bioremediation,
- in situ dynamic stripping,
- soil washing and soil flushing,
- solvent and surfactant extraction and chemical treatment,
- in situ passive treatment, and
- advanced physical separation techniques.

After applicable innovative technologies for a particular site are carefully reviewed, treatment studies and engineering evaluations of technology cost and performance estimates are conducted. The advisory group then recommends the best remediation technology options for that site considering cost, performance, and regulatory issues.

The technologies selected for implementation are used to completely remediate small, one- to two-acre sites. The operations, treatment performance, and cost are closely monitored by the advisory group. This information provides the participating government, industry, and regulatory entities with the necessary full-scale operational and evaluation data to validate the performance of these new technologies. In turn, validation by the independent technical group ultimately accelerates the technologies' acceptance and use at other sites within DOE and across the nation.

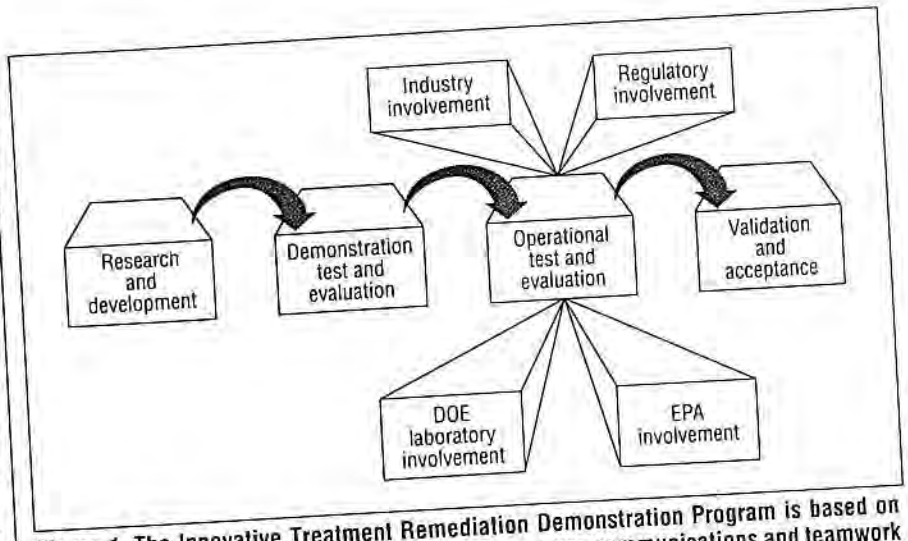

Figure 1. **The Innovative Treatment Remediation Demonstration Program is based on public–private technology demonstration that improves communications and teamwork among key participants.** Government, industry, and regulatory agencies are directly involved in assessing, implementing, and evaluating innovative technologies. DOE, U.S. Department of Energy; EPA, U.S. Environmental Protection Agency.

The author is with Sandia National Laboratories.

January 11, 1999

You are invited to attend the initial meeting of this project, which will be held February 10-11, 1999, at the Bechtel Jacobs Company (BJC) in Kevil, KY. The meeting will include presentations on Paducah site issues; a tour of the Paducah project site; a review of the project implementation plan and schedule; and initial discussions of possible technology alternatives. The agenda is attached for your review.

Please contact Mike Hightower of Sandia National Laboratories about your participation in this project. John Sheppard is the DOE/Paducah contact for this effort. If you have any questions, he can be reached at (502) 441-6804. Attached is a small packet containing background information on the contamination at the site for your review prior to the meeting. Information on hotels and directions to the Paducah Plant are also included. We encourage and appreciate your participation in this ITRD Project.

MH/kyp

Sincerely,

Mike Hightower

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January 11, 1999

John Sheppard
Department of Energy
P. O. Box 1410
Paducah, KY 42001

Dear John,

An agreement has been reached to proceed with an Innovative Treatment Remediation Demonstration (ITRD) project at DOE's Paducah Plant. The project will look at the application of innovative technologies for the remediation of TCE and technicium in groundwater and primary sources to contamination of the groundwater. The site includes large dissolved phase plumes and large suspected DNAPL source areas that need to be addressed.

As technical coordinator of the ITRD program, Sandia National Laboratories is responsible for organizing and coordinating the efforts of a technical advisory group. Participants will consist of technical experts selected from federal agencies, including the DOE, and EPA, industry, and state and federal regulatory agencies. The group will help identify and suggest enhancements to baseline pump and treat technologies for consideration in remedial actions at the site.

The tentative schedule for this project includes monthly meetings or conference calls through August 1999 to identify and assess new technologies and to make appropriate technology suggestions. Necessary treatability or pilot studies needed to address site specific conditions will be conducted as a follow-on as needed. Assistance and review will be provided as requested through the design, construction, and operation of the system. The group will also help review the operational cost/performance data of the technologies selected for application.

You have expressed interest in the Paducah ITRD Project as a technical group participant. As a participant in this project, we ask your assistance in identifying appropriate innovative technologies, evaluating technical concepts, and assessing remediation data. Benefits of participation will include information on innovative and emerging technologies; access to technology cost/performance data; and interaction with technical, regulatory, and industrial contacts from across the country.

The TechCon Program

Linking the Public and Private Sectors for Environmental Remediation Gains

http://www.ead.anl.gov/~techcon/index.html

TechCon is a Department of Energy (DOE) Program connecting DOE's site-specific environmental management needs with private industry capabilities and public sector experience. To facilitate the connection, TechCon solicits information from private industry and the public sector about solutions to specific remediation project opportunities within the DOE complex. The TechCon Web site lets companies review a list of current projects and provides instructions for presenting company capabilities and project experience to the respective DOE remediation project team, review submitted capabilities statements and project histories, or communicate with others involved in the project.

Companies exploring current project opportunities at the TechCon Web site will find information on the following:

What's New: New information from TechCon including lessons learned, success stories and interesting activities.

TechCon Overview: Explains the TechCon Program and answers key questions frequently asked.

Technology Needs: Provides background information and key Internet links to site specific needs that have been documented.

Commercial Capabilities: There are many Internet databases and information resources available. This page provides links to a few of the links that are used by TechCon including both commercial capabilities and emerging technologies.

Internet Resources: Links to some Internet resources that could be useful to persons looking for information.

DOE Procurement Web Sites: These are links to DOE and DOE Contractor home pages and "doing business" pages across the nation. Included are the Field or Operations Office home pages, their "doing business" pages, and any contractors for that location.

TechCon is a Department of Energy, Office of Environmental Management, program operated by Argonne National Laboratory and supported by Pacific Northwest National Laboratory.

For more information, contact Dale Pflug, TechCon Program Manager, Argonne National Laboratory (630/252-6682, dpflug@anl.gov) or visit the TechCon Web site (http://www.ead.anl.gov/~techcon/tcprog.htm).

Innovative Treatment Remediation Demonstration
Paducah Project
Meeting Minutes
March 10-11,1999

Participants

Bryan Clayton/Bechtel Jacobs Co.
Paul de Percin/US EPA-NRMRL
Jeff Douthitt/GEO Consultants, LLC
Tom Early/Oak Ridge National Lab
Bruce Ford /Bechtel Jacobs Co.
Doug Gerrick/Argonne National Lab
Sarah Maudlin/Jacobs Engineering
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Craig Rightmire/Bechtel Jacobs Co.
John Sheppard/DOE-Paducah
Al Vickers/Clean Sites Environmental Svcs.
John Volpe/KY Rad. Health & Toxic Agnts.
Lynn Wood/US EPA
Mike Hightower/Sandia National Labs
Ken Kuzio/Sandia National Labs

April ITRD Meeting

The next meeting of the Paducah ITRD Project will be held on Thursday and Friday morning April 22-23, 1999 at the Hilton Greater Cincinnati Airport. A block of rooms will be reserved at the government rate for this meeting. A letter and meeting agenda will be e-mailed to all ITRD Technical Advisory Group (TAG) members during the week of 3/15/99. The purpose of the meeting is to:

- Discuss technical information on candidate technologies identified during the 3/10-11/99 conference call,
- Assess options and possible strategies related to these technologies, and
- Identify appropriate technologies for more in-depth evaluation.

Approximately 30-45 minutes will be allotted for each presenter to discuss the basic capabilities and applications of those technologies retained from the 3/10-11/99 screening. The presentations should include:

- Background on the technology including the type and the number of applications to date (technical basis, overall maturity, and acceptability),
- Most appropriate application areas (vadose zone, DNAPL, ground water, etc.),
- Range of possible technology performance in terms of contaminant reduction levels and required duration,
- Range of probable costs ($/yd, $/gal, $/ft^2, etc.) for deployment,
- Affect on associated co-contaminants, positive or negative,
- Types and amount of wastes that might be generated.

This presentation format will help TAG participants assess technologies relative to the criteria developed at the initial kick-off meeting. The outcomes will be:

1. A suite of technologies requiring further in-depth evaluation,
2. Preliminary methods to combine technologies to develop the most cost-effective remediation strategies, and
3. Technology areas needing site-specific evaluation or testing.

PGDP Feasibility Study and ITRD Schedule Concurrence

A schedule showing the parallel project activities and milestone dates for the PGDP Feasibility Study and ITRD processes was sent to the Paducah Site Office (c/o John Sheppard) for Site Office and Bechtel Jacobs review and comment. The TAG needs to complete the ITRD technology identification/assessment phase (i.e., identify the top 4-5 technology candidates) by June 1999 to accommodate performing treatability studies from July 1999 to January 2000. The goal is to include the treatability study results in the DOE Internal Review version of the PGDP FS. SNL will send the approved FS/ITRD schedule to the entire TAG for informational purposes.

Technology Screening Overview

A summary of the first round of technology screenings is included in the attached table. This information was obtained directly from the 3/10-11/99 TAG conference calls.

Technology	Pros	Cons	Keep (K)/ Delete (D)	Comments
Sonic-assisted Cone Penetrometer	TO BE ADDRESSED			
Bio-Barrier	• Mature technology (used by oil industry for oil recovery); • bacteria indigenous to work area; • May be able to remove barrier after remediation • Barrier may accumulate metals through reducing environment • May be used as stopgap measure (barrier) in combination with other technologies	• No remediation application field tests, only lab work; • Used mainly for flow control, not contaminant remediation; • May need periodic feeding to keep bugs from reducing in size	K	• Some usage as TCE remediation (adhesion deficient microbes); several field trials conducted; can survive TCE concentrations up to 200 ppm; • Clayton will contact MSE for updated status report
Redox Manipulation	• Some field applications for TCE	• Need good understanding of aquifer to get material to stay within affected zone otherwise migration occurs • Regulators may not allow reducing agent to be introduced into aquifer;	K	• Typically used for Chromate VI to Chrome III reduction; • Hanford field test cost $1.2 M
Gaseous Reduction	• Safety-related issues (i.e., use of hydrogen sulfide) have been resolved • Reduces 99Tc mobility	• Currently in early demonstration phase (not commercially available) • Applicable to vadose zone only • Used predominately for metals (i.e., chromium)	D	

Technology	Pros	Cons	Keep (K)/ Delete (D)	Comments
Huma-Sorb	• Proven effective for metals; investigating TCE reduction applications • Could be used in conjunction with another technology • Satisfactory for use to 100 ft below ground surface (bgs)	• Questionable absorption of 99Tc; • Product/cost question ($0.80–1.00/lb) • Production rates a concern (2000 lbs/week);	K	• Carl Enfield is investigating properties of humic acid and will investigate this technology for the PGDP ITRD
Iron Reactive Wall	• Extensive field applications • Works for TCE and some metals	• Standard technology • Applicable to < 40 bgs	K	• May be used in shallow applications or with injection technologies for deep applications
Deep Iron Barriers	• Jet assisted grouting may result in thicker wall installation as opposed to fracturing; • Potential for deep application; • Mature technology • For application in offsite areas as well as source term areas to knock down concentrations before plume goes offsite;	• Iron generates reducing environment; undesirable process by-products possible; may need longer residence time to catch by-products; • Higher contaminant concentrations may require > 1 wall being emplaced; • Costs? • How to optimize? • Unknown rates of desorption once getters become loaded;	K	• Mostly use iron filings, iron filings with porous ceramics, with bacteria, alcohol • Application 120 feet bgs is feasible • Possible to use other materials for 99Tc: Hanford applications (CuO, Imogolite (altered clay); Hydrotalcite; bone char; aluminum-oxy-hydroxide); • No criticality issues associated with 99Tc buildup on getters;

Technology	Pros	Cons	Keep (K)/ Delete (D)	Comments
Chemical Oxidation	• Used at PORTS with good results • Used grout to create horizontal reactive barriers in clay material to prevent downward contaminant migration • Oxidation will have good effects on TCE; • Has been used successfully to clean contamination from under buildings; • Commercially available	• No effect on 99T • Concerned over products of incomplete reaction (i.e., not much research/data available on this); need to look for specific products of incomplete reaction; • Some channeling known to occur in underground; Need to be concerned about preferred permeability pathways; • Primarily vadose zone application to block source term from entering aquifer;	K	• Subsurface application s with ozone, Fenton's agent; potassium permanganate • Cost of application depends on delivery system ($50-100 per cu yd treated) • Information shows no permanganate fixation on TCE • Iron, potassium-permanganate particulate grout has been shown to work well;

Technology	Pros	Cons	Keep (K)/ Delete (D)	Comments
Steam Stripping (Hydrous pyrolysis)	• Used to depths of 120 ft bgs in gravel aquifer; • Mature technology (operating at SoCalEd for 1.5 years (Creosote instead of TCE for DNAPL); 7 ac site cost $4-6 M) • Application for predominately gravel remediation; some penetration into finer materials without artificial fracturing; DNAPL in fine clay may be removed with alternate technology;	• Commercial costs (approx. $30-40/cu yd treated) likely lower than DOE site costs • Significant TCE in McNairy Formation may be difficult to get at using steam; • concerns about finer grains making TCE recovery difficult • Potential for steam breakout under buildings in shallower zones; need to investigate ways to cordon off building areas from steam breakout • No experience with 99Tc interaction with steam (PORTS may info on this);	K	• Vendor on web: www.steamtech.com; • 2 demos with steam and fracturing of clay for additional steam introduction pathways • Hightower/Early/Richards will investigate further
Dual Phase Extraction	• May be applicable for areas above RGA • Several successful applications	• Not practical at PGDP RGA since contamination not near surface of water table; • Generally used with LNAPL or light density contaminants	K	• Rightmire may have cost info on this technology from PORTS; will work with Hightower

Technology	Pros	Cons	Keep (K)/ Delete (D)	Comments
Flushing Technologies	• Mature technology; several demos: OU 2 at Hill AFB TCE source area (90% mass removal); • Co-solvent used at FL dry cleaning site w/ limited success due to inadequate source area characterization;	• Limited to surfactants and solvents; • limited to saturated zones and permeable formations; • Mixing and contact with contaminants is critical to achieve success; need good source delineation; • Large volumes of secondary waste produced and initial materials are costly • Costly since typically use a one-pass rather than re-circulating system ($50-500/cu yd treated); • Permitting issues with respect to reinjection • Will not get total mass removal (typically 90% removal) (if MCLs in source area is target, not a good application for flushing since residuals need to be addressed); may need to use bio technologies as complementary technologies for residual removal	K	• 2 approaches: solublization or immobilization; immobile more efficient but greater risk for DNAPL mobilization; • If 99Tc prefers to stay in water phase, flushing may provide remediation; • Regulators are softening hard-line stance against reinjection, opening doors for this technology;

Technology	Pros	Cons	Keep (K)/ Delete (D)	Comments
Direct Thermal Approaches (In Situ only; 6 Phase Soil Heating)	• Increase vapor pressure; solubility, adsorption; • Commercially available now ($30-80 per yd) • About 8-9 deployments to date (e.g., Hanford; Dover AFB; Corps of Engineers sites); • De-watering not required; • Focused on depths 40-45 feet; Seattle application of 65 feet bgs; • Vadose and saturated zone applications • Uses utility-provided electrical power; • Contractor using fixed price contracts to perform work, not time/material; • Reported cleanup efficiencies of up to 99+%	• Soil composition, and soil density affect process; • Site-specific conditions may required specific technology configuration; • Safety issues related to uncontrolled voltage potential, but being addressed; • Low saturation sediments provide voltage drain/breakdown; • Infrastructure may limit optimal array design • Potential affect on sensitive communication lines; • Limited to remediation temps of 100 deg C • Vadose zone requires water/brine injection • Negotiated clean-up levels, not necessarily MCLs • Showstoppers: no underbuilding deployment; infrastructure limited; not for greater depth deployments	K	• Saturated zone applications: raise water temp to 85-90 deg C and boil water, not NAPL off; • Technology costs fairly scale dependent;

Technology	Pros	Cons	Keep (K)/ Delete (D)	Comments
Microwave Heating		• No available technology; • No currently active projects; DOE project is dead;	D	• Vendors are selling RF heating technology; • RF used in vadose zone (pesticides); • self limiting technology (turns off after moisture leaves soil); • excess moisture increases RF power requirements; • 6-7 RF demonstrations have been/being conducted (cost of RF: $15-20/ton treatment)
Pump and Treat with Reinjection	• Provides hydraulic control	• Substantial long-term O&M costs	K	• Goes with aquifer leveling; considered hydraulic manipulation/control
High Vacuum Enhanced Recovery	• Several applications to date • Can be used in low permeability soils ($1x10^{-6}$ to $1x10^{-7}$) • Can be used with fracturing to treat tight soils	• Unfavorable costs vs. other technologies		• TO BE ADDRESSED
Aerobic-Bioremediation	• No secondary wastes produced aerobically; • Quick degradation of TCE realizable if site is conducive to bio-activity • Several applications	• 99Tc impact unknown • TCE cannot be biodegraded without use of co-metabolites (e.g., propane; methane) to support TCE digestion; • Most effective in vadose zone, saturated zone application limited • TCE contamination levels above 200 ppm not a good candidate for success	K	• Several applications, each needs to be closely assessed • O&M costs need to be quantified
Air Sparging (In-well Vapor Stripping)	• Several applications • Applicable below water table • Sets up treatment cell for faster groundwater remediation	• High capital costs • Soil lenses cause problems	K	• Need to assess costs vs. utility

Technology	Pros	Cons	Keep (K)/ Delete (D)	Comments
Horizontal Reactive Barriers	• Applied with fracturing • Some field trials		K	
Horizontal Well	• Mature technology/commercially available • Use in vadose and saturated zones • Used in combination with other technologies (air sparging; vapor extraction; gravity drains; iron assisted extraction with reinjection) • Functional in infrastructure-intensive areas	• Overcoming heterogeneities	K	• Progress made in real-time drilling head location
Aquifer Leveling	• Mature technology (large refineries); • Claims of reduced pump and treat costs of 60%; • Low permeability and porous soils applications;	• May be a limit to aquifer transmissivity that disallows application	K	• Intent: stop contaminant movement; use other technologies (horizontal wells, barrier walls) to remove contaminants; reverse flow path;
Grout Walls/Barriers	• Soil-mix barrier used at PORTS to gain time to assess alternate plume remediation technologies • Mature technology • Permeable barriers can now go impermeable;	• Not intended to be a permanent impermeable barrier	K	• Used in conjunction with horizontal drilling • Outcome reports on jet grout barriers at Dover AFB available? • Need to investigate associated costs for each type of barrier
Permeation Grouting	• Very low cost technology	• Not a lot of info available; commercial available unknown • Used at ORR WAG 4 • Not permanent solution • Not applicable for areas of high hydraulic conductivity	K	• Used in vadose zone with seasonal saturation • Used to contain 90Sr; • No cost info available; need to get cost and performance data and compare results to jet grouting results; • May be best used for source stabilization;

Technology	Pros	Cons	Keep (K)/ Delete (D)	Comments
Electrokinetics	• Used historically for enhanced oil recovery; remediation is new application • Developed to recover contaminants in low permeability soils;	• Costs are site-specific based on geology	K for UCRS; maybe McNairy; not for RGA or high permeability zones in UCRS;	• Separation technology (recovery) • Used for heavy metals, radionuclides, organics (dissolved phase and DNAPLs); • Saturated or unsaturated soils (in and ex situ) • In situ for water treatment • $20-100/cu yd; $60-220/cu yd
Rotary Steam Stripping	• In situ DNAPL treatment • When used in conjunction with iron filings, can get 90-95% contaminant removal; • Several applications	• Only penetrate 40 feet bgs; • Infrastructure limited	K	• Is there a suitable application site at PGDP?
Biowalls (reactive)	• 5 field trials • Shown effective for TCE • Uses biostimulation	• Developing technology	K	• Effectiveness of bio process needs to be assessed
Biosparging	• Used to treat dissolved phase plume; • Augment sparging with microbes to set-up reactive bio-wall or zone		K	• Effectiveness of bio process needs to be assessed
Barometric Pumping	• Vadose zone application (VOCs); • Passive technique • Low cost	• Vent VOCs directly to atmosphere • Generally slow removal • Typically applied to high permeability soils	K	• Need to assess effectiveness and suitability at PGDP

PADUCAH GASEOUS DIFFUSION PLANT (PGDP)
SITE SPECIFIC ADVISORY BOARD
ENVIRONMENTAL MANAGEMENT PROJECT UPDATES
April 15, 1999

1. PROJECT: Waste Area Groups 3, 8, 28 and Data Gaps

Summary: Current work on Waste Area Groups 3, 8, and 28 has been combined into one project. Remedial Investigations will be done on WAGs 3 and 28. A Site Evaluation will be done on WAG 8. In addition, this project includes a "Data Gaps" investigation to collect groundwater and subsurface soil samples to supplement existing data.

- WAG 3 includes three burial grounds within the plant security fence, in the western section: C-747 Contaminated Burial Yard (Solid Waste Management Unit/SWMU 4), C-746-F Classified Burial Yard (SWMU 5) and C-747-B Burial Yard (SWMU 6).
- The concern at WAG 3 is potential contributions to groundwater contamination from the content of the burial grounds: natural and slightly depleted uranium, technetium-99 (Tc-99), magnesium fluoride, uranium-contaminated solid waste, security-classified weapons components, radionuclide-contaminated scrap metal, and slag from nickel and aluminum smelters.
- WAG 8 includes: SWMUs 82-85, which are the C-531, C-533, C-535, and C-537 Electrical Switchyards, as well as the C-340 Reduction and Metals Facility, which is inactive and is part of the Decontamination and Decommissioning program.
- The concern at WAG 8 is similar to WAG 28, but the Site Evaluation will first determine whether contaminants have been released.
- WAG 28 includes SWMUs 99, 183, 193, 194, which are locations related to the 1950s construction of the plant, including the C-745 Kellogg Building Site, the McGraw Underground Storage Tank, McGraw Construction Facilities, as well as Area of Concern 204 (potential construction debris area).
- The concern being addressed at WAG 28 is potential contributions to groundwater contamination.

Status:

- Field work for WAGs 8 and 28 began in March 1999, and is on schedule for completion in mid to late summer 1999. Field work for WAG 3 is projected to begin in the early fall.
- Upcoming regulatory documents will be: the Draft (D1) Remedial Investigation Report for WAG 28, scheduled to be issued to regulatory agencies in January 2000; the D1 Site Evaluation Report for WAG 8, June 2000; and D1 Remedial Investigation Report for WAG 3, August 2000.

2. PROJECT: Waste Area Group 22, SWMU 2

Summary: SWMU 2 is the C-749 Uranium Burial Ground in the west-central portion of the plant.

- The SWMU 2 Feasibility Study (September 1998) presented four potential remedial alternatives: 1) No further action other than: continued groundwater monitoring, current institutional controls, and implementation of deed restrictions; 2) In-situ containment with soil cap and subsurface barriers; 3) In-situ containment using low-pressure grout injection with a cap; and 4) Excavation of waste and soils.
- The preferred remedy in DOE's D1 Proposed Plan (October 1998) for SWMU 2 is the "No further action" option. The Kentucky Department for Environmental Protection considers excavation to be the only acceptable remedy.

Status:

- A revised (D2) Proposed Plan is expected to be issued in August 1999, pending approval of the PGDP Land Use Control Assurance Plan in June.
- A final (D3) Proposed Plan and D1Record of Decision could then be issued during 2000.

3. PROJECT: Waste Area Group 22, SWMUs 7&30

Summary: This project includes the investigation of the C-747-A Uranium Burial Ground and C-747-A Burn Area in the northwest corner of the plant.

- The D2 Feasibility Study for SWMUs 7 & 30 was issued to regulatory agencies for review in November 1998, proposing four remedial alternatives: 1) No action; 2) Limited action (installation of additional monitoring wells and long-term groundwater monitoring); 3) Soil cover and groundwater monitoring with additional monitoring wells; and 4) Surface soil removal and groundwater monitoring with additional monitoring wells.

Status:

- EPA has given conditional approval of the D2 Feasibility Study. Final approval is pending review of the Land Use Control Assurance Plan.
- The Kentucky Department for Environmental Protection provided comments on the D2 Feasibility Study in December 1998; DOE responded to the comments in January 1999, with comment resolution pending.

4. PROJECT: Northwest/Northeast Plume Groundwater Systems

Summary: Approximately 358 million gallons of groundwater water have been treated through March 1999 at the Northwest Plume Groundwater Treatment Facility since operations began September 1995. The facility operates under a 1993 Record of Decision to contain a high contamination zone of trichloroethylene (TCE) and Tc-99. Approximately 191 million gallons of groundwater have been treated via the Northeast Plume system since the facility began operations under a Record of Decision in March 1997. The facility operates under a 1994 Record of Decision to contain a high contamination zone of TCE.

Status:

- 8.4 million gallons groundwater were treated at the Northwest System during March 1999, with the facility operational 99.2 percent of the time.
- 8.3 million gallons groundwater were treated at the Northeast System during March 1999, with the facility operational 99.9 percent of the time.
- Bechtel Jacob Company awarded a subcontract to CDM Federal Programs, Inc., effective April 1, 1999, for continued operation of the two groundwater facilities for a 3-year base period. Operational costs have been reduced continuously at the facilities, with further cost reductions expected from the new contract.

5. PROJECT: Lasagna™ Soil Remediation at SWMU 91

Summary: Lasagna is a soil remediation technology already demonstrated at PGDP by DOE and industry partners (Monsanto, DuPont, General Electric), and then selected to reduce TCE levels in soil at SWMU 91 under a 1998 Record of Decision. SWMU 91 is an area of approximately one acre on the west side of the plant once used to drop test empty DUF6 cylinders. Lasagna is an in-situ technology that uses buried electrodes to move water through soil, picking up contaminants. The water passes through buried treatment zones that trap or degrade the TCE.

Status:

- Bechtel Jacobs Company awarded a subcontract February 12, 1999, to CDM Federal for the design, construction, and operation of the Lasagna treatment system at SWMU 91.
- The D1 Remediation Design Report, Construction/Quality Control Plan/Remedial Action Work Plan is scheduled to be issued May 18, 1999.
- The D1 Operation and Maintenance Plan is scheduled to be issued June 3, 1999.
- Construction of the treatment system is scheduled for August 1999, with operations scheduled to begin in October 1999.
- The system is expected to be operated for approximately 2 years in order to achieve targeted clean-up levels.

6. PROJECT: Groundwater Operable Unit/WAG 6

Summary: WAG 6 includes five SWMUs near the C-400 Chemical Cleaning Facility, which is still in operation, and leased by DOE to USEC, Inc. Past operations at the facility resulted in TCE and Tc-99 groundwater contamination. Use of TCE for cleaning equipment was ended in 1993. Following the completion of the WAG 6, 27 and 28 Remedial Investigations, all data will be used to develop a Feasibility Study for the Groundwater Operable Unit, which includes the groundwater plumes themselves as well as the primary sources of TCE and Tc-99 groundwater contamination. Following this Feasibility Study, a Proposed Plan and Record of Decision for the selected remedial action will be developed. The selected remedial action will be designed and implemented after the ROD is signed.

Status:

- A comment resolution teleconference on the D1 WAG 6 Remedial Investigation Report was conducted April 4, 1999.
- The D2 WAG 6 Remedial Investigation Report is on schedule to be issued May 7, 1999.
- The D1 WAG 6 Treatability Studies reports, which evaluate Surfactant Flushing and Chemical Oxidation of the Regional Gravel Aquifer, are under review by the regulatory agencies and other stakeholders. Comments are expected to be received around May 19, 1999.
- The Innovative Treatment Remediation Demonstration process was kicked off February 10-11, 1999, for the Groundwater Operable Unit Feasibility Study. The scope of this process includes a cooperative public-private partnership developed to reduce remediation schedules and costs by accelerating acceptance and use of new technologies. The program coordinates DOE, EPA, industry, and regulatory agencies in evaluating, implementing and validating innovative remediation technologies at selected DOE sites. The second series of meeting with the ITRD Group is scheduled for April 22-23, 1999.
- As part of the Groundwater Operable Unit project, a sonic cone penetrometer drilling method will be tested near the C-400 facility and in the area of the Southwest Plume in June 1999. The test will attempt to penetrate the Regional Gravel Aquifer for the first time with a direct push drilling method. The direct push drilling method excels over other rotary and auger drilling methods in that waste generation is minimized. In addition to minimizing waste, water saturations and contaminant concentrations are not altered since drilling fluid is not used. Direct push drilling is less costly than these other methods, typically taking less time and using smaller rigs allowing easier access. The test will also evaluate a method for detecting the presence and location of TCE Dense Non-Aqueous Phase Liquids (DNAPLs). The method uses a membrane that when contacted by TCE stains red. The membrane resembles a large diameter reactive garden hose that can be lowered and hydraulically expanded in the borehole to define areas with pure phase TCE present.

7. PROJECT: Waste Area Groups 9 & 11

Summary: WAGs 9 and 11 include seven in-ground tanks, vaults and pits at the PGDP. A Site Evaluation was conducted in Fiscal Year 1998 to determine whether any releases of contaminants had occurred. WAG 9 consists of the C-722 acid neutralization tank, off the northeast corner of the C-720 maintenance facility; the C-712 acid neutralization tank, off the southwest corner of the C-710 laboratory; the C-616-L Pipeline and vault soil contamination area; and the C-729 Acetylene building drain pits, just east of C-720. WAG 11 consists of the C-410-B hydrofluoric acid (HF) neutralization sludge lagoon; the C-410-E HF emergency holding pond; and the C-410-C HF neutralization tank.

Status:

- The D1 Site Evaluation Report was issued December 23, 1998, recommending: 1) no further action for WAG 9; and 2) performance of a risk assessment for WAG 11.
- Any actions beyond these recommendations would be deferred to the Surface Soils Operable Unit project.
- The Kentucky Department for Environmental Protection provided comments on the D1 Site Evaluation Report on March 26, 1999, and these comments are being addressed.

8. PROJECT: Waste Area Group 23/PCB spill sites

Summary: WAG 23 consists of eight SWMUs inside the PGDP security fence, and one outside the fence, located near the C-611 Water Treatment Facility fence on DOE property. Past use of PCBs and subsequent accidental spills and leaks of oils that contain PCBs caused the surface soil contamination at these SWMUs. Excavation of approximately 175 cubic yards of contaminated soil at several PCB sites was completed in late 1997 and early 1998.

Status:

- A D1 Proposed Remedial Action Plan recommending No Further Action was submitted to regulators November 6, 1998. EPA provided comments, dated December 17, 1998.
- A Residual Risk document and explanation of average concentrations calculations were provided to the State on February 18, 1999.
- State comments on the D1 Proposed Remedial Action Plan were received April 14, 1999.

9. PROJECT: Waste Area Group 27

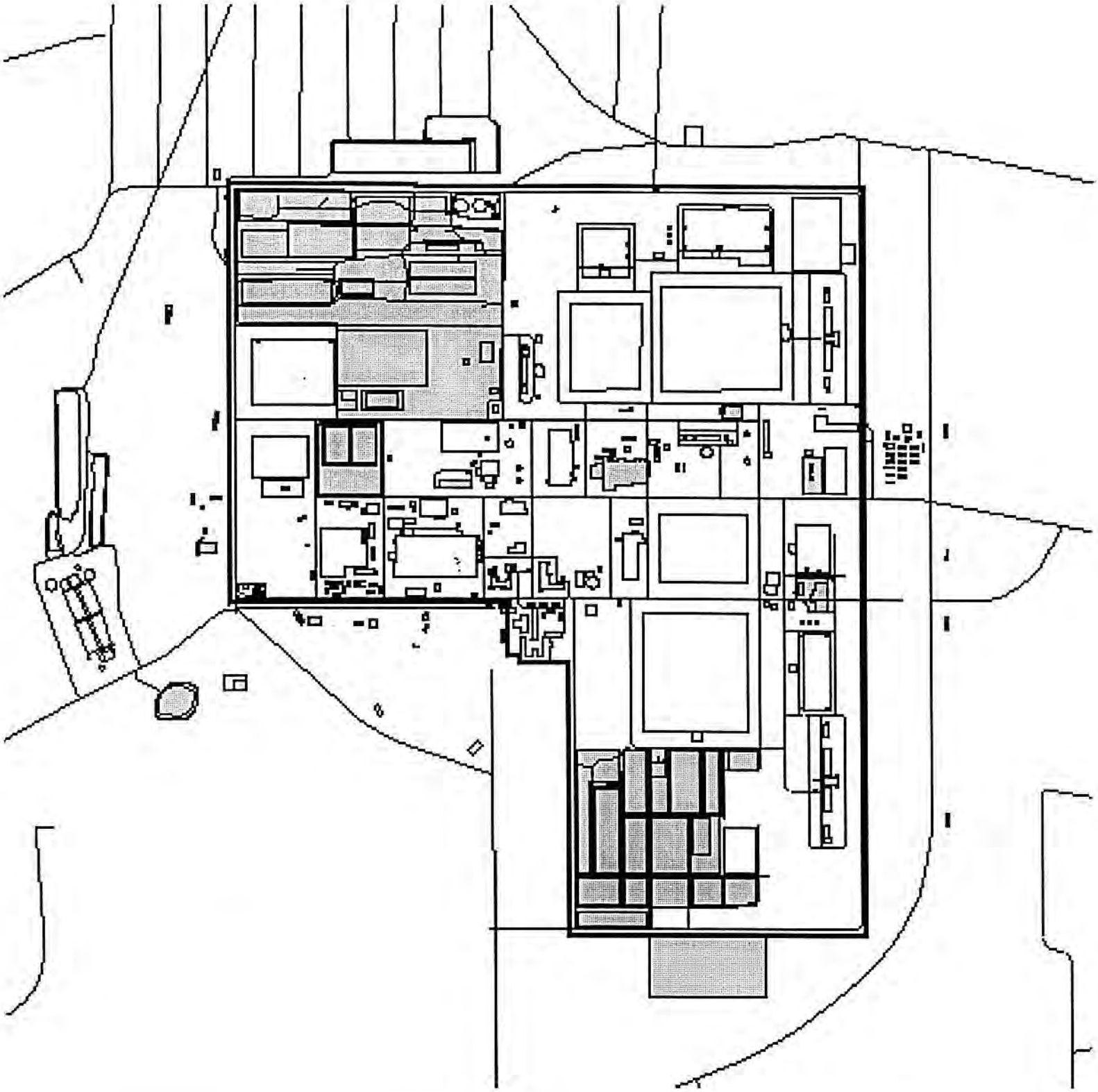
Summary: WAG 27 consists of potential or known sources of TCE on the west side of PGDP suspected of contributing to groundwater contamination. WAG 27 includes the C-747-C Oil Land Farm, SWMU 91 (the cylinder drop test area), SWMU 196 (C-746-A warehouse septic systems) and the C-720 maintenance facility.

Status:

- Issued D1 WAG 27 Remedial Investigation Report December 23, 1998.
- EPA comments were received March 31, 1999.
- State comments were received on April 5, 1999.
- D2 Remedial Investigation Report is scheduled to be issued by June 4, 1999.

10. PROJECT: Surface Water Operable Unit

Summary: The Surface Water Operable Unit includes the Big and Little Bayou Creeks, all Kentucky Pollutant Discharge Elimination System (KPDES) outfall ditches, and the primary source areas potentially contributing to contamination in these locations, including: past releases from C-333A and C-337 vaporizers and the switchyards, and sediment from plant storm sewer systems. Primary contaminants of concern are PCBs and radionuclides with metals as a secondary concern.

Status:

- Issued the D1 Scoping Document to the regulators March 29, 1999.
- Data Quality Objective meetings were conducted April 14-15, 1999, with the regulators and representatives of the Kentucky Fish and Wildlife Resources Department, and U.S. Fish and Wildlife Services.
- The Risk Assessment for the Surface Water Operable Unit is scheduled to include a baseline human health risk assessment and a comprehensive baseline ecological risk assessment.