PADUCAH GASEOUS DIFFUSION PLANT
CITIZENS ADVISORY BOARD

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Paducah Gaseous Diffusion Plant Citizens Advisory Board
Waste Disposition Subcommittee Meeting Summary
October 18, 2012

The Waste Disposition Subcommittee met at the Environmental Information Center (EIC) in Paducah, Kentucky on Monday, October 18th at 3:00 p.m.

Board members present: Ralph Young, Judy Clayton, Dianne O'Brien, Ken Wheeler, Kyle Henderson, Richard Rushing, Ben Peterson, Jim Tidwell, and Tom Grassham

U.S. Department of Energy (DOE) and contractors: Rob Seifert , DOE; Elizabeth Wyatt, Eddie Spraggs, LATA KY; Jay Beech, Stephanie Fountain, Geosyntec; Yvette Cantrell, RSI; Eric Roberts, Jim Ethridge, EHI

Waste Disposal Options Educational Session

Roberts started by explaining that this would be a general overview of the WDO project.

Seifert gave the presentation titled "Waste Disposal Alternatives Educational Session", October 18, 2012.

- History of PGDP
- Significance of Plant Size
- PGDP Regulatory drivers
- DOE EM Waste Disposal Background
- Background of Waste Disposal Alternatives at Paducah
- Projected Waste Types for Disposal
- WDA CERCLA Project
- What is CERCLA?
- The CERCLA Process at PGDP
- Current WDA Project schedule
- CERCLA Decision Process for Waste Disposal Alternatives
- Current Waste Disposal Facilities

Young: All this stuff out there has to get torn down and put away safely someplace.	**Seifert**: That's right. The basic assumption is that we will completely tear down everything at the plant. One thing that we are doing is to consider other options that will run in parallel with this decision. The WDA is considering all the buildings, materials, waste, at the plant. The reality of the situation is that we are also in talks with the community asking if they can use any of

	these facilities. We are also looking at recycling anything we can. It only makes sense that we consider a waste cell with the capacity to hold everything if needed.
Wheeler: Rob, could you talk about where Paducah stands in the larger scope of cleanup activities nationwide?	**Seifert**: DOE looks at all sites across the country to determine how much funding each site gets.
Tidwell: Assuming a good flow of funding has there been any timeline set for closing down this facility?	**Seifert**: Yes there has. We have a plan to have the remediation activities completed by 2019. We are renegotiating that date due to changes in funding.
Tidwell: So I take it you are assuming that some of these facilities will never be used again. And we could proceed right along with those, and hoping that maybe some of the facilities could be continuously used for a short time.	**Seifert**: That's right. And that's why we are trying to engage the community even before we get the facilities back. We are getting close to the end of our D&D work and closer to the shutdown of the facility by USEC. At that point we will have to renegotiate our entire site strategy with the regulators to take into consideration all of the leased facilities as well.
Wheeler: I would like to dwell just another minute on the national status compared to Paducah. I think it would be important for the group to understand what our relative expenditure of funds or some measure of relative significance in our overall cleanup activities across the country.	**Seifert**: We only compete for funds with Oak Ridge and Portsmouth. Oak Ridge is nearly at the end of their demolition. Portsmouth comes next and then Paducah.
Wheeler: I think it is important for everyone to understand that we are just a piece of a much larger picture.	
Clayton: Does this also include the Burial Grounds?	**Seifert**: Yes. **Wyatt**: We looked at a range of waste volume. **Seifert**: It would be cost effective to build a cell more to the size that you need for everything.
Clayton: Have you considered smelting to reduce the size of the waste volume?	**Seifert**: Yes. We are considering size reduction, foaming, as well as other things. **Wyatt**: One advantage of going after Oak Ridge and Portsmouth is we can use all of their lessons learned.
Wheeler: There have been several comments this last year regarding the final size of the other CERCLA cells compared to the initial estimates.	**Seifert**: I'm assuming you are talking about Oak Ridge.
Wheeler: It was indicated to me as being universal.	**Seifert**: Oak Ridge had initially designed a cell with a certain volume in mind and when they got into the execution they realized volumes were greater, contaminates were greater, so they needed additional capacity, so they had to go back and negotiate more. That's part of why we wanted to have the range in ours to be able to say based on the information we have now, we could be as low as, or as great as. We tried to be as conservative

	as we possibly realistically could. We considered things expanding or additional fill material, additional soil we would have to put in, in addition to some of the process equipment because you don't want a piece of metal sticking out that could damage the liner or cap. We have considered the greatest volume that we would need based on our experience with Portsmouth and Oak Ridge, and what we have in our own waste volume inventories.
O'Brien: Have you pursued companies like Spencer (?) Steel?	**Seifert**: We have not considered any specific group like that. In some of the ongoing work we have considered recycling or reuse of some of the materials. We did look at the regulations that would be associated with potential recycling for the RI.
Peterson: Do we have a good idea of how much of each material we have? Metal right now is one of the more valuable, do we know how much we have of each kind of metal? In case we do get to the point of being able to market it.	**Seifert**: We do have estimates.
Coleman: You mentioned the date of 2019; does that mean that this plant will be totally, completely shut down by 2019?	**Seifert**: No sir. The long range plan that we currently have is to have the plant shut down and cleaned up by 2040. The 2019 date is for plant pre-shutdown cleanup activities.
Wheeler: Are any of the sites able to reuse any of the concrete at all?	**Seifert**: Yes, we have in the past. We took down two water towers in the Wildlife Management Area and were able to contact a vendor to pick up the concrete and rebar for reuse.
Tidwell: What did they do with the concrete?	**Seifert**: A lot of it goes on roads.
Tidwell: Why is all this stuff still at the plant? When it is no longer useful, couldn't we have disposed of it at that time? Sell some of it off?	Seifert: USEC is a for profit company. Their lease allows them to leave personalty on site. Personalty is defined as material that can still function as it's intended use.
Tidwell: I'm just saying that stuff shouldn't be just sitting there. Why can't we make it be gone now?	**Seifert**: The reason is that right now it is not ours, it's USEC's.
Coleman: A lot of the people I talk with, some work at the plant and some don't, one of their concerns is what role will current employees have as we move towards closing the facility. Will current employees be utilized in any of this process?	**Seifert**: I am assuming you mean the USEC employees. USEC is a private company and they have to make business decisions such that when a plant shuts down, employees get dispositioned in a number of ways. The Department doesn't get involved in USEC's business decisions along those lines. When the plant does shut down, the Department will have a new mission, which is to do something with the plant. That will require additional resources than the currently have. There will be new opportunities for employment in DOE's new mission.
Coleman: You mentioned 53 sites. How many of	**Seifert**: I'm really not sure.

them are already closed?	**Cantrell**: We can get that from Lexington. **Roberts**: We are going to capture that question. **Wyatt**: Lexington management has a good web site we can get that information from. **Cantrell**: In 1996 there were 118 sites original EM sites. Of those most were really small, so 10 I think were the bigger sites like Idaho, and Savannah River.
Peterson: Could you spend a little time about how does the CAB fit into this timeline here (slide 12)? Since I have been on the CAB, we have been *about* to make a decision on this and seemingly we end up back in this room talking about this again because we keep having turnover so we never make a decision. Where are we at in that?	**Seifert**: First of all, that's a very fair point. We have been on the edge of making a decision for a very long time. I know you have made visits to some of the other cells in the country. We are working closely with Portsmouth to make sure we are as consistent as we can be in making decisions. **Cantrell**: The CAB can make a recommendation at any time in this process if they feel they have enough information to make a recommendation. A couple of years ago a subcommittee asked us to not present any more information until we were closer to having this RIFS was submitted, because we kept adjusting things. We decided when the D1 of the FS was presented, we would ramp things back up. **Roberts**: Part of the job of the CAB in this process is to bring the concerns of the community into consideration. The CERCLA process is the same for the DOD as it is for any other agency, and the CAB's recommendations during that process have been implemented. Recycling has been considered and will be used as much as it can be.
Peterson: Part of my frustration is really confusion. Who and when is the decision made for (a) are we even going to have a cell or not and (b) where will it be located, and (c) what is going to go in it? Just simple questions without getting too technical.	**Seifert**: Excellent question? There is significant sensitivity to being pre-decisional. The process requires itself to be paid attention to. I understand the frustrations of having to get through the technical stuff to get to a simple answer.
Tidwell: Would the cell be on site?	**Seifert**: Yes, the cell would be on site.
Peterson: That's the decision that hasn't been made yet. Are we going to have a cell on site or not.	**Seifert**: Right. The decision itself is required by the process to be mutual between DOE and the regulators. **Beech**: EPA and Kentucky take into consideration everyone's comments too. **Seifert**: This is what DOE does too. There is a section in the Record of Decision where we have to address the significant comments.
Peterson: While we can make comments throughout the whole process as a CAB, the most likely place is after the Proposed Plan is	**Cantrell**: Actually we talked a little bit about this before at the CAB. That's the formal public comment. The CAB is a little bit different than

submitted?	the general public. The point is for you to be involved in this process. What we've talked about before is a logical place for the CAB to make a decision about an alternative selection for anything is when the FS is done because that evaluates all the alternatives. So through this period you learn about the project, learn what's being considered. You look at the FS and say here is all the alternatives based on our knowledge and our discussions with DOE and the regulators. It is we make this recommendation. You can comment in the process earlier, and that's kind of the point, to give you more freedom to help us with deciding. The CAB is intended to have more freedom and make comments all during the process.
Peterson: So currently we are at D1, and the regulators are reviewing that and hopefully are providing comments any day now. So once we have their input to consider as well, we need to be starting our process.	**Cantrell**: Yes.
Young: One of the things the Executive Committee has kicked around was to establish some core values that the CAB would have in their heart that said whatever this decision says or does or decides it needs to have these core values that we have. And just as an example one of the core values is the location of a cell, if we go that way, should not take priority over, say a site on the plant that would we ideal for reuse or a plant or something like that. So the priority would be for adaptive reuse of that location on the property versus no you can't have that because the cell's got to go there.	**Seifert**: And that's part of what you will have the opportunity to comment on in the Proposed Plan. If the onsite landfill is selected, along with that would be a proposed site for the landfill. Not only would you be able to weigh in on whether or not to have the cell, but also to comment on its location.
Young: Their process looks at risks and this location might be the safest place to put it but no, it's also the best site for a new plant or operation, so we said let's go with plan B to put it here. It may not be the safest place on the location because of groundwater and other stuff, or maybe it costs a little bit more, but it's what the community feels. **O'Brien**: And another thing about addressing risk, it's one thing to have concrete pads that you blew up over here that are not exposed, it's another thing to have the center of those cascades and say we're going to stick that out here in a landfill. I have an obligation to ask if we put this cell over by the river and we have a big earthquake, what kinds of things could happen tomorrow? And I hope that's the kind of things	**Seifert**: Yes, it is. In the evaluation, not only for the onsite, but also the offsite alternatives, we had to consider the risk factor. A lot of the modeling that took us so long, was to effectively those alternatives, not only in terms of can it be built, but can it be built effectively, or can we ship it offsite safely. All the different areas of evaluation were considered with risk in mind. Any alternative that we consider has to be safe and compliant. If it isn't, it doesn't make it to the next round.

you put into your equation.	
O'Brien: You're telling me you can build an apparatus that can check and keep things from happening in the future?	**Seifert**: In the modeling we did, we modeled out thousands of years into the future. No one has a crystal ball to predict exactly what is going to happen, but to the extent that the modeling experts could predict, those are the kinds of things they took into consideration looking at the long term effectiveness of a CERCLA cell. **Fountain**: In terms of long term effectiveness, there's also a regulatory component that comes in as part of the CERCLA process, the five year review period. So every five years, the regulatory agencies will take a look at the remedy and the current situation. So it is just another check to make sure everything is going as planned. And that's another opportunity to take a look and see if there needs to be further corrective action. **Seifert**: That's in addition to real time monitoring that would be in place. Every five years we are required by law to evaluate the effectiveness of that. **Beech**: At Lexi Management on their web site, there is data on other sites on how they are performing. With that you have a benchmark to see if our facility is performing as well as others.
O'Brien: I read that at another site, Sandia I think, they had gone in and changed the standards of what goes in, and that is troublesome to me.	**Seifert**: Any time that you are reevaluating, you discover something that could not have been known. That's why we try to build as much flexibility into this analysis as possible. Our hope would be that we would not have to ask for more space. **Wyatt**: As far as are we going to have the cell or not, that is what this FS did. It looked at the alternatives and said are you going to be safe offsite, check, are you going to be safe onsite, check, you going to be safe with no action, check, and then you go through each of these nine criteria, and as long as each of them all have check marks beside them, if there is one that is different, that is the one to focus on, and that would be the discriminating criteria. So that is where you take the alternatives that you look at, and that is what you would base your decision on. Again the FS didn't make the decision.
Peterson: Again, the difficulty for us would be that is what *you* would base the decision on because of the technical feasible stuff, but when we think about the community, and potential locations and some of that, hopefully we consider a much bigger picture and a much larger look than possibly an engineer would , or a regulator would,	**Seifert**: We assumed what the projects assume. We are not assuming that every burial ground gets excavated. **Wyatt**: When you see burial grounds with volume listed beside it, that's just the burial grounds that will get dug up. You mentioned going to a burial grounds meeting so you are

that are looking at certain criteria. I guess the other part that gets confusing after a while, when we talk about a CERCLA cell and how that fits in the overall site and the reuse, we talk about ranges of cubic yards assume every burial ground will be excavated. When I go to a burial grounds meeting, I hear we are talking about the most likely scenario for some of those will be to cap them in place and the material will be left there and will just be monitored.	aware that that project is constantly changing right now. **Seifert**: We spend a lot of time talking about the onsite alternative, and it almost seems pre-decisional. The reason you hear about the onsite stuff, is because the offsite stuff has already gone through this process. They have already gone through the analysis that we are doing. So we have the benefit of just saying we can send it there. In order for us to make a decision, we have to bring up our onsite knowledge so we are able to compare apples to apples with the offsite alternatives that we currently have available to us. Equally important are the offsite alternatives as the onsite ones. We have Utah, Nevada, and Texas facilities that we could ship to, but you are looking at anywhere between 1,000 and 2,000 miles of transportation between here and an offsite facility. These other sites are open to the nation, not just Paducah, and they are a finite resource. Other considerations would include dealing with the Department of Transportation, each state that the shipment would travel through, as well as the site's waste acceptance criteria. No one wants someone else's waste in their back yard. The only ones that do are the companies that will profit from it. Utah and Texas sites are run by a private company. Nevada is a federal repository for waste.
O'Brien: With all due respect, Paducah enriched uranium for the whole country.	**Seifert**: That is a good point. I was just letting you know that one of the challenges for this is the fact that there are other stakeholders that are bringing things to bear. As we consider the offsite alternatives, there are obvious benefits to it. They already exist, we can ship them right now, they have space available, and they have the waste acceptance criteria to accept it. It is' an easy off the shelf type of thing to do. The risks go up as you package and ship. There can be a traffic accident during shipment, as well as, it would be a risk to us if they don't handle the waste properly that we send to them. The main thing that I wanted to get across to you with this map (slide 14), is what offsite options we have available, and that we did equally consider the offsite as well as the onsite alternatives.

Roberts: We are two hours in and I want to recap where we are. One: there is 3.6 million cubic yards of waste, buildings, burial grounds have been identified that are going to come up, and they are going to be disposed of somewhere. The question becomes where that site will be. To help DOE and EPA make that decision we are going through a formal regulatory process. As stakeholders we provide

input. To help make the decision there are nine benchmarks. The first is safety and health of the environment. If it doesn't get through that, the option of an onsite location is taken off the table. We know that somewhere along 2013 they will come out with a Proposed Plan. To get there they will be discussing with EPA and the state all kinds of things. It seems best for you guys to get involved early and provide input and feedback to let them know if you are OK with this.

Clayton: Are we going to resume this at a later date then?

Roberts: It is up to the Board. I don't think we are ready to go to the Public Meeting yet, because there are still 45 slides to get through to give everyone a thorough understanding of the project.

Cantrell: I don't think we need to wait very long before having another session to continue this because you will lose context. We also need to explain some of the non-evaluative criteria concerning this project, like future use.

O'Brien: Employment is a big consideration. The more hazardous waste that you leave out there that puts off people that might come out there and use that site.

Cantrell: What I mean is that is subjective. During the Public Meeting we will go over the nine criteria that were used to formally evaluate the FS. What we will discuss next are those things that are subjective.

Clayton: This piece that we asked DOE to make, an explanation of the design and the safety factors included. I really think that that is an important piece that this CAB needs to understand.

Seifert: Yes. We wanted to make sure everyone was on the same page with the information.

Clayton: We went to Oak Ridge and Frenald, and we got to actually feel the liner material and see more about the construction of the cell.

Cantrell: We have samples of those kinds of things and we can provide them and talk about that sort of thing in the next session. The first question would be does the CAB feel like we need to have another session to prepare for the Public Meeting. The second thing is that there was a request to take an onsite tour of the proposed sites.

Rushing: In the rest of the presentation are there statistics on cost?

Cantrell: In this presentation there are not, because the dry run of the workshop is the evaluation of the FS which is all of that detail.

Rushing: The reason I asked that, since I have been a member here we were given statistics on the cost to put this in the ground, here or in those offsite facilities, and I just thought that night we assumed the cost was so overwhelming to go offsite, nobodies going to approve that. The flip side of that coin is the people we represent are going to say "I don't want that 40 acre landfill, 80 feet high sticking up out here", and you'll never locate an industry here if you do that. But that is not going to override the amount of money that it is going to cost to ship it out west, in my personal opinion.

Roberts: I'm sensing from you guys that you want to do another session and get into more details about the project. We will also look at setting up an onsite tour.

Rushing: That Federal agreement on land. I know that's been in effect for billions of years, but the thought crossed my mind, when all of this goes back to DOE, and they are owners of everything out there, after it is cleaned up or whatever, what it they put a yellow tape around it, padlock an 18 foot high fence and say "Closed, No Trespassing" and leave it like it is?

Seifert: The FFA stays in effect. The Federal Facilities Agreement is our regulatory framework through our mission. We already have a post-shutdown consideration in the FFA. What we do is all under the auspices of the FFA.

Rushing: Who would come after DOE if you don't do anything? The government is suing the government.

Seifert: The state of Kentucky. The state has authority to force cleanup action on DOE if they don't like the way things go.

Roberts adjourned the session.

Action Items:

1. Question to be answered: How many DOE sites have become closure sites?
2. Collect additional questions and comments by October 26, 2012, and submit to be answered. (see Attachment)