



PADUCAH GASEOUS DIFFUSION PLANT CITIZENS ADVISORY BOARD

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Paducah Gaseous Diffusion Plant Citizens Advisory Board Meeting Minutes October 21, 2010

The Citizens Advisory Board (CAB) met at the Environmental Information Center (EIC) in Paducah, Kentucky on October 21, at 6:00 p.m.

Board members present: Judy Clayton, Chair; Ralph Young, Vice-Chair; Robert Coleman; David Franklin; Mike Kemp; Maggie Morgan; Kevin L. Murphy; Ben Peterson; Elton Priddy; Ronnie Rathman; May Louise Zumwalt

Board members absent: John Anderson; Shirley Lanier; Dianne O'Brien; Alex Roman; Mark Sullivan; Don Swearingen

Board Liaisons and related regulatory agency employees: Gaye Brewer substituting for Ed Winner, Kentucky Department of Waste Management (KDWM).

DOE Manager Portsmouth Paducah Project: William Murphie

DOE Deputy Designated Federal Official: Rob Seifert, Department of Energy, substituting for Reinhard Knerr

DOE Federal Coordinator: Buz Smith

Facilitator: Eric Roberts, EHI Consultants

U.S. Department of Energy (DOE) related employees: Bruce Gardner, LATA Kentucky (LATAKy); Sarah Bynam Roman, LATAKy; Eddie Spraggs, LATAKy; Scott Smith, Swift & Staley; Suzanne Clinton, EHI Consultants (EHI); Greg Felts, EHI; Loretta Aversa, DOE; Greg Simonton, DOE

Public: Johnny Clayton

Introductions

CAB Chair, Judy Clayton called the meeting to order at 6:05 p.m. **Roberts** welcomed everyone and noted that, because there was no FFA meeting, many of the regulators are not present and that, due to the absence of Sapere Consulting, he will be acting as facilitator.

Roberts called for round-table introductions. **Roberts** then reviewed the agenda, the scope of the CAB, stated fifteen minutes are allotted for public comment and that members of the public

must sign in to speak. Because some CAB members must leave early, and a two-thirds majority is required for some items, it was agreed that administrative issues would be moved to the top of the agenda.

Administrative Issues

- **Operational Protocols--Vote**

- **Student Liaison**

Morgan reviewed that CAB members learned at the spring Chairs Meeting in Oak Ridge that other boards utilize a student participant and decided at that time to implement such a program in Paducah. Subsequently, **Morgan** recruited Mike Kemp to suggest a Murray State University student that would be a good fit to act in that capacity for the Paducah CAB in an effort that would benefit both the CAB and the student as that student moves forward with his or her career.

The protocol reads:

Operational Protocol Establishing Student Participant Program

This protocol is written to establish a student position on the Paducah CAB. It is hoped that a student participant on the CAB will:

- *Bring additional perspective to the mission of the CAB.*
- *Perform various duties as assigned that will aid in the flow and progress of meetings.*
- *Provide input to subcommittees.*
- *Become familiar with the clean-up process at the PGDP, the mission and work of the CAB, and, when possible, act as community ambassador for the CAB.*
- *Gain technical and practical knowledge that will be helpful in their education and future career.*
- *It is hoped student members will consider serving on the CAB as a regular member once their student term expires and they complete their education.*

The student position is established with the following guidelines:

- *Students will be recruited from either University of Kentucky at the West Kentucky Community and Technical College (WKCTC) Campus or Murray State University (MSU). Student must be willing to commit to one full year of participation, beginning in October of his or her junior year. CAB members and staff will work to develop relationships with college faculty who can recommend students that would be good candidates for service on the CAB. If possible the CAB will attempt to rotate between WKCTC and MSU when recruiting students for service.*

- *The student must submit a written request expressing a desire to participate on the CAB, the reason for interest, outline of their course of study, any experience, and contact information. Other pertinent information may also be included. The student must have a letter of recommendation/endorsement from a professor.*
- *Student applications will be reviewed and approved by the Executive Committee. If the Executive Committee approves, the chair of the Board will submit a written request (i.e., e-mail) for consideration to the Deputy Designated Federal Official (DDFO).*
- *The student will be expected to attend monthly board meetings, typically held the third Thursday of each month in Paducah.*
- *Student will be assigned an active CAB member to mentor them and will always sit next to their mentor at CAB meetings.*
- *The student will be required to play a role at CAB meetings such as running the public comment period and introducing members of the public who have signed up to speak or other duties as assigned.*
- *Student participants are not full members and cannot vote in board meetings but can vote in subcommittee meetings.*
- *The student must join a CAB subcommittee and will be encouraged to play an active role within that subcommittee.*
- *The student may present and lead discussions at board meetings during approval of recommendations from subcommittees, participate in public workshops, and, with approval, travel to meetings/trainings.*

Roberts polled each board member on the Student Liaison Operational Protocol.

UNANIMOUSLY APPROVED

- **CAB Sponsored Participation in Leadership Paducah**
Clayton noted that Board members felt that the CAB could benefit from sending select CAB member(s) through the Leadership Program. The protocol also outlines expectations for what the CAB would receive from the sponsored member in return.

The protocol reads:

***Operational Protocol on Requirements for CAB sponsorship
For Chamber Leadership Program***

Background

Established in 1984, Leadership Paducah is a program through the Paducah Area Chamber of Commerce www.paducahchamber.org to develop the leadership potential of men and women in the Paducah/McCracken County Area. The program is self-sustaining through tuition, corporate support, and in-kind contributions. Leadership Paducah is designed to foster an in-depth

understanding of the inter-relationship and complexities of the Paducah/McCracken County area through a series of face-to-face discussions with community and state leaders.

Program

The program consists of nine monthly sessions beginning in September of each year with a weekend orientation retreat and ending in June with graduation. Each day-long session deals with a broad topic that is explored through speakers, discussions, field trips, and other activities. A minimum of 20 “volunteer points” must be earned through participation in community events. Leadership Paducah requires a serious commitment of time and energy and graduates must agree to continue and strengthen their community involvement.

Tuition

Program tuition is \$1,000 for Chamber members. Tuition covers all costs for accommodations at the orientation retreat as well as monthly breakfasts, and class materials.

Application Deadline

Usually early May of each year.

Expectations for CAB Sponsored Leadership Class

- *Review of CAB Executive Committee*
- *Expectation of sponsored member to meet all Leadership graduation requirements (i.e., amassing volunteer points, etc.)*
- *Commitment from sponsored member to act as a nominee for the chair of CAB subcommittee and serve on Community Outreach Subcommittee.*
- *Commitment from sponsored member to act as an ambassador at leadership functions and, whenever possible, to increase awareness of the CAB’s function and mission in the community.*
- *Sponsored member must be an active board member attending 10/12 meetings per year.*

Roberts polled each board member on the Leadership Paducah Operational Protocol.

UNANIMOUSLY APPROVED

- **Recruiting Members**

The protocol reads:

Operational Protocol for Recruiting Members to Serve On the Citizens Advisory Board

Potential members may be recruited by CAB members or DOE

The Executive Committee will review all applications.

The Executive Committee will forward candidates' applications to DOE, Paducah Office for consideration.

DOE site management will evaluate each candidate and decide whether to nominate the candidate to EM-1 for appointment.

It is recommended that potential candidates
Attend at least 1 subcommittee meeting as an observer.
Attend at least 1 full board meeting as an observer

New members will be paired with a seasoned member for the purpose of mentoring.

All candidates who have gone through this process and are in excess of 18 authorized positions will be placed on a waiting list and may be nominated for appointment by EM-1 should a position become open. Candidates who are not appointed in the near term for membership may have their applications retained for the next recruitment cycle. In the meantime, candidates on the waiting list may be utilized at subcommittee level as an active member.

Roberts polled each board member on the Leadership Paducah Operational Protocol.

UNANIMOUSLY APPROVED

- **Board Retreat Overview – Clayton** gave a presentation entitled, “PGDP CAB Retreat Overview”. All presentations are available on the CAB Website at www.pgdpcab.org. **Roberts** reported staff has received some indication from headquarters that Subcommittee meetings may soon fall under FACA guidelines i.e., noticing, etc.
 - **Work Plan**

Roberts stated the Work Plan is largely as it was developed with most CAB members. One change to note is that an Ad Hoc Subcommittee has been added subsequent to the original document on page 10:

Ad-hoc Committee Name	Description	Term
1)Southwest Plume Ad-hoc	A timely investigation into a proposed path forward for remediation of Southwest Plume sources.	Target reporting date: November 18, 2010 CAB Meeting

The Work Plan is available for review at the CAB Website:
www.pgdpcab.org.

- Elections, Chair & Vice-Chair

Priddy nominated Judy Clayton to serve as CAB Chair and Ralph Young to serve as Vice-Chair during the upcoming year.

UNANIMOUSLY APPROVED

Deputy Designated Federal Official Comments

Seifert presented project updates to the Board. All presentations are available on the CAB Website at www.pgdpcab.org.

Question/Comment	Answer
<p>Morgan: I assume as you are doing this process--as you're monitoring your TCE amounts and effectiveness-- if you can tell us you removed 530 gallons, how do the concentrations now compare to what they were before? How much has it lowered?</p>	<p>Seifert: That's an excellent question. You're still going to have dissolved phase. I don't believe we were expecting to see drastic reductions in concentrations. As long as there is still DNAPL down there, that's the concentrated part; the water is still going to flow over it and you're still going to get consistent dissolved phase concentrations.</p>
<p>Morgan: Are you evaluating something else as the major source if you've only removed 530 gallons? Is there a potential that maybe that wasn't the source?</p>	<p>Seifert: Again, another great question. We think that what we're finding right now is that we've probably way over estimated the volume of DNAPL that exists there. I believe I saw that we were originally estimating 20,000 gallons or more and what we're finding is that is likely a very inflated number. I don't have information right now on what the actual volume might be.</p>
<p>Morgan: Are you looking for something else as a source that is affecting the groundwater?</p>	<p>Seifert: The C-400 is still considered our primary source of TCE contamination in that area.</p> <p>Murphie: One of the biggest challenges for us right now is to go back and review the data on what really is there. Clearly the analysis we've used previously to estimate the quantity of DNAPL down</p>

there appears to have grossly overestimated the amount actually present. We are working with the State and EPA to figure out a better technique to get more accurate data on what is really down there. Since the data points to a smaller quantity than we'd thought, we are of course going to take a different approach than if the data had reinforced our original estimates. We're going to go back in and take more samples and see if we can correlate that data back to what we're finding is actually down below. We'll also see if we can extrapolate that to the other areas as well. You've really put your finger on the heart of the problem which is: what is left there and what was there in the first place? That's really what we've got to get the data on. Was there really a massive amount of TCE there or were there just a few hundred gallons?

Morgan: You mentioned that the temperatures in the RGA are not reaching the necessary sustained temperature because, potentially, the flow is too high. How does that affect the way you've modeled where these leaks are going? Does that mean it's getting to the river faster?

Seifert: The flow rates certainly do affect a lot of things. We have wells that go from our site that stretches to the river. We have data stretching to the river. We have a high level of confidence in the direction the plume is taking and this has remained fairly constant in terms of the flow pattern of the water since the early 1990's. The flow rate that we originally estimated was about a foot per day; now we are looking at about three feet per day in terms of flow. So, significantly more. At the same time, in the geological scheme of things, it does make some difference, but not so much it would call into question the actual flow pattern.

Morgan: In light of the fact that the plume is likely to be advancing at a rate of three feet per day, how can you be sure you don't have large amounts of TCE off-site? Obviously, when it gets to the Ohio it will

Murphie: The concentrations on the maps are independent of the flow so the fact that the concentration might be 500 parts/million in that one area but whether it's flowing at one gallon or five gallons,

be greatly diluted...

Morgan: When I deal with water quality, we deal with “loads”. What is the entire “load” entering the water body? Without a better quantification of the flow, we can’t estimate a load that’s going into the river. I totally get the dilution factor. But it would be nice if we could estimate that. Is it possible to estimate flow that far down?

Young: Would that increased flow rate indicate that, going forward, you need to have more probes in the ground? In other words, more “power” in the ground?

that’s still the active concentration. The quantity of TCE that’s getting into the river would be in direct correlation to the flow times the concentration so the consequences would be higher, but the concentration would still be the same. The one thing you have to keep in mind is that it’s not a homogenous system. It’s not like everything is equal from the plant all the way out to the river. The fact that we have a uniqueness potentially of where this one area is it could be going anywhere from one to five feet a day doesn’t mean it’s five feet per day all the way out. There is a tremendous amount of variation beneath the ground. We could be in an area that is “fractured” a bit more; we could have a “fast path”. It’s a guessing game when we are trying to determine what’s going on 120 or 150 feet below the surface. It may not be totally fair to say that “all” of the flow rates are inaccurate.

Seifert: These are great questions and I would certainly encourage you along with your subcommittee have these more in-depth conversations with the project manager.

Seifert: That’s exactly what’s been suggested. It is certainly something we’ll be considering. We’re trying to answer the questions why did this happen and what do we need to do about it? We want to be thoughtful in evaluating the answers to these questions before we move on to Phase 2.

Murphie: Right now we’re spending about \$10,000/day in electricity costs. In order to compensate for the flow, we’d likely have to double or even triple the

Clayton: I'm wondering if this year's drought conditions are having any bearing on the situation?

Morgan: Is there a time frame for making these decisions?

number of probes and heating elements in the ground.

Seifert: I don't have any data that would indicate that is a factor one way or the other. Again, these might be questions best answered in your subcommittee meetings with the project managers. What we're trying to do is avoid spending more money on a remedy that isn't hitting the mark. Do we need to make changes to the current system? Explore other technology? We're pausing now to try and get these questions—the right questions-- answered.

Murphie: We always knew this was going to be a tough situation to remediate which is why we're doing the project in two phases. In hindsight, it may have been better if the technology had been designed to handle much higher flow rates. It would also have been much more expensive. We shouldn't lose sight of the fact that the technology worked successfully in other places. We started in a smaller area so we could gauge its success before we expanded into the larger area, the southeastern area (Phase 2), at a much greater cost. This gives us a chance to get back with the regulators and think about what the alternatives are.

Murphie: We're looking in the next few months at trying to punch some sample holes and get some additional data and get it analyzed. The real question is how long is it going to take to make an alternative decision? It was a tough decision to go in this direction to begin with. It's an extremely difficult process to try and get DNAPL out of the ground, sitting, as it does, on the bottom layer of the interphase, it's a an extremely difficult prospect to try an extract it from

Clayton: I'd just like to reiterate that this did not show up in the ground until we had a severe drought back in 1988(ish). So—back to my original question—I'm wondering what kind of effect the current drought is having on this situation?

Morgan: I know you were trying to reduce risk through this process, but it seems to me you've identified another risk based on the increased flow. I know that people aren't getting their water out at that point or downstream, but it seems to me the increased flow should force you to quantify the flows closer to the Ohio River so you can tell us exactly what is going in. I guess what I want to know is that it is something you're going to look at: the effect the flow rates have at locations closer to the river.

the ground. The question is what are the choices now? Many of them are remedies we ruled out in the first place.

Seifert: That's a terrific question.

Mazurowski: We're going to work to get an answer on that for you.

Murphie: Normally something that deep and that isolated is something that a current drought shouldn't have an effect on. If it is having an effect what it does is indicate another factor is in play here like a fast channel that we were unaware of.

Seifert: Yes, we are going to be looking at that and we will get back to you with information at your subcommittee meetings.

DOE Federal Coordinator Comments

Smith introduced Loretta Aversa, DOE public affairs and Greg Simonton, his counterpart in the Portsmouth. **Smith** also asked that CAB members please respond to Suzanne's RSVP requests to ensure an adequate number of attendees either for quorum or majority. **Smith** reminded members of the KRCEE public meetings to be held on October 25th and 26th.

Liaison Comments

None

Subcommittee Chair Comments

Young reiterated the two key KRCEE public meetings are Monday and Tuesday, October 25th and 26th. Monday's meeting will begin at 6:00 p.m. at West Kentucky Emerging Technology Center. KRCEE will present their twelve scenarios and attendees will have the opportunity to vote on their preferences. Young encouraged everyone to attend and offer their feedback. All scenarios are also available online for review at www.paducahvision.com. Tuesday's meeting will be held at Ballard County High School at 6:30 p.m.

Clayton reported that she, along with Mark Sullivan, traveled to Fernald, Ohio and toured the CERCLA cell there as well as their interactive Visitor's Center. **Clayton** said the visit was informative and worthwhile. Because so many CAB members work, **Clayton** has asked that Saturday trips to the site be planned so other interested members get an opportunity to tour the site. **Clayton** asked that members please let staff know if they have interest in visiting the Fernald site.

Public Comments

No attendee signed in to make public comments.

Roberts reviewed upcoming dates:

- KRCEE Public meetings: October 25th & 26th
- November 2nd Subcommittee Meetings
- November 18 CAB meeting
- December 9th meeting off-site.

Hines reported that he has recently been given the all clear sign from his doctor and should be able to begin regular meeting attendance.

There being no further business, the meeting adjourned at 7:55 p.m.