



Groundwater Subcommittee Meeting Agenda

April 30, 2013 - 1:00 p.m.

CAB Office

Chair

Ralph Young

Vice-Chair

Ben Peterson

Board Members

Glenda Adkisson

Renie Barger

Judy Clayton

Robert Coleman

Eddie Edmonds

David M. Franklin

Tom Grassham

Kyle Henderson

Jonathan Hines

Mike Kemp

Maggie Morgan

Kevin Murphy

Dianne O'Brien

Richard Rushing

Jim Tidwell

Roger Truitt

Ken Wheeler

Board Liaisons

Rachel Blumenfeld

DOE DDFO

Buz Smith

DOE Federal Coordinator

Ed Winner

Division of Waste

Management

Turpin Ballard

Environmental Protection

Agency

Mike Hardin

Fish and Wildlife Resources

Stephanie Brock

Radiation Health Branch

Support Services

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1:00

Call to order

Introduction

Groundwater presentation

Discussion and Q&A

Path forward



PADUCAH GASEOUS DIFFUSION PLANT CITIZENS ADVISORY BOARD

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Paducah Gaseous Diffusion Plant Citizens Advisory Board Groundwater Subcommittee Meeting Summary April 30, 2013

The Groundwater Subcommittee met at the Environmental Information Center (EIC) in Paducah, Kentucky on Tuesday, April 30th at 1:00 p.m.

Board members present: Ralph Young, Roger Truitt, Richard Rushing, Maggie Morgan, Kyle Henderson, and Diane O'Brien

U.S. Department of Energy (DOE) and contractors: Buz Smith, Dave Dollins, DOE; Jeff Carman, LATA KY; Todd Mullins, Gaye Brewer, KDWM; Eric Roberts, Jim Ethridge, EHI

Groundwater Subcommittee Meeting

Smith opened the meeting by telling the subcommittee members that he wanted to pull everyone together with the Kentucky regulators and subcontractor representatives doing the work on this project, to let everyone know the status of the project and allow any questions the subcommittee might have to be answered.

Dollins started by explaining to the members that because of the challenges of the project, he wanted them to understand why the project had slowed down some. He explained that before spending a large sum of money on a technology to remedy the problem with this project, DOE wanted to be sure that it was going to take care of the problem. **Mullins** added that he feels that this would be the best path forward also.

Truitt: Are there other places using this technology successfully?	Carman: Yes. The reason Phase I failed in the deeper zones was because we could not heat it to the temperature that was needed to be successful. Phase I did work in the upper zones though.
Truitt: On the steam, you inject it down and then how do you recover?	Carman: We have a well called a dual phase extraction well under a vacuum to extract the product.
O'Brien: Would any of the fracking processes work?	Carman: It is not a technology that we would consider because it is a fundamentally different situation.

Mullins indicated that the project was not in gridlock, but that if we use steam we need to test it first.

Morgan: I know the design is different with steam, but will you get better results than with ERH?	Carman: I think with the test we will get the information to develop a good design.
Truitt: If the steam works then that is the most	Carman: The information that we have is that

economical way and if it doesn't it will be expensive?	this technology will work. It is just how densely it will have to be applied. For this particular site do you have to space the wells twenty feet apart, or can you space them forty feet apart. Also how much steam and at what rate should you use.
Truitt: So the question is not whether to use steam, it is how expensive is it going to be to use.	Mullins: If it took too many injection wells close together to get the desired heating at the base of the RGA, it wouldn't be cost effective. Then we would have to reevaluate our strategy.
Truitt: And if that happens, what?	Mullins: One option would be to put in a pump and treat system at the site of the source, wait until the building comes down and look at the state of technology at that time to take care of it.
Truitt: But if the steam doesn't work, it will be a while...	Dollins: EPA have told us that the steam is the "biggest hammer" there is for this problem. There are other technologies available too. While this will deal with the source, we are still optimizing our plume treatment system which has been working, and would be a built-in containment for the problem. Mullins: If the steam did not work well enough, you can drop back to ISCO (In situ chemical oxidation). It isn't as big a hammer, but it is a hammer.
Truitt: Do you have agreement with the different organizations involved with this that the test is the way to go?	Mullins: Yes.
Roberts: How do we explain to the rest of the CAB the change in strategy?	Dollins: With meetings to discuss this problem and the addition of experts from around the country to look at the problem, we all have a better understanding of the situation and have come to agree on the solution.

Carman gave a presentation on the status of the C-400 Phase IIb project.

Roberts: You have monitoring wells, injection wells, and extraction wells. What happens to those wells when the project is over?	Carman: They will be either abandoned or retained for monitoring.
Roberts: The CAB has been looking at this through the lens of future use of the site. If there are monitoring wells at this location, which will affect the outcome of future use.	Dollins: I think the bigger issue is the building itself. If that is removed you could probably do something else with those wells. Mullins: Probably in the future you would want to monitor down-gradient of that location and not necessarily at that location.
Morgan: At what point will this project not be cost effective?	Dollins: DOE headquarters has said to put in what you think you need for a successful test, and then see what it will take to implement the technology full scale. The \$22 million figure is probably the worst-case scenario amount.
Rushing: Has there been any change in the	Carman: What we are seeing is a general

downstream monitoring of the contaminants?	diminishing of the concentrations.
Roberts: Are there data quality objectives for Phase 11a?	Mullins: They are similar to Phase I.

Morgan agreed to re-write the Recommendation on this project.

The meeting was adjourned at 2:50 pm.