



April 18, 2013

Chair
Ralph Young

Vice-Chair
Ben Peterson

Board Members
Glenda Adkisson
Judy Clayton
Robert Coleman
Eddie Edmonds
David M. Franklin
Tom Grassham
Kyle Henderson
Jonathan Hines
Mike Kemp
Maggie Morgan
Kevin L. Murphy
Dianne O'Brien
Richard Rushing
Jim Tidwell
Roger Truitt
Ken Wheeler

Board Liaisons
Rachel Blumenfeld
DOE DDFO

Buz Smith
DOE Federal Coordinator

Todd Mullins
*Division of Waste
Management*

Turpin Ballard
*Environmental Protection
Agency*

Mike Hardin
Fish and Wildlife Resources

Stephanie Brock
Radiation Health Branch

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Agenda for the April Board Meeting

6:00

Call to order, introductions
Review of agenda

DDFO's Comments

- DDFO Presentation

-- 7 minutes

Five Year Review Presentation by LATA

- Five Year Review

-- 7 minutes

Federal Coordinator Comments

-- 5 minutes

Liaison Comments

-- 10 minutes

Administrative Issues

- Recommendation 13-XX – Reallocation of C-400 Phase IIb Resources
- Recommendation 13-XX – PGDP Transition, Decontamination and Decommissioning Plan

-- 20 minutes

Subcommittee Chair Comments

-- 10 minutes

Public Comments

-- 15 minutes

Final Comments

- Additional materials

-- 5 minutes

Adjourn



PADUCAH GASEOUS DIFFUSION PLANT CITIZENS ADVISORY BOARD

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Paducah Gaseous Diffusion Plant Citizens Advisory Board Meeting Minutes April 18, 2013

The Citizens Advisory Board (CAB) met at the Environmental Information Center (EIC) in Paducah, Kentucky on Thursday, April 18th at 6:00 p.m.

Board members present: Judy Clayton, Ken Wheeler, Robert Coleman, Kevin Murphy, David Franklin, Mike Kemp, Jonathan Hines, Eddie Edmonds, Ben Peterson, Renie Barger, Jim Tidwell, and Tom Grassham.

Board Members absent: Dianne O'Brien, Roger Truitt, Kyle Henderson, Ralph Young, Maggie Morgan, and Glenda Adkisson.

Board Liaisons and related regulatory agency employees: Tim Kreher, Kentucky Division of Fish and Wildlife.

DOE Deputy Designated Federal Official: Buz Smith, DOE

U.S. Department of Energy (DOE) related employees: Rob Seifert, DOE; Craig Jones, Teresa Overby, Jeff Carman, Joe Walker, LATA Environmental Services of Kentucky (LATA); Scott Smith, Swift and Staley; Eric Roberts, Jim Ethridge, EHI Consultants (EHI).

Public: Tony Graham

Introductions:

Peterson called the meeting to order at 6:03 pm, and asked for introductions. He then asked for additions or corrections to the agenda. There being none, the agenda stood as published.

DDFO Presentation and Discussion:

Peterson then turned the meeting over to **Seifert** for the DDFO presentation. During this Carman provided an update on the C-400 IRA Phase IIa project.

Wheeler: Could the CAB receive an update on the C-400 project as things progress with the different decisions that are made?	Seifert: Absolutely.
Wheeler: Is there value for the CAB to receive a Burial Grounds overview update to get everyone up to speed with this project?	Seifert: It might be a good time to refresh everyone on the projects included in the Burial Grounds project and give you all an overview of what is planned and where we are in the CERCLA process. We can provide that in the near future.

Clayton: Can you tell us what is in Solid Waste Management Unit (SWMU) 4?	Seifert: What we hope to do with this project is to confirm what we think is in the unit, as well as identify any contributor to the groundwater contamination. I can also say we don't know everything that is buried there. So we hope to clarify exactly what is there.
Clayton: You do know that there are people who put stuff in there that are still alive. Have you had interviews with those people?	Seifert: Yes we have had some of those interviews.
Grassham: For what purpose was it classified?	Seifert: The material that was buried there is classified.
Wheeler: It would be helpful to have a graphical representation of the volume in, the volume out, and the amount of material left.	Seifert: That is a good idea.
Wheeler: It would be good if we could attract the new Secretary of Energy to come to Paducah for a visit.	Seifert: Yes it would. We have had a few visit the site in the past several years.
Wheeler: I think the CAB should that it on as an action item to come up with options to attract the Secretary for a visit in short order.	Seifert: That would be a great opportunity to make a positive impression.

Five Year Review presentation

Peterson turned the meeting over to **Overby** for a presentation on the CERCLA Five Year Review process.

Kemp: Could you clarify between remedial actions and removal actions?	Overby: A remedial action will have a Record of Decision signed about it, and a removal action goes through the CERCLA process where you do an engineering evaluation, a cost assessment, and then an action memorandum.
Wheeler: Who is actually doing the review?	Overby: LATA is conducting the review. Seifert: LATA has the responsibility and scope to do this as part of the whole environmental program. For CERCLA, this is like a quality check. And this is subject to regulatory scrutiny. Kentucky and EPA will come in and review our documents.
Kemp: Does the Five Year Review contain a list of things that would drop off the list?	Seifert: There won't be anything to drop off the list. As long as there is some action that has been taken where material has been left in place, you will always have a five year review.
Kemp: If a burial ground, for instance, is cleaned up to an industrial level and not a residential level, will it stay on the list?	Seifert: If we removed all the waste in a burial ground and not leave anything but clean soil, we would not have to revisit that. But if we put a cap on the burial ground instead, we would have to revisit that every five years to see if it was still performing as it was supposed to.
Wheeler: Could there be put together a document to help explain this process that could be presented to the public to help them understand	Smith: Something that didn't have as much detail about the process that would help explain it.

the cleanup of the site?	
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Federal Coordinator Comments

Peterson asked for comments from **Smith**. **Smith** introduced the newest member to join the CAB, **Renie Barger**, and asked her to tell everyone about her background.

Liaison Comments:

Peterson asked **Kreher** for comments. **Kreher** talked about his department's participation in a tour of students from local schools to the WKWMA. He also asked if the DOE and CAB would be sponsoring an Eco Fair in the near future, and described the involvement needed. **Kreher** also reported on totals for the amount of money spent in the local economy for a year's events held on the WKWMA, which was \$1.4 million. **Wheeler** suggested considering sponsorship of the Eco Fair.

Administrative Issues:

Peterson submitted **Recommendation 13-XX: Reallocation of C-400 Phase IIb Resources** for Board consideration and discussion. Revision 2 as submitted can be reached at this link: <http://www.pgdp CAB.energy.gov/DraftDocuments.html> . **Kemp** made a motion to table this Recommendation until more information from DOE could be presented. **Hines** seconded the motion. **Wheeler** suggested amending the current motion to revisit this Recommendation within the next month. That amendment is seconded by **Grassham**. The amendment is voted on and is passed by acclamation. **Roberts** indicated that a meeting would be set up to provide the Board with more information about the project that is covered by the Recommendation. The motion to table the Recommendation until more information is presented is voted on and passed by acclamation.

Peterson submitted **Recommendation 13-XX: Transition, Decontamination, and Decommissioning Plan** for Board consideration and discussion. Revision 4 as submitted can be reached at this link: <http://www.pgdp CAB.energy.gov/DraftDocuments.html> . **Peterson** then asked for **Clayton** to present the Recommendation. **Hines** requested the report on the Uranium Enrichment D&D fund be sent out to the CAB. **Roberts** committed to sending out the most recent report on that fund.

Seifert: One of the things that you might consider in the last bullet, if you are asking what you want the department to put up as a priority, do you want the waste stored or do you want sufficient funding for disposal?	Tidwell: Judy, are you saying that last bullet should be deleted? Clayton: That's my opinion. In my original bullet I said the material should be removed from the systems and disposed of properly.
Kemp: Instead of saying storage, why don't we say for future storage and disposal?	
Kemp: I propose that that last bullet be removed and the bullet above it be changed to say "As these materials are cleared from the buildings and isolated, they must be properly handled, treated, stored, and disposed of in compliance with all state and federal regulations."	Clayton: I actually had something in here that long-term storage was unacceptable.
Peterson: I would like to remove the word "Plan" from the title.	
Clayton: There are two bullets that I would like you to consider. I had vapor transfer from thin-	Seifert: The vapor transfer from thin to thick-walled cylinders is an important part of what has

walled to thick-walled cylinders for long-term storage.	to get done. If that is something that is important to you guys, I would say put it on the list.
Clayton: The other one is “Remove all waste and infrastructure that can be disposed of as part of a maintenance action in support of D&D. This should include loose items, which are no longer needed in a shutdown facility, such as tables, chairs, refrigerators, coolers, cabinets, lockers, equipment, etc., with an eye toward recycling or reuse.”	Peterson: Also, on the previous bullet about the thick-walled cylinders, add “in the most cost effective manner” to the end.

After discussion the Board settled on sending the Recommendation through normal channels for submission. **Peterson** then asked for a motion to approve the Recommendation. **Wheeler** made the motion and **Murphy** seconded it. Peterson asked for any public comment on the Recommendation and there was none. The Recommendation was voted on and passed by acclamation.

Subcommittee Chair Comments:

Wheeler said there was nothing to report on the Waste Disposal Options subcommittee. **Smith** indicated that there was no change on the timeline for the CERCLA cell.

Roberts reported on the Adaptive Reuse subcommittee and indicated that there had been a meeting on the Environmental Assessment process. **Smith** said that he had requested for any updates that could be shared with the CAB on the Expression of Interest for reuse of the plant.

Kemp had nothing to report on the Burial Grounds subcommittee.

Public Comments:

There were no public comments.

Final Comments:

Scott Smith (Swift and Staley) commented that the CAB members were all invited to the Chamber of Commerce Power in Partnership breakfast on May 9, 2013. He said that Young would be making a presentation about the CAB and its relationship with DOE, as well as, unveiling the newly published history book produced by the CAB’s Historical Preservation subcommittee.

Wheeler proposed producing an introductory video for the map display that is located at the West Kentucky Community and Technical College. **Smith** reported that that process had been started.

Kreher indicated that there was a large amount of DOE property under the power lines and where those lines might be moved to during shutdown of the plant might be considered for any future use of the site.

The meeting was adjourned at 8:40 pm.

Action Items:

- DOE to provide an overview of the Burial Grounds project
- Send the 2008 Five Year Review report to CAB members
- Send the link to the video that explains the Five Year Review to CAB members
- Send the Uranium Enrichment D&D Fund report to CAB members

Paducah Citizens Advisory Board

Project Update

April 18, 2013



EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

Presentation Agenda

- Inactive facilities removal
- Groundwater cleanup
- Burial grounds cleanup
- Recently submitted documents
- DUF_6 facility
- Tracy Mustin visit

Inactive Facilities Removal: C-340 Metals Plant

- Building razed to slab Feb. 12, nearly two months ahead of DOE baseline.
- Speaking March 19 before the House Appropriations Subcommittee on Energy and Water Development, EM-1 Dave Huizenga said the C-340 demolition “was completed ahead of schedule and within budget, and represents a major milestone in the cleanup of the Paducah Gaseous Diffusion Plant.”
- All waste removed from pad as of March 27:
 - ✓ Total ~3,500 tons of waste downsized, packaged, and removed.
 - ✓ Demolition debris taken to plant’s U-Landfill.
 - ✓ PCB waste packaged for rail shipment to disposal facility.
- Equipment decontamination, fence removal, and area restoration to be completed in April.



Inactive Facilities Removal: C-410 Feed Plant

- Workers continue to remove and package cold traps.
 - ✓ A cold trap is a large container to turn gaseous UF_6 into a solid for collection.
 - ✓ When the container is full of UF_6 , it can be heated and the UF_6 drained into a cylinder for transport.
 - ✓ Traps contain residual UF_6 , and the building cannot be safely demolished with the traps left in the building.
 - ✓ Fourteen of 20 cold traps have been containerized; the other six are expected to be packaged in May.
 - ✓ All cold traps will be transferred to on-site storage at C-746-Q facility in May.
- Removal, packaging, and/or disposal of asbestos is ongoing.
- New milestone calls for having building demo-ready in September 2013, pending available funding.



Groundwater Cleanup: C-400 Source Removal Phase IIa



- C-400 is the leading source of groundwater contamination at the Paducah site.
- Electrical resistance heating (ERH) will evaporate TCE from as deep as 65 feet below ground so that it can be pumped to the surface and treated.
- ERH installation began Sept. 26, 2012, and ended March 5, 2013. The belowground system features 52 borings with three electrodes each, plus 22 multiphase extraction wells.
- Key components of the aboveground treatment system, scheduled to be complete by late spring, include a cooling tower, carbon filtration system, and boiler.
- Operation is scheduled to start by late June.

Burial Grounds: SWMU 4 Field Sampling

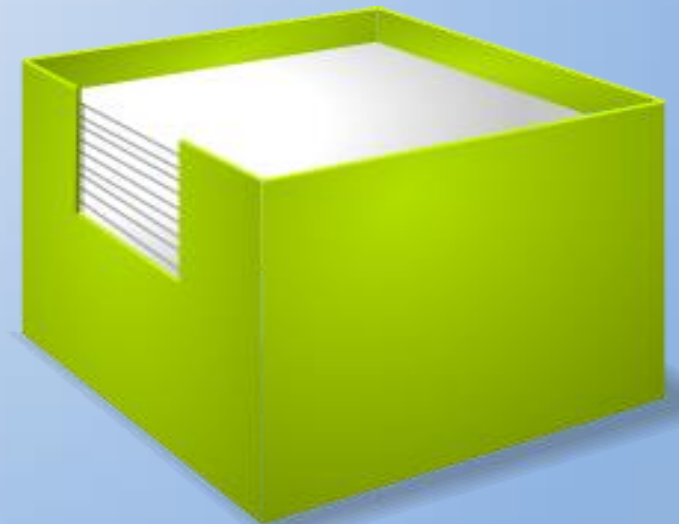
- SWMU 4 Legacy Burial Ground at Paducah identified for focused sampling to optimize remedial design.
- Phase 1 sampling (surface soils) and gas samplers started Sept. 24 and completed Nov. 9, 2012. Phase 1 sampling results, along with historical data, were utilized to place Phase 2 DPT borings.
- Crew mobilized March 18, 2013, for Phase 2 (0-20') and 3 (20-55') field sampling.
- 32 borings for Phase 2 and 3 planned within 6-acre SWMU boundary:
 - ✓ Phase 2 completed – 22 shallow DPT borings and 7 shallow wells.
 - ✓ Phase 3 sampling will be impacted by the Phase 2 sampling results.
 - ✓ 10 deeper borings in Phase 3 planned for May-July.
 - ✓ Sampling focuses on the contaminants (volatile organic compounds, notably TCE) previously identified by sampling but includes other constituents.
 - ✓ Phase 3 sampling is expected to be finished by July 31.
- Phase 4 (0-105' borings) and 5 (well installations to 100') activities scheduled for FY 14.



SWMU 4 is located in the western part of the PGDP fenced area.

Documents Recently Submitted to Regulators

Document	Submittal Date	Regulatory Review Period
Groundwater OU - Northeast Plume Optimization– Remedial Action Work Plan (D1)	March 28, 2013	30 Days
Programmatic Quality Assurance Project Plan (D2/R1)	March 8, 2013	30 Days
Groundwater OU - C-400 Phase IIa – Operations and Maintenance Plan (D1)	March 1, 2013	90 Days (DOE requested 30-day review)



Depleted Uranium Hexafluoride (DUF₆) Plant



- Babcock & Wilcox Conversion Services' operational strategy is to ramp up production in increments in order to determine the plant's sustainable steady conversion rate by the end of FY 13.
- As of early April, BWCS had all four lines in production mode and processed more than 3,300 metric tons of DUF₆ this FY.
- FY 13 target: 7,352 metric tons processed.

DOE EM-2 Tracy Mustin Visit

- EM Principal Deputy Assistant Secretary (EM-2) Tracy Mustin visited the Paducah Site March 21.
- Mustin toured the DUF₆ plant as well as key enrichment and cleanup areas of PGDP.
- She was accompanied by EM Senior Communications Advisor Tim Boulay.



EM-2 Tracy Mustin, left, listens as PPPO Manager Bill Murphie discusses the C-400 TCE removal process. In the background are Rachel Blumenfeld of DOE and Mark Duff of LATA Kentucky.

Board Discussion...



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Paducah Citizens Advisory Board

CERCLA Five-Year Review

April 18, 2013



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2013 CERCLA Five-Year Review

- The purpose of this Five-Year Review is to ensure that the selected actions taken to date at the PGDP remain protective of human health and the environment and continue to function as designed.
- CERCLA requires a review be conducted every five years at sites that have undergone an environmental response (remedial action) where contamination remains above concentrations that allow unlimited use and unrestricted exposure.
- This Five-Year Review encompasses the various CERCLA response actions that DOE has taken at Paducah.

2013 CERCLA Five-Year Review

- DOE published a public notice in the local newspaper announcing the start of the 2013 Five-Year Review on March 17, 2013, requesting that any suggestions, issues, questions, or concerns regarding this review be provided from March 18 through March 22, 2013. No comments were received.
- This Five-Year Review contains 20 projects for the time period of January 1, 2008, through December 31, 2012.
- The triggering action for this review is the five-year anniversary of the third comprehensive Five-Year Review that conducted at this site in 2008.

2013 CERCLA Five-Year Review

This Five-Year Review is used to accomplish the following:

1. Evaluate whether the remedy is operational and functional;
2. Evaluate those assumptions critical to the effectiveness of remedial measures or the protection of human health and the environment (e.g., land use, site conditions, applicable standards) made at the time of the remedial decision to determine, given current information, whether these assumptions are still valid;
3. Determine what corrective measures are required to address any identified deficiencies; and
4. Evaluate whether there are opportunities to optimize the long-term performance of the remedy or reduce life cycle costs.

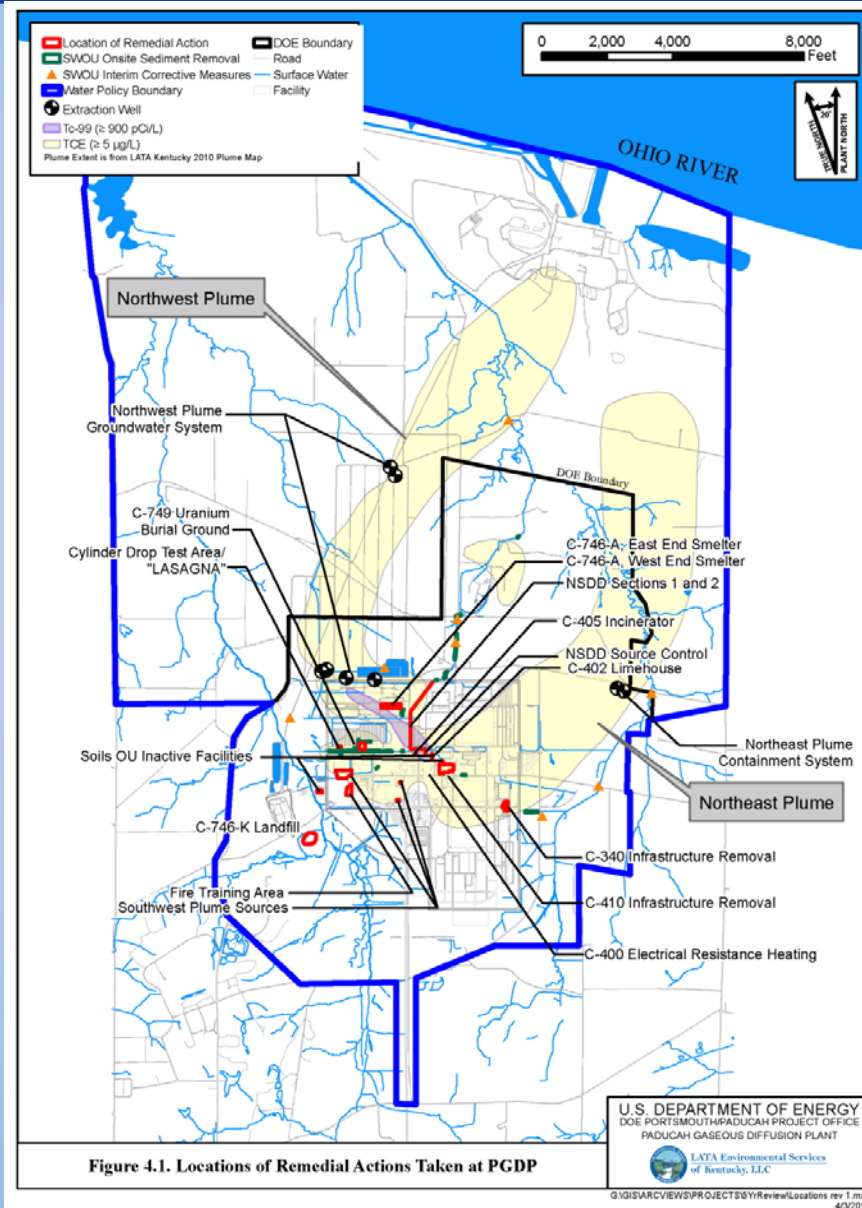
2013 CERCLA Five-Year Review

The 2013 Five-Year Review encompasses the following response actions:

Site or Project Name Used in This Report	Operable Unit
Northwest Plume	GW
Northeast Plume	GW
Cylinder Drop Test Area or Lasagna™	GW
Water Policy	GW
C-400 Electrical Resistance Heating	GW
Southwest Plume*	GW
NSDD Source Control	SW
NSDD Sections 1 and 2	SW
C-746-K Landfill	SW
Fire Training Area	SW
Surface Water Interim Corrective Measures	SW
Surface Water On-site Sediment Removal*	SW
C-402 Lime House	D&D
C-405 Incinerator	D&D
C-410 Infrastructure Removal	D&D
C-340 Decommissioning	D&D
C-746-A, East End Smelter*	D&D
C-746-A, West End Smelter*	D&D
C-749 Uranium Burial Ground	BG
Soils Inactive Facilities*	Soils

*New to the 2013 Five-Year Review

2013 CERCLA Five-Year Review



What is a CERLCA Five-Year Review?

- The Five year review will evaluate protectiveness on an action-specific and site-wide basis.
- Example of action-specific protectiveness statements from 2008:
 - Northwest Plume
 - The remedy for the Northwest Plume is protective of human health and the environment in the short-term. Exposure pathways that could result in unacceptable risk are being controlled; however, additional actions, as part of the dissolved-phase plume, need to be evaluated for long-term protection.
 - Northeast Plume
 - The remedy for the Northeast Plume is protective of human health and the environment in the short-term. Exposure pathways that could result in unacceptable risk are being controlled.

Overview of 2008 CERCLA Five-Year Review

- The site-wide protectiveness statement from the 2008 Five-Year Review:
 - Overall the remedies at PGDP are protective of human health and the environment in the short-term; however, to be protective sitewide in the long-term (for all OUs), additional actions are needed.

CERCLA Five-Year Review Identifies Issues, Recommendations and Results

2008 Issues, Recommendations, and Results

- Northwest Plume (GWOU)
 - **Issue:** Although the remedy remains protective, the action could be optimized by ascertaining whether the high-concentration core of TCE of the Northwest Plume at the North Extraction Well (EW) field has migrated eastward of the capture zone of the wellfield.
 - **Recommendation/Follow-up Action:** Evaluate the extraction system to determine whether zones of capture of the EW fields can be optimized to control contaminant migration from the source area more effectively.
 - **Results:** Construction activities for the Northwest Plume Interim Remedial Action Optimization were completed in August 2010, consisting of the two new EWs. The north well field EWs were removed from service in August 2010. EWs located in the original south well field are kept in standby mode.

CERCLA Five-Year Review Identifies Issues, Recommendations and Results (cont.)

2008 Issues, Recommendations, and Results

- NSDD Section 1 and 2
 - **Issue:** Not applicable.
 - **Recommendation/Follow-up Action:** Perform a residual risk calculation to determine if the remedy can be optimized (e.g., risks are at a level that would support modification of institutional controls and/or cessation of five-year reviews).
 - **Results:** The residual risk evaluation showed that the residual risk to these receptors are within EPA risk range, provided that the current and expected future use of the area is industrial, as specified in the ROD. The evaluation also recommended continuation of the five-year reviews.

CERCLA Five-Year Review Schedule Overview

- 4th Quarter FY 13 - Issue 2013 Five-Year Review to EPA/KY
- 1st Quarter FY 14 – Approval of 2013 Five-Year Review by EPA/KY
- 2nd Quarter FY 14 – Notice to public of availability of final document
- 2nd Quarter FY 14 – Presentation of the 2013 Five-Year Review results to the CAB

Questions...



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