

## E3 Water Quality Issue Action Group Meeting

### Meeting Summary: Alabama Power Headquarters, Birmingham, AL Wednesday, February 19, 2003

Final 05-01-03

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#### List of Members

Jim Crew	APC	Bill Sim	APC
Andy Sheppard	APC	Dan Catchings	ADCNR
Stan Cook	ADCNR	Jim McHugh	ADCNR
Mike Eubanks	Corps of Engineers	Keith B Floyd	ADCNR
Elrand Denson	USFS	Daryl Harley	USFS
Ralph Thompson	USFWS	Patrick Harper	USFWS
April Hall	ARA	John Eisenbarth	TU
Hap Bryant	NHLH	Henry Mealing	KA

#### List of Attendees

Dave Cunningham	Lay Lake HOBO	Lynn Cunningham	Lay Lake HOBO
David Brock	APC	Deb Berry	Smith Lake
Pat O'Neil	GSA	Jim Bain Russell Lands & LMRA	
Rick Allums	APC	Jason Moak	KA
Charles Mauldin	APC	Brad McLane	ARA
Stephanie White	APC	Jason Redmond	APC
Jim Hancock	Balch & Bingham	Alan Peeples	APC
Tom Shepard	GSA	Ernie Muir	Clean Water partnership
Lynn Sisk	ADEM	Russell B. Oliver	AL Water Watch "Bankhead"
Malcolm Pierson	APC		

#### Action Items

- Revise water quality reports to include document navigation aids and improvements in figure resolution  
Jason Moak & Pam McDaniel                      March 10, 2003
- Complete and distribute information on impacts of low DO on fish bioenergetics  
Henry Mealing    March 10, 2003
- Complete CD of NPDES, construction, mining, and CAFO permit information and distribute  
Bill Sim and Jason Moak                              March 10, 2003
- Provide hardcopy of Lewis Smith Water Quality Report to John Eisenbarth  
Viki Jenkins    February 28, 2003
- Add Hap Bryant to E3 IAG membership  
Jim Crew and Viki Jenkins                              February 24, 2003

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- Provide additional data (DO vs. turbine discharges) to Jim McHugh  
Bill Sim & Pam McDaniel February 28, 2003
- Provide hardcopy of Bankhead Water Quality Report to Russell Oliver  
Viki Jenkins February 28, 2003
- Prepare presentation on aeration techniques  
Bill Sim July/August 2003
- Plan IAG site visit to observe aeration techniques at one or more projects  
Jim Crew & Bill Sim July/August 2003
- Investigate the availability of water quality and flow data for leakage flow at Smith  
Bill Sim & Jim Lochamy March 10, 2003
- Identify any additional water quality information that needs to be collected during the 2003  
field season.  
IAG Members May 2003

### Meeting Notes

*These notes summarize the major items discussed during the meeting and are not intended to be a verbatim transcript or analysis of the meeting.*

Henry Mealing began the meeting by briefly reviewing the E3 IAG workplan and the Group's progress to date. Henry noted that a CD containing water quality reports for each hydroelectric development was distributed to IAG members on February 7, 2003. He pointed out that the water quality reports will be used as baseline data for preparing the Coosa and Warrior Environmental Assessments (EAs). Henry also noted that he is currently preparing a document explaining the effects of lower dissolved oxygen levels (DO) on fish bioenergetics and will distribute it to IAG members upon completion. Henry opened the floor for comments on the water quality reports.

Some IAG members noted that the absence of a table of contents made it difficult to navigate the lengthy water quality reports. Others noted that certain figures in the reports appeared distorted and unreadable. APC agreed to work with Kleinschmidt to refine the organization of the reports and remedy the problem with distorted figures.

Henry asked IAG members if there were data gaps in the reports or any need to collect additional water quality information. Jim McHugh stated that certain figures in the report did not adequately address previous requests to depict the relationship between DO levels and turbine discharge. Bill Sim agreed to provide additional data to Jim McHugh to satisfy this request. Some members asked if there was any data depicting the water quality of leakage flows from

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Lewis Smith Dam. Bill Sim agreed to investigate whether this data is available and report back to the IAG.

There was some discussion about DO standards in hydroelectric discharges. Bill Sim explained how the DO standard applies to existing hydroelectric releases, indicating that the standard requires DO levels of 4 mg/L at the edge of the mixing zone.

One IAG member noted that the water quality reports adequately characterized water quality in the reservoirs and turbine releases. It was suggested that APC and the IAG should begin to focus on potential measures to improve the water quality of turbine releases, focusing specifically on methods to increase dissolved oxygen (DO).

Bill Sim pointed out that APC has already begun evaluating various techniques to enhance the DO content of turbine releases. Bill noted that APC's goal is to determine the most cost-effective technique(s) that will ensure the water quality of turbine discharges consistently meets water quality standards. Bill briefly reviewed various techniques that are being evaluated (skimmer weirs, tailrace weirs, turbine venting, lake aeration, tailrace aeration, etc.) and pointed out that certain techniques such as turbine aeration/venting have already been employed at some projects. Based on interests expressed by several members, Bill agreed to provide a presentation on aeration techniques at a subsequent meeting. It was also suggested that the group visit one or more project powerhouses to observe aeration techniques that APC has already implemented.

One IAG member requested that any evaluation of DO enhancements should include an analysis of the additional cost to maintain DO levels of 5 mg/L.

### **Conclusion**

APC will continue to work on each of the Action Items and distribute information to the appropriate individuals. The next meeting of the E3 IAG will be held during the July/August time period and will focus on aeration techniques currently in use or under consideration. APC will send a meeting agenda and any other pertinent materials to IAG members for review prior to the next meeting.

E3 IAG documents and materials are posted on the Internet at [www.southerncompany.com/alpower/hydro](http://www.southerncompany.com/alpower/hydro).