

Georgia Department of Natural Resources

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December 8, 2010

MEMORANDUM

TO: Council Members

FROM: Kevin Farrell, GA EPD
Doug Baughman, CH2MHILL

SUBJECT: Council Meeting 9 Summary
Upper Oconee Water Planning Council Meeting

Georgia Comprehensive Statewide Water Management Plan Regional Water Planning

Council Meeting 9 Summary

Meeting Date: December 8, 2010
Location: Reynolds Landing, Greensboro, GA

1) Welcome

Council Coordinator Doug Baughman introduced Chairman Richard Bentley (Mayor of Milledgeville) to welcome the group. Chairman Bentley thanked them for their ongoing service on the Council and introduced Rabun Neal and Larry Eley as local council members from Greene County.

2) Meeting Overview and Announcements

Baughman then reviewed the agenda and the primary objectives council members would need to achieve at that meeting, specifically:

- Review final energy forecasts
- Discuss updated Water Development and Conservation Plan
- Discuss potential 319 grants

He noted that even with the Governor's recently approved 3-month extension (to May 9, 2011) for completing the Plan, the Council still has a lot to accomplish.

3) Update on Final Energy Water Demand Forecasts

Planning contractor Brian Skeens provided the update on the energy demand forecasts. He highlighted participants from the energy ad hoc group that helped develop the forecasts (representatives from Georgia Power, MEAG, Oglethorpe Power Corporate, and the Georgia Environmental Finance Authority – GEFA) by assisting with data collection, interpretation, and technical review. Data were collected for all electric utility facilities in the state as well as planned facilities that have applied for an EPD air quality permit. The forecast methodology took into account:

- Base year water withdrawals and consumption
- Types of facilities and “typical” use rates
- Statewide analysis of water use rates
- Power generation needs forecasts

Skeens explained that water used in power generation is primarily dependent upon the cooling process as opposed to how the power is generated. Generally, cooling water withdrawal requirements are proportional to the quantity of steam being condensed. Consumption in power generation refers to water that is consumed during the power production process and not returned to the stream; most likely as a result of evaporation during the cooling process. Cooling can be categorized as “once-through” (also known as single pass) or recirculated. Once through requires large withdrawals but consumes a relatively small amount of water, while recirculated has lower withdrawal rates but higher consumption rates due to evaporative loss. Skeens noted that the trends indicate a move to recirculated cooling water, which can be better for the environment because it reduces heat loading in the source water.

Using OPB numbers (Office of Planning and Budget), Skeens said the forecasts offered two scenarios of power need projections statewide – a baseline projection and an alternative projection (covers a more rapid population growth). He ended the presentation by offering some conclusions/guidance to council members as they move forward in considering energy needs in the Plan’s development. Statewide trends show: more capacity development for water consumption with intensive power generation; little to no capacity development for water withdrawal with intensive power generation processes; and an increase in power generation from renewable energy, primarily biomass, over the planning horizon. The additional capacity scenario was selected for the Upper Oconee water planning region, but only increases consumption from 8 to 9 MGD (million gallons per day). Skeens pointed out that the location of any assumed additional power generation capacity beyond 2017 is unknown and recommended adding one additional scenario for Upper Oconee considering Plant Branch switching fully to recirculated cooling technology (more consumption).

There was a brief discussion after the presentation. Someone asked about the consumption difference between coal and steam and was told they were similar. Another topic was the impact of biomass (crops and grasses used to generate energy) and the likelihood of its increased use in the future. The planning contractors noted that this was taken into account in the forecasts. Questions were also raised about the implications for water resources of siting potential new biomass facilities. Someone from the audience noted that the biomass analysis does not include secondary impacts on water resources because of land use changes, i.e. the water needed to grow the biomass to serve as fuel.

There were additional comments about developing a scenario that would show the effect of Plant Branch switching to a different technology. It was noted that Plant Washington was included in the current energy analysis, but an EPD representative said he would investigate whether it reflects the appealed permit.

4) Review Revised Sections 1-5

Baughman gave an overview of the changes in Sections 1-5, which include the following:

- Acknowledgements, acronyms and abbreviations
- Feedback from Council and EPD
- Summary boxes at the beginning of each section
- Footnotes referencing the supplemental documents
 - Public involvement and outreach technical memorandum (TM)
 - Agricultural forecast summary TM
 - Upper Oconee municipal and industrial water and wastewater forecasting TM
 - Summary of local and regional plan TM
 - Management practice decision making TM
 - Cost guidance TM
 - Comparison of permitted capacities and future demands TM
 - Energy forecast TM

He explained that the supplemental documents were not on the website yet so Council members were provided a copy on CD.

Baughman then went through his presentation which provided a summary for each section.

Section 1: Introduction

The opening section gives a brief overview of the regional water planning process, a map of the regional water planning area, and the Upper Oconee Regional Council's vision and goals.

Section 2: The Upper Oconee Water Planning Region

This section briefly describes the geography, land use and socioeconomic characteristics of the Upper Oconee region. The region is approximately 5,000 square miles in size and includes 13 counties and 60 municipalities with a total population estimated to be 579,873 in 2010. Athens-Clarke County is the most populous county while Hancock County is the least populated.

Section 3: Water Resources of the Upper Oconee

The resource assessments indicate that the majority of streams in the Upper Oconee region have sufficient assimilative capacity; however, select segments of the Oconee River and its smaller tributaries have exceeded their available assimilative capacity. There are potential groundwater sustainable yield limitations in the Piedmont province of the Crystalline rock system, which serves portions of Athens-Clarke, Jackson, Barrow, and Oconee Counties. No gaps in water availability were identified under current water use conditions (2005).

EPD has evaluated 1,240 stream miles in the region. Of these, 62 percent are not currently supporting their designated use, primarily due to impaired biological communities or fecal coliform data.

Section 4: Forecasting Future Water Resource Needs

This section summarizes the future forecasted water demand and wastewater flows in the Upper Oconee region, building on the details provided in the Upper Oconee municipal and industrial water and wastewater forecasting TM (supplemental document).

Energy generation is forecasted to continue to make up the largest portion (more than 85 percent) of water withdrawals in the future however the majority of this water is not consumptive, i.e. it is returned to its

source. Both energy and agricultural water demands are expected to remain relatively constant, while municipal and industrial water demands are projected to increase steadily by 90 percent to 251 MGD in 2050.

Section 5: Comparison of Current versus Future

This section compares the current water resource capacities described in Section 3 with the future needs described in Section 4. The Cretaceous aquifer system is projected to start having a gap in groundwater availability in 2030 and the Coastal Plain aquifers will start experiencing a gap in 2040 under dry conditions (groundwater sources). Similarly, gaps in surface water availability in the region will occur in 2050 at the Penfield Node.

Potential gaps in available facilities or infrastructure capacity include water infrastructure gaps in Barrow, Athens-Clarke, Greene, Morgan, Oconee, Walton, and Wilkinson Counties ranging from 0.2 to 15.7 MGD.

Council was then asked for their comments. One member asked to include additional columns on Tables 5-4 and 5-5 [Section 5] to show existing water and wastewater use and then resend those tables to council members for review. Other members pointed out that the population numbers no longer seemed realistic and were probably too high.

5) Review Revised Section 6 and 7 on Management Practices and Implementation Responsibilities

Planning contractor Heather Dyke gave Council an overview of the Sections 6 and 7 of the Plan, which relate to the list of management practices (MP) and which entities will be responsible for implementing them.

Section 6: Addressing Water Needs and Regional Goals

This section identifies various water management practices (MP), provides an overview of existing plans and MPs already in place in the region at a local level, and presents the MPs selected by the Council for the Upper Oconee region to address the resource shortfalls or gaps identified and described in Section 5, and/or meet the Council's vision and goals, described in Section 1. The MPs were selected based on a comprehensive review of more than 40 existing local and regional water management plans and related documents. The MPs were ranked and placed in order of priority using a weighted process that resulted in 13 water conservation (WC), six (6) water supply (WS), seven (7) wastewater (WW), and 12 water quality (WQ) MPs, which are listed in Tables 6-1 and 7-1 of the draft Plan.

Table 6-1 groups the MPs by primary water resource area addressed and then generally lists the practices in order of the total benefit ranking assigned by the Council. The top 4 MPs include:

- Encourage conservation pricing
- Expand existing reservoirs
- Encourage implementation of centralized sewers in developing areas where density warrants
- Implement comprehensive land use planning and zoning

Dyke pointed out that because of the gap at the Penfield node (0.1 % of the time and average 42 mgd), the focus on conservation measures will be important in the upper portion of the basin. She added that implementing requirements of the Water Stewardship Act might close the gap by reducing demands in the future, but said conservation practice recommendations would need to be revisited after the future conditions water quantity modeling is completed in January.

Section 7: Implementing Water Management Practices

Section 7 provides a roadmap for implementing the water MPs identified in Section 6. It identifies the initial (2012), short-term (2013-2016) and long-term (beyond 2017) actions as well as the corresponding responsible parties. The bulk of the implementation actions will fall to local governments and utilities as well as their corresponding Regional Commissions. However extensive support for initial activities in particular will be needed from various State entities. This section also covers how the Upper Oconee Plan will align with neighboring regional plans and includes recommendations to the state. Recommendations to the state are broken into three categories:

Funding

- Identify long-term mechanism, beyond grants, to assist responsible parties with implementation.
- Work with existing organizations such as the GSWCC (Georgia Soil and Water Conservation Commission) to identify incentives to encourage the installation and use of variable rate irrigation systems by a certified irrigation professional.

Coordination

- Select an entity, such as EPD, DCA, or the Regional Commissions, to serve as the clearinghouse and coordinator for ongoing Upper Oconee Council planning activities.
- Select a mechanism to allow for ongoing Upper Oconee Council input during implementation of the Plan's MPs and establish process for involvement in the Plan's 5-year update.
- Work with existing organizations, such as ACCG, GMA, and GAWP to develop templates and materials that each regional council (with assistance from DCA or Regional Commissions noted in Section 2.3) can adapt for regional/local implementation. Topic areas, from Table 7-2, could include: public education program, water conservation goals, regional residential and commercial water audit program materials, golf course water management, grease management, CMOM, general stormwater management, and stream buffer protection.
- Work with existing organizations such as the GSWCC and the State University system to develop watering, nutrient management, crop land management guidelines for major crops grown in the Upper Oconee region.
- Coordinate with state and local health departments to: develop minimum, consistent design standards that anticipate future centralized sewer connections where appropriate; develop example policies for connection to public sewers; and develop regional recommendations and a model ordinance for decentralized sewer systems.
- Coordinate with GEMA on development of model flood damage prevention ordinance.

Policy/Programmatic

- Develop and implement a consistent program to meter and report agricultural water withdrawals greater than 100,000 gallons per day.
- Consider modifying (limiting) the extent of exemptions found in the Erosion and Sedimentation Control Act (OCGA 12-7-17).

After the review of these sections, the Council was tasked with holding breakout discussions to review and make recommendations on Table 6-1 and 7-1, to offer additional recommendations to the state, and identify the "biggest challenge" to successfully implementing the MPs for the Upper Oconee region. The following is a compilation of their comments:

- Educating the public will be critical to the implementation process.

- Well drillers may need special attention/education.
- Smaller local entities/governments may be concerned about the impact of new regulations.
- WQ-1 change to remove zoning reference from the MP title.
- WC-8 change to require rain sensor installation in areas above Penfield node with a gap
- CM-10 - need to further discuss alignment with Plans of adjoining Councils.
- Recommendation to the State: look into Residential Nutrient Management, i.e. loading from residential lawns, formulation of lawn fertilizers. Formulate plan to address this in the next update.
- Be careful when recommendations are conveyed to EPD for implementation that they do not become requirements/mandates.
- MPs need to clarify responsible parties and where some are location specific. There needs to be more definition by MP area, what gaps are being addressed, and specific subarea where MP is applicable or whether it's the entire region.
- WQ-11 revision to encourage non-MS4 communities to deal with NPS pollution; focus on areas of high density to address assimilative capacity gaps.
- WW-3- recognize thresholds and improve O & M for those smaller entities.
- Local Health Departments prohibited from following up on O & M.
- Regardless of size, if drain field and [septic] system are not on the same property Health Department will send to EPD for review and approval.
- Biggest challenge - clear definition of responsible parties, not just "local" government.
- Need to understand how local comprehensive plans will be linked to regional plans.

Joe Krewer of DCA noted that the guidance from the MOA directs councils to remove "inconsistencies" with local comprehensive plans, not to specifically integrate all the requirements in the comp plans.

6) Review Updated Section 8 on Monitoring and Reporting

After the breakout exercise, Baughman went through the final section of the Plan. Section 8 establishes the means for monitoring and reporting the Plan's progress. Monitoring of the process toward implementation of the recommendations will be based on key benchmarks identified for water conservation, water supply, wastewater, and water quality practices. Progress will be evaluated annually, biannually, or at each of the 5-year plan updates depending on the MP. Table 8-1 of the Plan provides the benchmark, the measuring tool, and the time period. A synopsis of the benchmarks is as follows:

Benchmark(s) for All MPs

- Implementation of initial and short-term actions

Benchmark(s) for Water Conservation MPs

- Maintenance or reduction of residential per capita water use
- Implementation of recommended conservation MPs

Benchmark(s) for Water Supply MPs

- Reduction in future infrastructure/facility gaps between existing permitted water withdrawals (groundwater and surface) and future demands

Benchmark(s) for Wastewater MPs

- Availability of permitted assimilative capacity in the major tributaries of the Upper Oconee region

- Reduction of the future wastewater facility gaps via expansion or development of new facilities to meet projected future wastewater demands

Benchmark(s) Water Quality MPs

- Support of designated use
- Reduction of pollutant loads observed in the watershed modeling
- Observed improvement in water quality monitoring results

Baughman explained that Section 8 also includes provisions for updating and amending the Plan. Specifically the State Water Plan and its associated rules provide that each regional plan will be subject to review by the appropriate Council every 5 years, unless otherwise required by the Director of EPD for earlier review. These reviews and updates will allow an opportunity to adapt the Plan based on changed circumstances and new information. The Plan can also be amended on a 5-year basis as required unless additional changes (“triggering events”) are identified and funded by EPD in the interim period.

7) Follow up on Section 8 Comments

Members were again asked to hold breakout discussions to review the benchmarks in Table 8-1 to ensure they are reasonable and measurable, to make any suggestions for edits/additions/deletions to the list, and attempt to define “triggering events” that would prompt an update prior to the 5-year cycle. The following is a compilation of the suggestions from the breakout sessions:

Suggested Additions to Table 8-1

- Annual survey implemented by the Regional Commissions
- EPD should be the keeper of the annual survey information as opposed to DCA or a Regional Commission
- Require a section in a water provider’s annual Consumer Confidence Report that details conservation actions and status as it relates to Plan MPs
- Water quality tool [on EPD website] needs more frequent updates
- Funding will be needed to keep Council going
- Wellness check could occur in the interim before the update as opposed to waiting on a triggering event
- Use surveys to benchmark progress

Suggested “Triggering Events” for Interim Updates/Amendments

- Drought conditions
- Water quality changes related to the lakes

One group suggested keeping the Council loosely in place and if or when an issue arose, reconvening the group with approval voted on by at least 3/4 of the Council. The idea was expanded upon to recommend (re)electing a Chair each year to assist with reconvening Council, filling vacancies, etc. EPD staff noted that the legislation for the Statewide Water Plan did allow for the ongoing existence of the councils, but the specifics would need to be researched.

8) Overview of 319 Grant Opportunities

Julie Montaigne of EPD presented on the 319(h) nonpoint source implementation grants program. The program operates under federal grants distributed through EPD and requires a 40% local match. Eligible recipients must be governmental entities, such as cities, counties, universities, RC&D councils, regional commissions, etc. The criteria for 319 grants include targeting impaired waters and focusing on small

watersheds, demonstrating quantitative success (estimates of load reductions, monitoring results, ordinances implemented, etc.), and following state and federal guidance. Montaigne also provided eligible project examples, such as:

- Stormwater projects (such as rain gardens, bio-swales, and constructed wetlands)
- Projects to encourage low impact development (ordinances, LID demonstrations, outreach, etc)
- Management practices to restore or protect water quality (stream restoration, agricultural management practices such as livestock exclusion)

She explained that the grants cannot fund projects that further the implementation of mandated federal permits, such as NPDES requirements, implementation of elements of a permit (Watershed Assessments, Watershed Protection Plans, and/or other plans associated with permit requirements), consent orders/decrees, installation of wastewater infrastructure, water supply projects, and several others.

Montaigne then showed several case studies of successful 319 grant projects such as a constructed wetland in the City of Covington that provides stormwater treatment and serves as an outdoor classroom, a green roof project in the City of Alpharetta that does the same, and the Better Back Roads program that shows ways to improve unpaved roads to reduce sediment loading in waterways.

She then covered the requirements for the grants available to the regional water planning councils, specifically:

- \$100,000 federal funding maximum with a \$66,667 required minimum match
- 2-year maximum timeframe
 - Anticipate beginning Fall 2011
- Address waterbodies that are identified by:
 - Assimilative Capacity Resource Assessments as “Moderate,” “Limited,” or “None/Exceeded”; and/or
 - 303(d) List of Impaired Waters; and/or
 - Components of TMDL Implementation Plans or other watershed management plans
- Projects submitted to EPD by January 31, 2011

The next steps for the Councils would be to identify a specific project to fund, identify the funding recipient, include the project in the Plan, and work with project recipient and EPD liaison to draft a workplan and submit for approval.

The floor was then opened for Council discussion which centered on potential ideas, education, financial matching etc. Representatives from Athens-Clarke County suggested an educational program on septic tank maintenance. Montaigne did explain that the grant must actually go to a local government with legislative authority and not the Council itself; she also noted that it is a reimbursement grant. Mark Risse, of UGA commented that public education is essential. He said cooperative extension agents can be available to help and noted that they had funding for a watershed-based education agent who completed a number of education demonstration projects in a two year time span.

9) Discuss Revised Schedule for Completion

Baughman then provided Council with a revised schedule for completing the Plan based on new guidance issued by EPD Director Allen Barnes, which extended the deadline for providing a draft of the Plan. He said the rationale behind the extension was to give individual councils more time consider the resource

assessment modeling results and to further refine their management practices; several councils had requested the extension. It would also provide councils with additional time to further coordinate with local governments, utilities and Regional Commissions on the Plan's implementation activities, i.e. Table 7-1. Baughman noted that it would give the Upper Oconee Council time to work on its 319 grant application and any other activities they wanted to complete as well.

He then outlined the key milestones and timing for completion of the Plan:

- March 2, 2011 (proposed) - review results of MP resource assessment modeling, coordination meetings and final draft of Plan at CM #10
- May 2, 2011 – generate final Plan for EPD review and distribution for public comment
- May 9, 2011 – public notice issued by EPD for the comment period for the final Plan
- September 9, 2011 (proposed) – review final Plan at CM #11
- September 30, 2011 – generate final Plan for EPD adoption

10) Elected Official and Public Comments

Comments from elected officials and the public were solicited throughout the meeting and then also at the end.

Ben Emanuel with Altamaha Riverkeeper shared several comments with the Council: first, in the summary of energy demands, he asked members to consider Plant Branch's conversion to cooling towers to reduce heat load. He also spoke on the in-stream flow meeting that occurred the previous day. He noted that while a lot of the material was academic and complex that Council should consider specific areas important to aquatic resources and the flows needed to maintain those resources. He said Riverkeeper would post a summary of the presentation to its website.

11) Wrap Up/Council Meeting Evaluation

Council members completed their meeting evaluations and the group was adjourned.

12) Written Comments Submitted to Council

In accordance with the Council's request to receive written comments, two were submitted by the end of the meeting. The comments are recorded as written. Illegible words are noted with a question mark (?). Additional clarification of acronyms, jargon, etc. is noted by brackets [].

Mark Risse, UGA

Public education and collaboration is critical to both effective water quality and water conservation programs. Often public education is an oversight that is underfunded and conducted by individuals with little experience in community education. Cooperative Extension has agents in almost every county in Georgia. These agents have backgrounds and training in environmental and water resources areas. They also have the expertise of the entire University behind them. They know the community, can work across county lines, and may be able to assist in attracting funding. Several states have funded watershed based agents (Wisconsin, Kansas, North Carolina, for example) and proven the effectiveness. In Georgia, through the 319 funded initiative for watershed excellence, one agent was funded to work in 13 counties in the Upper Oconee. This agent assisted the counties in E & S [erosion and sedimentation] training, stormwater management, implementing water conservation demonstrations, and delisting TMDL [total maximum daily loads – a calculation of the amount of pollutants a water body can receive and still meet quality standards] streams. This could be an effective model to follow, especially in smaller, rural areas

where the county may not be able to afford their own stormwater or water conservation coordinators. One individual could be jointly funded to work with several communities. These agents would work with rural and urban audiences, county and state officials, watershed groups, and all other audiences.

Ben Emanuel, Altamaha Riverkeeper

1) On Energy Water Demand Forecasts: Future consumption at Plant Washington was listed in the forecasts presented today as either 8 mgd (baseline) or 9 mgd (alternative). My understanding is that the proposed consumptive use for Plant Washington is more like 13 mgd according to the draft permits for Plant Washington. These figures should be verified, corrected in the forecasting, and corrected in any assessments dependent on the forecasting.

2) Today's summary slide for Section 4 of the draft regional water plan indicated that energy demands for water in the region are expected to remain relatively constant, whereas notes made in the Energy Water Demand Forecasts presented today indicate that there may be future changes at Plant Branch in favor of more recirculated cooling technology, which would be more consumptive of water. The potential for such changes to have an impact of significant magnitude on the Surface Water Availability Assessment and on Section 4 of the plan should be clear to council members.

3) I encourage council members to review the meeting summary and presentations from yesterday's (12/7/10) ad hoc meeting on instream flows, held in Macon, when those materials are posted to the state water planning website. At yesterday's meeting, councils throughout the state were welcomed to include language on this topic along the lines of what the Upper Oconee Council has included, and I expect that many or most will do so (many have already).

While fairly academic, the material presented is important to the work of the council, and I will be happy to discuss it more with council members at any time. There was much discussion of the fact that there can be no "one size fits all" approach across the different planning regions of the state, and discussion also of areas in which more information is needed. (One starting point might be to add additional planning nodes that will reveal information about surface flow regimes in areas identified as critical by the State Wildlife Action Plan.) Patti Lanford of DNR WRD also attended the meeting and may have information from WRD fish surveys to share with the Oconee council.

There were many areas in which councils were welcomed to seek additional information (or additional modeling of other flow regimes and their relationships to particular aquatic resources), especially if there are certain aquatic resources of concern in the region.

Meeting Attendees

Council Members Present

- James Andrews
- Charles S. Armentrout
- Richard Bentley, Chair
- Hunter Bicknell
- Vincent Ciampa
- Stuart A. Cofer (alternate)
- Jennifer Davis
- Larry Eley
- Linda Gantt
- Pat Graham
- Dana Heil
- Allen Hodges
- Danny Hogan
- Dennis W. Holder, Vice Chair
- Charles H. Jordan
- Kevin Little
- Rabun Neal

- Bill Ross
- Greg Thompson

Council Members Absent

- Melvin Davis
- Alan Foster
- Roger Folsom
- Pat Hardy
- Jim Luke (alternate)

- Sen. Bill Cowser (ex-officio)

- Drew Marczak
- Richard McSpadden
- Benjamin R. Tarbutton
- Rep. Terry England (ex-officio)

Staff and Planning Contractors

- Kevin Ferrell, EPD
- Julie Montaigne, EPD
- Jeff Linzer, EPD
- Doug Baughman, CH2MHill

- Heather Dyke, CH2MHill
- Brian Skeens, CH2M Hill
- Marci Davis, Jacobs

Partnering Agencies

- Patti Lanford, Department of Natural Resources – Fisheries
- Joe Krewer, Department of Community Affairs
- Rick Hubert, Smith, Georgia Farm Bureau
- Tas Smith, Georgia Farm Bureau

General Public

- Herbie Johnson, Georgia Power
- Ben Emanuel, Altamaha Riverkeeper
- Steve Payne, Town of Braselton
- Bob Snipes, Athens-Clarke County
- Gary Duck, Athens-Clarke County
- Katherine Helms Cummings, FACE (Fall-line Alliance for a Clean Environment)
- Marilyn Hall, Athens-Clarke County
- Katie Paisley, C.H. Guernsey
- Mark Risse, UGA
- Frank Sherrill, Social Circle