Georgia Department of Natural Resources

Environmental Protection Division, Watershed Protection Branch
4220 International Parkway, Suite 101, Atlanta, Georgia 30354
Linda MacGregor, P. E., Branch Chief 404/675-6232
FAX: 404/675-6247

September 17, 2009

M E M O R A N D U M

TO: Council Members

FROM: Jeff Larson, GA EPD
Bill Martello, JJG

SUBJECT: Council Meeting 3 Summary
Savannah-Upper Ogeechee Water Planning Council

Georgia Comprehensive Statewide Water Management Plan

Regional Water Planning

Council Meeting 3 Summary

Meeting Date: September 17, 2009
Location: Cateechee Golf Club, Hartwell Georgia
Attendees: See list

(1) Welcome and Introduction

Chairman Cross welcomed all to the meeting and asked the public members to introduce themselves. Chairman Cross asked if the council members had reviewed Dr. Couch's memo on Judge Magnuson's ruling. He commented that the best thing to do is to ignore the ruling and continue our planning work since we do not know how things will play out and don't know what the US Army Corps of Engineers (USACE) will do. Bill Martello showed the Governor's message to the council. The governor stressed the importance of

the regional planning work and thanked the council members for their commitment to this work.

Co-chair Charlie Newton offered to host the next meeting in Thomson in McDuffie County. There was no objection from the members and Chairman Cross confirmed that the next meeting would be held in Thomson between November 8th and 20th, 2009.

Mr. Martello reviewed the meeting agenda. EPD Assistant Branch Chief Jeff Larson reminded council members of the Lake Hartwell tour.

(2) Water Use Forecast

Agricultural Demand Forecast – Dr. Jim Hook (USA) and Cliff Lewis (EPD)

Dr. Jim Hook of UGA gave the presentation on agricultural demand forecast. EPD asked UGA to assemble a team to put together agricultural demand forecasts for the regional planning process. These forecasts predict how many million gallons per day (MGD) will be needed over the next 40 years. The baseline projections start with a existing irrigation acreage and water sources. Fifty-seven (57) years of weather records are available in Georgia for comparing irrigation use in wet, average, and dry years. These data were analyzed to anticipate the range of water use in various weather conditions. The unit MGD was used for the projections because water resource planners use MGD for planning (instead of acre-inches).

The irrigation acreage was estimated based on the following sources:

- Mapping of fields of where irrigation is applied
- Pending permits where irrigation is already occurring
- EPD withdrawal permits records
- Aerial imagery (2005 to 2007) for signs of irrigation system (center-pivot system)

In addition, projections of crop acreage were based on the USDA census of Agriculture and Annual Crop reports, Food and Agricultural Policy Institute (models are available for the SE), and the 2007 UGA Farm Gate Report (specialty crop). These projections are updated each year and the average of the three forecasts was used for this study. The growth is expected to be slower growth in the next 40 years than the last 10-20 years. Irrigation acreage is estimated to increase about 20%.

Dr. Hook stressed all information is shown on the georgiawaterplanning.org website. He showed the various links that will show monthly withdrawal by county and breakdown of water use by type. Seasonal variation versus annualized use for wet, dry and average conditions were shown.

There are small pockets of agriculture in the northern part of SUO region, but most of the agricultural demand is located in the southern part of the region. Groundwater use is higher than surface use for Ag irrigation statewide. Lower Flint has the largest

irrigation/agricultural production in the State. Groundwater use in the SUO region is estimated to be about 5 percent of the State's projected 2011 demand; surface water use is estimated to be about 6 percent of total state agricultural use. Water use is not static throughout the year; the irrigation needs during growing seasons is much higher than annual average use. Daily demand varies even greater due to rainfalls. Dr. Hook showed graph from Lower Flint.

Question: Are the forecasts consistent with UGA's employment projections?

Response: They are not tied together. The projections are not tied to limitations on land, water resources or population growth. It is assumed that future growth will occur near existing location of irrigated fields.

Comment: Did not see any numbers for animals, nurseries, or green houses. Typical average water use on a small farm is about ½ inch per day.

Response: Poultry and livestock are not included in the agricultural demand projections. This forecast is for irrigation demand. Poultry is included in industrial demand.

Comment: It only included permitted demand.

Response (Cliff Lewis): EPD does not regulate irrigation water withdrawals less than 100,000 gallons per day (gpd). We had to use available data and recognized there were limitations to the data. There is a role for the council members. The council members can provide specific information on the data EPD does not have. The projections captured 95 percent of Georgia's irrigation needs. Demands from container nurseries and livestock are in the other 5 percent. EPD would like to work with the council to bring this data to the planning process.

Chairman Cross asked how many members attended the meetings in August held in Athens and Perry. He commented that we knew a gap existed, and fortunately this was a small part.

Comment: Suggest we change the title to reflect that the projection is only for irrigation. Agriculture includes more than irrigation.

Comment: Some farmers use both groundwater and surface water. The forecasts separate groundwater and surface water irrigation.

EPD: We started with permitted data and groundwater and surface water permits are separated. It is roughly 60 percent groundwater and 40 percent surface water and we assume that this trend would continue.

Question: If we have a drought and there is no groundwater, will EPD allow them to use surface water or vice versa?

Cliff asked members to get back to him if they have additional questions and comments.

(3) Vision and Goals

Inga Kennedy, the meeting facilitator, presented a straw man's draft vision statement based on members' submission. Chairman Cross asked members to submit their comments to the planning contractor and bring the revised vision statement back for adoption in the next meeting.

The Savannah and Ogeechee Rivers along with the region's groundwater resources will provide high quality water supplies for balanced growth while protecting the natural and built environments. The Savannah – Upper Ogeechee Regional Water Planning Council will formulate river basin policies based on current and developing technologies and conservation methods.

Question: Can electronic version of the draft vision be sent to the members?
Response: Yes.

Question: What is the definition for balanced growth?
Response: Balancing different interests and different types of water use. It may mean different things for different people.

Chairman Cross: This is a draft for members to provide comments. With all we have to cover in today's meeting, let's come back to it in our next meeting.

Question: What is a built environment?
Response: Anything that is manmade.

Inga requested members to submit comments by mid-October. If we don't have consensus we can appoint an ad-hoc committee to finish it. She then briefly went over the draft goals based on comments received from Council members.

Draft Goals:

1. *Form a permanent Savannah-Upper Ogeechee Water Council as the conduit for bringing together all stakeholders and assisting the State with implementation of water resource goals.*

2. *Plan for sufficient water supplies to support planned economic development, residential, industrial, agricultural, recreational and utility services in a sustainable manner.*

3. *Work with EPD to establish ongoing relationships with South Carolina stakeholders to address water sharing issues.*

4. *Work to enhance the public's understanding of regional water issues and the need for support of new policies to protect future resources.*

5. *Identify opportunities for water reuse in the region.*

Chairman Cross: Each water basin should stand on its own. The council should have a goal or objective that states that each region deals with what it has and makes it work.

Question: Would it be appropriate to make a motion to make this a goal?

Question: Do we want to take this up or do we want to wait until the next meeting?

One council member made a motion to add a goal: to keep and to work with the water resources within the SUO region (not allowing interbasin transfer). A few members second the motion.

One council member commented that the process should be set up to provide comments for adoption in the next meeting. It is difficult to vote without knowing the exact language of the motion. Therefore, the motion was amended to add this statement as a goal for consideration in the next meeting. This motion was passed unanimously.

Inga stressed the importance of members submitting the comments to PCs prior to the next council meeting.

(4) Public Involvement Plan

Inga briefly reviewed the basic elements of the draft public involvement plan, including key stakeholders, procedural criteria, meeting announcements, public comments and etc. Chairman Cross asked the members to provide comments to the planning contractor and bring the revised draft back to the next meeting for discussion and adoption.

Question: Who are the interested parties and how are they notified?

Response: EPD provided the planning contractor a list of e-mail addresses of the interested parties; the list included people that contacted EPD through the State Water Plan website. The meeting announcement is posted on the website. The public notice and the draft agenda were sent to the media and the list of interested parties. Please let us know if there are other groups/individuals we should add to the distribution list.

Chairman Cross said that he has scheduled a town hall meeting on October 13th in Columbia County to kick-off the publicity for the planning process. The public will be notified through local newspapers.

Comment: The educational aspect of this planning process is important. The council should work harder to educate the public.

Comment: For the public to comment, they are asked to sign up in advance but have to wait until the end of the meeting to comment. This may be a lot to ask for people to stay all day to comment at the end of the meeting. There needs to be other ways for providing comments. Can we consider written or e-mailing comments?

Response: Written comment is always encouraged. The planning contractor is working with EPD to set up a "contact us" link for each planning region that will direct questions or comments to the council chair/co-chair and the planning contractors.

Chairman Cross: We want everyone to have opportunities to express comments and opinions; the council reserves the right to modify procedures and the agenda of the meetings.

Question: How can we view other people's comments?

Response: The website will be the best place to view others' comments. Comments expressed during a council meeting are recorded in the meeting summary. The planning contractor will look at ways to collect and display comments on the website.

(5) Planning Guidance and Planning for Joint Meetings

Bill gave an overview of Planning Guidance and went over the joint meeting schedule and grouping. The grouping of the joint council meetings is based on councils that share the same resources (river basin or aquifer). The first joint meeting is planned in January 2010 and the second in April of 2010. Bill mentioned that all are invited to attend the joint meetings to get informed. However, he suggested forming a sub-committee to provide continuity in attending these meetings and to guide the planning contractors with the selection of management practices.

Question: How many meetings will there be?

Response: There are two series planned so far; each series has six meetings (twelve total). One series will occur in January 2010 and the second series in April 2010. SUO council is involved in three out of the six meetings each time. That is a total of 6 meetings for SUO during the first half of 2010.

Tai-Yi Su commented that the first series of meeting is designed for sharing the availability and the water quality of the resources; hopefully demand forecasts will be available at the time. Subsequent meetings are to share initial selection of management Practices from each council. Meetings during the later part of 2010 may require councils to resolve conflicts if the numbers do not add up.

Question: When will the meetings be? We can't plan unless we have dates.

Response: The dates are not available yet. The planning contractor will inform the council as soon as they are scheduled.

Chairman asked if co-chair Newton can attend all meetings. Mr. Newton said it would be hard. Chairman Cross asked council members to let him know if they would like to serve on the sub-committee.

(6) Population and Employment Forecasts

Mr. Martello provided an updated status of the population and employmment projections. The projections are currently being revised and are targeted to be available in October. The revised population projections will now include a baseline residential population and the employment factors will be separated. Employment projections will only be provided for twelve categories of major water-using industries.

Question: Why is the population and employment separated?

Response: The uncertainty in how employment trends affect population resulted in the revised approach of decoupling the population and employment projections.

Question: How does it take into account, for example, a Toyota plant that may employ several thousand people in the communities? Will the water use be included in industrial use?

Response: If the industries fall within the twelve categories, it would be covered in the industrial demand projections.

Comment: I recalled the P & E projections would be updated every two years.

Response: It would be updated more frequent than census update (Note: it was confirmed that the population projections will be updated every two years.)

(7) Municipal and Industrial Water Demand and Wastewater Flow Forecasts

Municipal water demand forecasts will include water demands for residential, commercial and light industrial uses.

Question: Does the 75 gpcd for self-supplied water assume the self-supplied population uses less water than customers on public supply? It is in the low range of the proposed 75 to 175 gpcd used for publicly-supplied population.

Response: The USGS estimated self-supplied quantity using 75 gpcd. The council can provide data for adjustment if they are available.

Comment: We (water systems) supply per capita water use calculations to EPD each month. Will these data be used?

Response: EPD has provided withdrawal and discharge record database and we will use these data to adjust the initial per capita water use rate calculated based on the USGS data.

Planning Contractor: The council's input is needed for the future self-supplied population scenarios. The planning contractor will begin with two scenarios: one scenario will be based on current ratio of self-supplied and publicly-supplied population; the second will be based on historical trends of self-supplied and publicly-supplied population. We can work on a third scenario if specific information (such as future water system expansion plans) is available to customize future trends. The council will help select a scenario for gap analysis.

Question: Does the category "Electric Machinery" include production of motors for car manufacturers?

Response: We will have to look at NAICS and SIC sub-categories to confirm.

Question: Where is power generation? We have two major coal power generation plants in the SUO planning region, Plant Washington and Plant Vogel. Plant Washington uses groudwater and will tap into the Ogeechee watershed.

Response: The water needs for power generation will be handled separately from the M&I demand. The projections will be in the "energy" category. EPD is working on this with assistance from the energy companies. There are four categories: agricultural, energy, municipal and industrial.

Question: How much do Plant Washington and Plant Vogel currently use? Response: Liz Booth (EPD) commented that the water use from Plant Washington is included in the groundwater model. Chairman Cross commented that existing energy permits are shown on EPD's permitting records on the website.

Mr. Martello described the proposed public input process for municipal water and wastewater forecast. The council is asked to provide five representatives to attend two meetings planned in late September. One meeting each will be held on the eastern and western part of Georgia, respectively. Chairman Cross asked for volunteers for the public input meetings.

Jeff Larson (EPD) commented that the five representatives can be five council members or the council member's local resources. EPD is looking for experts with knowledge of water consumption to provide input for your community. The idea is to get information before the forecasts. Council members need to think about who they would like to bring to these public meetings.

Chairman Cross asked how many from the council know what is permitted or used in your community. Few raised hands. He then asked how many represent water providers or are water service managers? Four council members raised their hands. Clarification: two meetings will be offered and the council member need only attend one meeting planned during the last week of September.

Chairman Cross appointed the following members to attend the public meeting in late September: Mike Eskew, Don Dye Bruce Azevedo, Pat Goran, also Columbia County's water manager.

Question: Do we need to find out what South Carolina is pulling?

EPD (Larson): We are working with South Carolina; they don't have a lot of information on water withdrawals.

Chairman Cross mentioned that council member Braye Boardman is on the committee with Dr. Couch working with South Carolina.

(8) Resource Assessment

Dr. Wei Zeng (EPD hydrology unit) and Dr. George McMahon gave the presentation on surface water availability assessment.

- Water Use data compilations: gathered data of all withdrawal and discharge facilities
- Observed flow data compilations: gathered available USGS data, including in gap in data
- Unimpaired data: gathered sum of what is measured (USGS) and what is consumed
- River basin delineation: The basin or aquifer has been divided into small units (sub-basins)
- Planning node: all info (withdrawal and discharge data) upstream the planning nodes will be grouped together in resource assessment

Question: Are these (planning nodes) gage locations?

Response: Yes. Basic nodes are located where long-term monitoring data is available and planning nodes are a sub-set of basic nodes.

Dr. Zeng explained the desired flow regime - what needs to be protected in the environment: water quality and minimum flow requirements (for aquatic life). The Council has the flexibility to go beyond basic minimum low flow requirement to include other "desired flow" such as recreation or others. EPD has assembled SEEP experts from across Georgia and the country to provide input on resource assessment. The models are

used as an accounting tool to account for the quantity of flow comes in and goes out and whether we can meet desired flow regime. After existing condition assessment, we move to future assessment using M & I demand forecasts, energy and agricultural demands to address potential gap in the future. The council will select MP to meet gap. EPD will work with the council and planning contractors in an iterative manner to select management practices.

Dr. Zeng showed the map with withdrawal and discharge clusters. The exact locations of these withdrawals and discharges cannot be shown because of security concerns. He asked the council to review the data and let EPD know if there are corrections. Initial results will be reported in the January joint meeting.

Question: What is the degree of uncertainty of the model?

Response: Stream flow and evaporation predictions are close to actual measurements. Wastewater returns and water uses not in the right locations can contribute to potential error of the model.

Dr. Zeng reminded the audience that the model is built to look at a magnitude of several hundred square miles. Dr. McMahon mentioned that the historical streamflow data is available up to late 1930s.

Comment: The land cover back in the 1930s was likely very different.

Question: What is the percent of evaporation considered?

Response: Evaporation is calculated based on regional pan evaporation data.

Question: Why is it important to have unimpaired flow and how will we use it?

Response: As if trying to reconstruct the raw materials and recipes after a cake was already baked, the unimpaired flow approach tries to start with the maximum natural flow in the streams without excluding current water uses.

Question: Do we consider runoff?

Response: No. Runoff estimation includes lots of parameters; we have to use the best available data (streamflow data) that is available.

Dr. Liz Booth gave the presentation on the water quality resource assessment. She discussed the definition of assimilative capacity and then showed the impaired stream segments in the Savannah-Upper Ogeechee planning region based on organics, pH, toxicity, Fish consumption, dissolved oxygen (DO), biota (sediment), and fecal coliform. EPD will be developing DO standards for naturally low DO streams in 2010 and is looking at revising bacterial standards.

Assimilative capacity may be affected by future land use pattern, population growth and the increase in impervious surface area. UGA is currently developing future land use forecasts for the regional planning efforts.

The DO Total Maximum Daily Load (TMDL) for the Savannah harbor has affected dischargers all the way upstream to Augusta. Additional EPD staff has been added to collect water quality data; they also collect actual discharge data for calibration of the model. Plant Vogel is included for its thermal discharges. Seven years of USGS data will be used for model calibration. Effects of non-point source will be translated to estuary water quality in the model. The council might look at using green infrastructure in the future to manage storm water, NPS and increased impervious surface.

(9) Management Practice

Mr. Martello announced that a detailed presentation of Management Practices would be postponed to the next meeting because the meeting was behind schedule. A menu of management practices will be prepared for the Council to review and there will be a preliminary discussion on ranking criteria.

(10) Corps of Engineers Presentation
Reservoir Management and Drought in the Savannah River Basin
Presented by Jason Ward, Hydrologist, USACE

Lake Hartwell was originally authorized for hydropower, flood protection and navigation purposes. Water supply was added later as an authorized purpose. (Note from the planning contractor: water quality and fish and wildlife management also were added later as authorized purposes.)

Chairman Cross asked how many of the council members plan to participate in the Lake Hartwell tour and twenty council members responded yes.

Question: Will we have the same problem as Lake Lanier?

Response: The authorized purposes include water supply and water quality for Lake Hartwell. It is a different kind of authorization and should hold up. The USACE is currently reviewing the authorization to confirm.

Question: Where is the lake level typically in September?

Response: Currently we are about 2.5 feet below average. The system is in Level 2 drought currently. We are still in drought status. We had a temporary relief in March this year, but high evaporation over lake this summer exceeded inflows to the lake and the lake level has not entirely recovered. The system conservation storage (three lakes combined) reached new low records in Jan 09 and has recovered since.

The drought severity was determined based on 57 years of records. The 2007 and 2008 droughts were our new historical minimum. The inflow was about 1,705 cfs in August 2009, minus 1100 cfs for evaporation, and the remaining was for downstream use. Because of the drought, there was shortage in power production; the streamflow was in the lowest 10% range for historical records. The drought outlook of November 2009 has improved; we are expecting near and above normal precipitation in the Savannah River Basin.

Question: How is the minimum flow estimated?

Question: Do you have any problem releasing 3,100 cfs at Lake Thurmond last year?

Response: The Savannah River Site was within 0.5 foot of intake going dry.

Mr. Ward showed the impact on lake level after a major rain event on December 9, 2008. The water level in Lake Thurmond went up 6 feet; however, the lake level at Lake Hartwell only went up 6 inches because Lake Hartwell received less intense rainfall during the event and Hartwell is a large lake with a relatively small drainage basin. Lake Thurmond has a much larger drainage basin and can capture much more runoff during rainstorms.

Question: Do the public groups understand what the USACE needs to do?

Response: We held public meetings to explain and communicate the situation.

Questions: Do the two groups have different goals and can the difference be resolved?

Response: Savannah District is hoping to conduct Phase II of the Savannah River Basin Comprehensive Study; the study is currently unfunded at Federal level. In the study, the impacts of reallocation of the storage will be evaluated to look at trade-off between different uses.

Comment: The council will review the resource capacity and how it will meet the needs.

Response (USACE): We also need to make sure we are doing right environmentally. The council can help all interested groups to be on the same page. The states determine allocation for all users. Federal agency (USACE) manages the storage vessels. USACE needs the states to advise on long-term allocation strategies.

The new drought contingency plan rules based on the 2006 update effort changed maximum release to 4,200 cfs for Level I drought, which allows the storage to go longer in drought. However, there are cost trade-off between hydropower productions and other uses of the lake, including recreational use. Phase II would further evaluate trade-off between various uses and will include cost comparisons and comparisons of effects of reallocation scenarios for reservoir storage. In general, it will help downstream water quantity as well and all other uses, with the exception of hydropower.

(11) Public Comments:

Herb Burnham (president of Lake Hartwell Association): Mr. Burnham first congratulated Georgia for making the planning possible. The Lake Hartwell Association has been working with the congress to urge South Carolina to work on a statewide water plan similar to Georgia's. He congratulated USACE for adaptive management of the reservoirs to bring Lake Hartwell's water level up. Full comment from Lake Hartwell Association is shown in Attachment A.

Keith Thomas (representing Building Construction Trade Council): Mr. Thomas's full written comment is shown in Attachment B.

Vince Drescher (Building Construction Trade Council): We concur with Mr. Thomas' comment.

David Cagle (Hart County citizen): There were devastating effects to local economy when the lake goes down. Georgia Power does not give back to the community.

*Kenneth Ward (*IBEW, *Building Trade)*: We concur with Mr. Thomas's comment.

Additional Comments

Council member Chris McCorkle encouraged all to review Ag demand or ask someone from your county to review and provide feedback to EPD. There are indications that some of the data is incorrect.

Chairman Cross asked the members to review all information on the website and also withdrawal and discharge permits on EPD websites to get familiar with issues in our region.

There were no further comments and the meeting adjourned. Many council members attended the Lake Hartwell tour.

(12) Summary of Action Items

- Council member to review draft vision and goals and return comments back to planning contractor by mid-October.

- Council member to review draft public involvement plan and return comments back to planning contractor by mid-October.

- Planning contractor to provide electronic version of draft vision and goals.

- Planning contractor to explore ways for viewing council members/public comments.

Meeting Attendees

Council Members in Attendance

Ron Cross, Chair	Charlie Newton, Vice-Chair
Bruce Azevedo	Braye Boardman
Jerry Boling	Charles Cawthon
Barry Cronic	Don Dye
Mike Eskew	Dan Fowler
Partricia Goodwin (alternate)	Pat Goran
Larry Guest	Toye Hill (alternate)
Robert Jenkins	Scott MacGregor
Eddie Madden	Tom McCall (Ex-Officio)
Chris McCorkle	Tim McGill
James Newsome	Stan Sheppard
Larry Walker	Tom Wiedmeier
Tenia Workman	

Council Members Not in Attendance

Deke Copenhaver	Ralph Hudgens (Ex-Officio)
Lewis Sanders	R. Lee Webster

Staff in Attendance

Jeff Larson – EPD	Brian Baker – EPD
Wei Zeng – EPD	Elizabeth Booth – EPD

Bill Martello – JJG
Tai-Yi Su – JJG
Inga Kennedy – PEQ

Partnering Agencies and General Public
Jason Ward–Hydrologist, USACE
Virgil Hobbs –Operations Manager, Lake Harwell Manager, USACE
Jon Huffmaster – Georgia Farm Bureau
Dennis Black – Georgia Farm Bureau
Amanda Wrona – The Nature Conservancy (Savannah)
Andy Crosson – State of Georgia
Justin Creighton – State of Georgia
Leamon Scott – Department of Community Affairs
Antonio Fleming – Georgia Soil and Water Conservation Commission
Keith Thomas – Building Construction Trade Council
Kenneth Ward – IBEW
Vince Drescher – Building Industry
Bill King – Woodward & Curran
David Cagle – Member of the Public
Frank Carl – Member of the Public
Sam Booker – Member of the Public

Attachments – Public Comments

Attachment A
Comments from Lake Hartwell Association, September 17, 2009

Attachment B
Comments from Building Construction Trade Council, September 17, 2009

Attachment A

**LAKE HARTWELL ASSOCIATION COMMENTS TO
GEORGIA REGIONAL WATER PLANNING COUNCIL
September 17, 2009**

LHA has been heavily involved in the statewide water planning process in Georgia. The current phase of development of a Comprehensive Water Plan is the work of Regional Planning Councils to add basin and area unique perspectives and input to the overall plan. LHA director Pat Goran currently serves on the Savannah/Ogeechee Basin Regional Council. LHA plans to provide the following input to the Council as part of their public comment period.

1. **LHA strongly supports statewide water planning efforts** as a means to achieve the equitable sharing of our finite resources. We were an early member of the Georgia Water Coalition and participated on the Savannah/Ogeechee Basin Advisory Committee. **We are heavily involved in achieving similar water planning legislation in South Carolina.**
2. LHA believes in the principles of riparian water rights in that **all users in a basin have the right to reasonable consumptive use. Water is not a commodity to be sold, traded, or moved to users outside the basin.**
3. Decision making for the SRB must include dialog and consensus with South Carolina and the Corps of Engineers; otherwise any agreement will be worthless. **LHA strongly supports completion of the Basin Comprehensive Study by the USACE. This should provide necessary data to achieve fair allocation of resources and a congressionally approved interstate compact.**
4. Current USACE management of the SRB is far from optimum, particularly in drought situations. **We support development of an adaptive management approach wherein lake outflows are continuously controlled based on real-time monitoring of inflows and downstream flows and conditions.**
5. Due to its proximity to the Thurmond Dam, the operation of the **Augusta Canal places severe limitations on the ability to implement effective adaptive management. We believe the Regional Council should review this system to determine whether the benefits of this operation justify the overall impact on the SRB.**
6. Climatologists universally agree that **future southeastern droughts will get progressively more severe**. This has been proven in the past decade with successive droughts of record. **Water planning must take this into account. Using only historical data will grossly over estimate available water resources.**
7. **The USACE Drought Contingency Plan is inadequate. It must be made more aggressive in timing and action to preserve water resources for all basin users to supply minimum needs throughout future droughts.**
8. **Until it can be established that water supply is available to meet basin needs now and in the future in severe drought conditions, no new permits should be issued for significant consumptive use from the SRB.** This would include the

proposed Plant Vogtle expansion. And any new permitting should require best available technology to minimize consumptive use. **Completion of the Basin Comprehensive Study listed in item 3 would establish available water quantities.**

9. **Ongoing demands to increase capacity at Savannah Harbor will further stress SRB resources due to water quality impacts.** The same is true of further shifting water supply to the city of Savannah away from groundwater and to the river. The **Regional Council needs to work with their Coastal counterpart to ensure that all efforts are being made to mitigate the impacts, particularly during droughts. Examples would include oxygen supplement systems for the harbor, and moving the Savannah drinking water intake sufficiently upstream to avoid salt-water intrusion at low in-stream flows.**
10. **An accurate, scientifically established definition of water users, water needs and flow rates in the lower river are needed to define fair allocation of water from the upper river. Once again, completion of the Basin Comprehensive Study listed in item 3 would establish available water quantities.**

Attachment B
Comments from Building Construction Trade Council, September 17, 2009

Oral Comments for 9/17/09
Savannah-Upper Ogeechee Region Water Planning Meeting

- These comments are submitted on behalf of the Building and Construction Trades Department, AFL-CIO, and on behalf of the men and women of the Building and Construction Trades Councils and on behalf of myself – as local residents that enjoy Georgia waters for recreational and other uses.
- An important goal of the water planning process should be to ensure that the region remains economically sustainable by ensuring that the natural resources necessary to support continued economic growth (which also depends upon protecting recreational and environmental values) are not damaged or irreversibly depleted.
- Adequate planning depends upon sound resource forecasting, which in turn requires an identification of realistic worse case scenarios concerning both demand for and availability of our water resources and the potential for catastrophic water shortages twenty to forty years in the future. State water planning is relied upon for the issuance of decades-long permits for extremely water-intensive major new industrial uses such as the proposed expansion of the Vogtle nuclear power plant. This risk assessment must include the combined impact of potential population increases, climate change, and interrelated demands on surface and groundwater resources. Underestimating future potential demand or overestimating future availability of our water resources could have the unintended effect of precluding other future development.
- As a specific example, it is critically important to make realistic projections of likely flows in the Savannah River and the extent and duration of worst case low flow conditions. If these projections are overly optimistic and fail to account for future demand, climate change and the like:

- Overestimating flows, and thus overstating the effectiveness of dispersion, could lead to underestimation of impacts of discharges from new sources, including thermal discharges from planned projects such as Vogtle.
- Overestimating flows could lead to underestimation of impacts of water withdrawals from projects such as Vogtle. For example, underestimating the proportion of a river that is required by a cooling water intake structure will also underestimate the impacts of entrainment and impingement on populations of aquatic species. Depending on the scope and duration of the miscalculation, this could result in irreversible impacts on fisheries, wildlife, and recreation dependent on these resources.
- Overestimating flows could also lead to underestimating impact of such projects on the availability of water for other potential water demands such as population growth and the use of the Savannah River for drinking water or other residential needs.

o In employment forecasting, the water planning process should consider whether the economic benefits (if any) of navigational use of the Savannah River outweigh the environmental damage and will require the state to forego other development (and jobs) in the future. For example, the state should consider whether the amount and timing of water releases required to support navigation will decrease supply to an unsustainable level and cause other uses that do not consume great quantities of water to suffer or become prohibitively expensive.

o The water planning process should recognize the direct and indirect economic benefits, as well as important non-economic benefits, of the use of the Savannah River for fishing and other recreation. Water consumption, pollution, thermal discharges, dredging and water releases for navigation all have the potential to impair this important use.

o With respect to public participation, I request that the written version of my comments be included in the post-meeting packet of materials for inclusion on the web.