

UPPER OCONEE BASIN WATER AUTHORITY  
JOINT OPERATIONS/ENGINEERING COMMITTEE  
E.H. CULPEPPER CONFERENCE ROOM  
NEGRC HEADQUARTERS

MAY 11, 2016  
8:30 A.M.

MINUTES

**Members Present:**

Gary Duck, Engineering Committee Chairman  
Wayne Haynie, Operations Committee Chairman  
Blaine Williams, Operations Committee  
Mike Renshaw, Operations Committee  
Joey Leslie, Engineering Committee

**Others Present:**

Jim Dove, NEGRC Executive Director  
Mott Beck, NEGRC Executive Assistant  
Chip Ferguson, Atkinson Ferguson  
Bob Snipes, Owner's Representative  
Pat Graham, Barrow County Chairman  
Nathan Hester, Jackson County Water & Sewerage Authority  
Brad Lanning, Jacobs  
Diana Jackson, Jacobs  
Chris Adams, Jacobs

**CALL TO ORDER AND APPROVAL OF MARCH 16<sup>TH</sup> MEETING MINUTES**

Engineering Committee Chairman Gary Duck called the meeting to order at 8:30 a.m. He asked for a motion to approve the March 16<sup>th</sup> meeting minutes. **Such a motion was made by Joey Leslie and seconded by Blaine Williams. The motion passed unanimously.**

**ITEMS FOR DISCUSSION**

The following agenda items were discussed and recommendations made as appropriate. A copy of the memo detailing each of the items is attached. Only recommendations/motions are listed in these minutes.

1. **Water Supply Model:** Based on current available data, it is anticipated that stream flows will be sufficient to meet the water usage needs during the 2016 Drought Protection Period and there is no need to designate

either a Drought Severity State or Drought Response Level. The Authority will be advised of the outlined output from the Model at the May 25<sup>th</sup> meeting.

2. **Bear Creek Water Treatment Facility – Revised Operational Processes:** As a result of the subject review, it has been determined that the existing treatment plant control system will allow the Clarivac System to be operated based upon water control parameters and will usually result in this system operating once per day rather than the current time based twice per day. This operational revision should reduce the reservoir withdrawal volumes by approximately 100,000 GPD, about 3 MG/month, and about 36 MG/yr. The Joint Committee accepted the above summarized BCWTF operational revisions and requested that the Authority be advised of these operational revisions at the May 25<sup>th</sup> meeting.
3. **Bear Creek Water Treatment Facility – Modification of Point of Lagoon Discharge:** After discussion on this item, a motion was made to recommend that the Authority authorize staff to a) explore the subject modification with EPD and, b) if determined to be acceptable to EPD, propose actions necessary to implement the noted modification. The motion was made by Wayne Haynie and seconded by Mr. Leslie. The motion passed unanimously.
4. **Bear Creek Water Treatment Facility – Water Flow Meters: Type, Accuracy, Testing, and Possible Modifications:** After discussion, there does not appear to be a need to modify current practices.

Following discussion covering all of the aforementioned items, the Committee accepted and recommends to the Authority, in the form of a motion, the below noted findings:

1. No supplemental flow meters are necessary for measurement of in plant flows.
2. Athens-Clarke County may wish to consider requesting the Authority to install an appropriate supplemental low flow sensor set on each of the 36" diameter raw water transmission lines. Of course, the cost for such an addition would be allocated to Athens-Clarke County.
3. The current practice of quarterly calibrating the ventura meters at the Bear Creek Water Treatment Facility appears to appropriate and should be continued.

The motion was made by Mr. Leslie and seconded by Mr. Williams. The motion passed unanimously.

At this time, Executive Director Dove, Ms. Beck, and Owner's Representative Bob Snipes left the meeting to attend the UOBWA Finance Committee meeting at the same location. Discussion continued with members and Jacobs staff. No further action was taken.

Respectfully Submitted,

Martha "Mott" Beck  
UOBWA Secretary

# Upper Oconee Basin Water Authority



**Date:** May 10, 2016

**To:** UOBWA Joint Engineering & Operations Committee

**From:** Bob Snipes, P.E. – Owner's Representative

**Subject:** Wednesday May 11, 2016 Meeting

The purpose of this memo is to summarize information to be discussed at the referenced meeting and, when appropriate, to make recommendations related to the agenda items.

## Water Supply Model

The Member Counties have all submitted the appropriate water usage information for input into the Water Supply Model for the upcoming 2016 Drought Protection Period. Diana Jackson, P.E. and Chris Adams, P.E., of Jacobs Engineering and I have collectively worked to adjust the initially provided water use information based upon water flows, and the associated peak day factors, measured at the Bear Creek Water Treatment Facility. This updated input information was provided to Committee members by an email from me on May 8, 2016.

Diana, Chris, and I will be available to review and answer questions regarding the Water Supply Model input and output information. The Model will suggest a Drought Severity Stage and, if appropriate, a Drought Response Level for acceptance by the Committee. The Committee should then develop either an "informational notice" to the Authority regarding the Model Output or, if appropriate, a recommendation regarding a Drought Severity Stage and/or Drought Response Level for consideration by the Authority at the Wednesday May 25, 2016 Authority meeting.

## Bear Creek Water Treatment Facility – Revised Operational Processes

During the last several months, Engineering Committee Chairman Duck, Operations Committee Chairman Haynie, Brad Lanning and Diana Jackson of Jacobs Engineering, and I have been reviewing the volume of water that is typically withdrawn from the reservoir each day and not ultimately supplied to Member Counties and their customers. This treated or partly treated volume of water is almost entirely (a minor amount is loss to evaporation) utilized in operational processes of the Bear Creek Water Treatment Facility (BCWTF). Typical uses included sample pumps, back washing of filters, ClariVac system removal of sludge from the sedimentation basins, periodic cleaning of the sedimentation basins, etc. These process uses can account for almost 18% of the total water withdrawn from the Reservoir during some months (April 2015) and averaged about 30.7 million gallons (MG) per month during 2015 or about 1 MG/day (MGD).

reservoir dam. This modification would in turn reduce the volume of water that is withdrawn from the river; thus, reducing operational costs while making this volume of water available for distribution to customers within the limits of the EPD withdrawal permits.

The cost for such a modification is estimated to be \$9,000 to \$12,500. Staff is currently of the opinion that such a modification would not have a negative impact on the reservoir water quality and Jacobs staff is currently investigating what approvals might be necessary from EPD for such a modification.

This topic will be more fully discussed at the Committee meeting and, depending on the outcome of that discussion, it may be appropriate for the Joint Committee to recommend that the Authority authorize staff to a) explore the subject modification with EPD and, b) if determined to be acceptable to EPD, propose actions necessary to implement the noted modification.

*at Wayne's expense  
and  
July 1st*

**Bear Creek Water Treatment Facility – Water Flow Meters: Type, Accuracy, Testing, and Possible Modifications**

The five (5) individuals noted in the earlier part of this memo have collectively reviewed the location of water flow meters at the BCWTF, the accuracy of these meters, the possible need for supplementary meters to enhance accuracy at certain points, testing frequency, etc. This review produced the following observations and recommendations.

Observations:

- 1) Flows at the BCWTF are measured at key locations (e.g. flows into the transmission lines for each Member County) utilizing venturi flow elements/meters for closed pipes.
- 2) Venturi meters are reported by the manufacturer to be accurate within +/-0.5% based upon certain conditions related to pipe diameter and flow rates.
- 3) A venturi meter is expected to be within the noted accuracy range for a 36" diameter pipe when the rate of flow is 1,014 gpm (1.46 MGD) or higher and for a 30" diameter pipe when the rate of flow is 847 gpm (1.22 MGD) or greater.
- 4) The minimum flow through the BCWTF during low flow periods typically exceed 3.0 MGD with short periods that may drop to about 1.5 MGD. Therefore, the flow rates within the plant appear to exceed the minimum thresholds necessary to obtain optimal accuracy for the venturi meters.
- 5) Minimum flows to the Barrow County/Oconee County transmission line during the lowest demand periods exceed the minimum 1.22 MGD flow necessary to obtain optimal accuracy for the associated 30" diameter pipe and the venturi meter. Therefore, a supplemental meter (e.g. a full profile insertion flow meter) would not appear to enhance the accuracy of the measured flow.
- 6) Minimum flows to the Jackson County transmission system during low demand periods typically exceed the minimum 1.22 MGD flow necessary to obtain optimal accuracy for the associated 30" diameter pipe and the dual sensor set venturi meter. Never the less, there are short periods when flows may drop as low as 0.8 MGD and below the accuracy threshold for the existing dual range sensors in this venturi meter. However, treatment plant staff advises that the finished

water pumps to Jackson County are typically shut down when flows drop to the 0.8 MGD range. Therefore, a supplemental meter (e.g. a full profile insertion flow meter) would not appear to significantly enhance the accuracy of the measured flow.

7) Minimum flows to Athens-Clarke County appear to have high likelihood of being below the 1.46 MGD accuracy threshold for the associated 36" diameter pipe and existing single sensor set venturi meter. Therefore, a supplemental low flow sensor set may be desirable on the venturi meter associated with each of the two (2) 36" diameter pipes that provide raw water to Athens-Clarke County.

\*8) The venturi meters at the BCWTF are currently calibrated every quarter. This calibration frequency appears to meet or exceed the manufacturer's recommendation. Therefore, there does not appear to be a need to modify current practice.

Recommendations:

\* It is suggested that the Joint Committee accept, and recommend to the Authority, the below noted findings:

- a) No supplemental flow meters are necessary for measurement of in plant flows.
- b) Athens-Clarke County may wish to consider requesting the Authority to install an appropriate supplemental low flow sensor set on each of the 36" diameter raw water transmission lines. Of course, the cost for such an addition would be allocated to Athens-Clarke County.
- c) The current practice of quarterly calibrating the venturi meters at the BCWTF appears to be appropriate and should be continued.

*1st  
Gary  
y m  
Blain*

Please contact me should you have questions or comments regarding the above information.

Copy:

- Melvin Davis, Authority Chairman
- Chip Ferguson, Attorney
- Jim Dove, RDC Director
- Mott Beck, RDC Admin Asst.
- Diana Jackson, P.E. – Jacobs Engineering
- Brad Lanning, P.E. - Jacobs Engineering