Environmental Management Commission
Water Allocation Committee
Minutes
March 10, 2021
9:00 a.m.

On March 10, 2021 the Water Allocation Committee or WAC, met virtually on WebEx.

WAC Members in Attendance:
John McAdams (WAC Chairman)
David Anderson (Vice-Chair)
Steve Keen
Pat Harris
Dr. Stan Meiburg (EMC Chairman)
JD Solomon
Dr. Donald van der Vaart

Others Present:
Shannon Arata
Donna Davis
Marion Deerhake
Philip Reynolds (Attorney General's Office)

I. Preliminary Matters (Chairman McAdams)

In accordance with North Carolina General Statute §138A-15, Chairman McAdams asked if any WAC member knew of a conflict of interest or the appearance of conflict with respect to items on the March 10, 2021 WAC agenda; none of the committee members identified a conflict. Chairman McAdams asked if there were any comments or corrections regarding the minutes from the January 13, 2021 meeting. There were no comments or corrections. Ms. Harris made a motion to approve the January 13, 2021 meeting minutes. The motion was seconded by Dr. van der Vaart and the January 13, 2021 minutes were unanimously approved.

II. Information Items

A. Overview of Water System Regionalization (Shadi Eskaf, UNC School of Government-Environmental Finance Center)
Water system regionalization can describe a variety of agreement models for increased cooperation, collaboration, and consolidation of assets and services. The drivers for systems to seek regionalization partners can include financial reasons, population shifts,

flooding, or other natural disasters. A 2017 survey of NC utilities looked at how they partner and found that most have some form of regionalization.

There are more than 49,000 community water systems in the U.S. while there are only about 3,300 electric utilities, which speaks to the cost of water delivery. North Carolina has approximately 2,000 active community water systems serving 8.7 million people; 27% are owned by local government, serving 89% of the water system service population; 77% of those are groundwater systems. Across the state there are many interconnections between systems, many for purchasing water between local systems. Most of these are small systems; two-thirds serve a population under 5,000 people. The largest 10 utilities in NC collect 45% of the revenue collected by local government. However, 25% of local utilities don't receive enough operating revenue to cover costs even though they already have high rates. Therefore, regionalization is often the financial solution.

Key financial benefits to water system regionalization:

- Economies of scale/operating efficiencies
- Increased access to capital
- Revenue stability
- More staff, improved planning, and risk management
- Increased opportunities for resource management
- Decrease in rate discrepancies among neighboring communities

Regionalization is a tool for growing or shrinking population areas. Common forms of regionalization include interconnections between systems for water purchasing and wastewater sales and interlocal agreements. As of January 2018, there were 487 local government owned water/wastewater utilities, which includes 14 water and sewer authorities, 4 metropolitan water/sewer districts, and 22 sanitary districts.

There are many considerations in crafting interlocal agreements. The UNC School of Government's Environmental Finance Center has prepared a guide that covers these considerations: https://efc.sog.unc.edu/project/utility-regionalization-and-consolidation. There are several forms of system consolidation, including direct acquisition and different forms of mergers. North Carolina currently has numerous models and examples of system consolidation and regionalization.

Mr. Solomon pointed out that North Carolina is unique in the number of local municipally owned water systems. Other states have more authorities and utility districts that own and operate water system than NC does.

Mr. Keen asked where the interest in regionalization comes from? Mr. Eskaf responded that it's often staff at the local utility level, looking for a solution to address financial challenges facing the utility and maintaining their quality of service. Sometimes there are incentives from the state that assist regionalization and provide financial incentives.

Mr. Solomon commented that desperation often drives regionalization; municipalities don't want to give up control of their own utility and their community identity. Consolidation is often the last step and is a process that takes a lot of time and effort to execute. Long-term planning for water system needs can be difficult since it is longer than the typical political life/election cycle. Authorities, water/sewer districts, or appointed boards in theory are more independent and not necessarily tied to political cycles.

Mr. McAdams asked whether there is a consideration for more potential IBTs with increased regionalization? Mr. Eskaf responded that IBTs are one of the topics included in the SOG guidance document. Conceptually, yes, there is the potential for more IBTs, which would need to be addressed in interlocal agreements.

Dr. van der Vaart asked whether the State Treasurer's office has a list of counties in financial need. Mr. Eskaf replied that the Division of Water Infrastructure and local government commissions identify utilities facing financial difficulties or are considered "distressed" and are eligible for funding to conduct rate studies or training for local officials.

Ms. Harris asked about the interpretation of the interconnection in the Chowan area specifically. Mr. Eskaf replied by pointing at the interconnections as general connection points rather than specific water lines. The points on the map model the interconnections, but not necessarily inter-basin boundaries.

Ms. Deerhake pointed out that Davidson County has a regionalized approach in the southern portion of Davidson rather than the entire county.

Chairman McAdams commented on the difficulty of operating an entire system on $20,000 in revenue each year. Mr. Solomon said that it does seem contradictory because there can be advantages, such as tracking usage that would not be required as 2 separate utilities.

Mr. Keen applauded the presentation and articulated appreciation for the UNC School of Government as well as Mr. Eskaf's presentation specifically.

B. <u>Lower Cape Fear Water & Sewer Authority Regional Water Systems</u> (Tim Holloman, LCFWASA Executive Director)

Regional Formation

The history of the Lower Cape Fear Water and Sewer Authority (LCFWASA) dates back to 1977 when Brunswick County joined as a member. Later, in 1984, Kings Bluff Pump Station and Transmission System was completed and placed into service, which took about 14 years to set up. Also in 1984, Brunswick County signed on as the first raw water customer. Mr. Holloman provided highlights about the development of the LCFWSA through 2015. The most recent highlights include increasing capacity from 45 MGD to 127.5 MGD in 2011 in the Kings Bluff Pump Station. In 2023 LCFWASA expect to install a 4th pump at Kings Bluff Plant which will increase its capacity to 96 MGD. Specific information can be found on Mr. Holloman's PowerPoint presentation. Additional future projects include a completion of a 54" Parallel

Transmission line, replacing a screen walkway and ariel crossing supports, and replacing generators by 2024.

Facilities
Kings Bluff Station has a max withdraw capacity of 106 MGD, this station is capable of pumping 45 MGD. The station is operated by Brunswick County. Bladen Bluffs facility is in Tar Heel, NC. This plant is designed to treat 6 MGD, up to 8 MGD. This facility is paid for entirely by Smithfield Foods.

Projected Usage
Peak demand projections for CFPUA (Wilmington) are expected to be 38.2 by 2062. These projected figures could be reached before 2062, but that is according to an analysis from 2018. Brunswick County is expected to reach a peak demand of 49.8 by 2062. Highway 421 is expected to stay consistent at 2 MGD by 2062. Finally, Pender County is expected to increase its peak demand from 1.1 MGD (2015) to 6.0 MGD by 2062.

Overcoming Crises
Previous crises include line removal on Hwy 421 after Hurricane Florence due to some DOT repairs. Hurricane Matthew caused a broken water main which required a bypass to be created. Additionally, their walkway to the raw water intake saw 15 additional feet of water after Hurricane Matthew.

Chairman Meiburg pointed out the increase of peak demand is amazing; do you think it is still going to see even more growth? Mr. Holloman believes these peak demand projections may be met 10-15 years sooner than originally anticipated. Water quality concerns will impact the Utility's customers due to the anticipated rate increases caused by installing a reverse osmosis plant.

C. **<u>Water System Regionalization – City of Hickory</u>** (Shawn Pennell, City of Hickory Public Utilities Director)

City of Hickory is a regional provider of water and wastewater since it built a regional water plant with a 32-million-gallon capacity in the early 1990s. It serves about 100,000 people each day per current contracts. Hickory's population is about 40,000. It has 1000 and 600 miles of force gravity that is maintained. Mr. Pennell referenced a quote relevant to regionalization: "Inefficiency is more tolerable when it is inexpensive." City of Hickory has several partners in their regionalization approach to providing water and sewer utilities, including Hickory residents, Energy United, Catawba County, Town of Maiden, and many others. When it comes to regionalization, one can consider consolidation, ownership transfer, operations, management or contract sales. All of these forms can be approaches to regionalization of water utilities. Economies of scale, standard cost of treatment, and cost of distribution are important economic considerations. For example, treatment costs the same whether you are distributing it 1 mile or 30 miles. Offering local control allows local government to maintain identity and support economic development. Regionalization allows for a basin-wide approach. Local Water Supply Plans require accounting for all the water loss as well as planning for the future. Regionalization

also supports regulatory compliance with requirements such as the Lead and Copper Rule, TTHM and HAA5, Chlorine Residuals, and System Flushing. Regionalized contracts and agreements can include options for capacity, master meters, revenue share, and system acquisition. Regionalization must be beneficial to each organization in the agreement, with a special focus on efficiency. Wastewater treatment can also be a consortium of local agencies, and the City of Hickory is looking to take the lead with a local biosolids facility.

Mr. Keen asked if Mr. Pennell uses the census from previous years to make projections over the next 20-year period? Mr. Pennell responded yes; they look at those census projections to determine our local water supply usage projections.

Dr. van der Vaart inquired about whether or not regionalization can help fix and maintain distribution systems for partners in an agreement? Also, how would Mr. Pennell characterize distribution systems across North Carolina in terms of their shape and condition?
Mr. Pennell explained while there is a lot of work yet to be done, they try to improve 1% of their systems each year. He mentioned that he is not as familiar with the eastern part of NC, but with our connections and meters, it is getting better. The technology allows them to monitor and make improvements. There are issues with improvements, so people should be willing to include it in their capital plans. Maintaining partner relationships, quarterly meetings, phone call exchanges, allow for specific, dynamic support for everyone involved.

Chairman Meiburg asked a question regarding regulatory compliance issues and appreciated that these points were brought up. Also, with regards to flushing the lines, there is coordination necessary to consider in regionalization of water systems.

Mr. Keen asked about Mr. Pennell's process in using data to determine operational needs.
Mr. Pennell replied that tracking data for the Local Water Supply Plans and keeping track of all the information from meters requires a focus on data. The larger users are also involved in the data tracking, including Apple. We have received money from various sources, not just the state, to help with costs for expansion. Regionalization is very important because there are some smaller towns that could not afford to upgrade their water treatment plant without burdening the customers.

Chairman McAdams asked about what it's like to join these systems together? Is it usually the result of a crisis or is it proactive?
Mr. Pennell stated that usually the smaller systems will come to the Town of Hickory and express interest in joining. Also, they have many ongoing relationships. We have not had a water system join as the result of crisis, rather it's the logical solution that addresses economic efficiency (i.e., dollars and cents).

Mr. Keen asked if there are any sanitary districts in your catchment areas?
Mr. Pennell replied that Aqua has their own system in southeast Catawba County, but that is all that he was aware of.

D. <u>NC Water Use Registration Programs</u> (Harold Brady, DWR)

The North Carolina Water Use Data Registration Programs are run in the Water Supply Planning Branch of NC Division of Water Resources. The Local Water Supply Planning Program was designed for local governments and large community water systems. It serves to collect data to assess the demand of current water systems as well as its future needs and its ability to meet those needs. It includes a water shortage response plan, a water withdrawal transfer worksheet (as needed), specifically for systems moving water back and forth across basin boundaries.

The Local Water Supply Plan includes system information, water use data, water supply sources, wastewater information, and 50-year projections for sales/purchases and water supplies. These 50-year projections help determine if the future supply can meet the projected needs.

The Central Coastal Plains Capacity Use Area Registration Program (CCPCUA) is managed by the Groundwater Management Branch in the DWR. This program collects data along with issuing permits. The registration component is for systems that withdraw (groundwater and surface water) more than 10,000 gallons per day (GPD). This program includes applicant information, water use purposes, including type of water source, number of days used, and average daily and max day withdrawal.

The Water Withdrawal and Transfer Registration (WW&TR) Program is also managed by the Water Supply Planning Branch. Non-agriculture users must register for this program if they use more than 100,000 gallons of surface or groundwater in any day. Agricultural users must register with this program if they use more than 1 million gallons (surface or groundwater) on any day. The data collected in this program includes facility information, withdrawal information (average daily/max withdrawal), discharge information (average daily/max discharge) and inter-basin transfer information (including source and receiving basins). There are only two inter-basin transfer registrants in this program across North Carolina.

In 2008, an Agriculture Water Use Survey was established. The NCDA&CS is required to collect annual information from farmers who withdraw more than 10,000 GPD in any given day. This response is confidential and voluntary. This Agriculture Water Use Survey consists of water withdrawal information, such as operation information, annual average daily withdrawal, total monthly withdrawal and the number of days the pumps are turned on. This survey also collects the water use type, such as type of water use and source as well as the capacity.

A specific aspect of the information published by the NC Agriculture Water Use Survey is the county summary, which presents the water use data collected from agriculture users from all 100 North Carolina counties. There are some counties that include data that must remain non-disclosed at the county-scale due to federal confidentiality laws. This non-disclosure law may omit the data from the county data; however, it is still represented on the statewide data. Following the January 2021 Water Allocation Committee meeting, DWR staff met with stakeholders involved with the NC Agriculture Water Use Survey data collection to discuss the scale issues mentioned during the January WAC meeting. NC Division of Water Resources uses this data from the Agriculture Water Use Survey to assist with water supply planning efforts. This data helps answer the questions about water supply needs and projections. It also helps

uncover if the yield is adequate to meet all needs and essential water uses. Finally, this data is used to respond to inquiries about potential economic development projects requiring sufficient water availability for new/expanding industry.

Mr. Keen asked about directly working with the end-users involved in Department of Commerce. Mr. Brady responded that they will periodically meet with the Department of Commerce, though often it's the industry itself coming to the DWR. Mr. Brady said he uses this registration data during these discussions.

Chairman Meiburg asked if there was any auditing of the data that comes through this reporting process? Mr. Brady said each of these plans are reviewed within the Local Water Supply Planning Section staff. Each plan is reviewed to ensure all projections are within expectations and may be followed up by the plan reviewers as needed.

Chairman Meiburg asked about the number of stars included on the water withdrawal data. There is a large gap between the capacity of water withdrawal from the entire state. Mr. Brady responded by pointing out this is the capacity, or how much could be withdrawn, however just because a large pump is installed, the capacity should not necessarily be met.

Ms. Harris inquired about the Chowan River Basin in particular. She asked if Mr. Brady would address the term "consumptive use" as it pertains to these water supply plans. She also asked about the connectivity of systems both in and out of the Chowan and specific water use planning in the Chowan. How much water is leaving this river basin? Mr. Brady pointed out that within DWR, once the water "hits the ground", that water is considered consumed. Mr. Linwood Peele also added that each basin has water coming in and going out within that basin. The Division separates this data to determine what is coming in and going out per water withdrawal data.

III. Concluding Remarks (Chairman McAdams)

Chairman McAdams asked if there was anything else that needed to be discussed or if there were other comments. There were no additional comments by committee members or staff. The meeting was adjourned.