

Triangle Water Supply Partnership Meeting Minutes

June 5, 2020

9:30 to 12:30



Location: Microsoft Teams Meeting

Agenda items

9:30 — 10:15	CLOSED SESSION: Select the Regional Interconnection Model Update consultant The closed session began at 9:36am. The closed session adjourned at 10:05am.
10:15 — 10:20	OPEN SESSION: Welcome and Opening Comments Larry (Chatham County) opened the meeting at 10:17am. He informed the group that TWP had selected a firm to complete the regional interconnections model and would reach out individually to each of them. <i>Additional attendees:</i> Brian White, Freese and Nichols Chris Belk, Freese and Nichols David Gorelick, UNC Chapel Hill PhD for Greg Characklis Michele Eddy, RTI Jeff Adkins, HDR Kevin Irby, CDM Smith Katie Van Werkhoven, RTI Bill Holman, The Conservation Fund Harold Brady, Division of Water Resources (filling in for Kim Nimmer) Jeff Thompson, Black and Veatch Enrique Triana, RTI Greg Characklis, UNC Chapel Hill
10:20 — 10:45	Administrative Considerations <ul style="list-style-type: none">▪ Review of action items from previous meetings:<ul style="list-style-type: none">○ Jen has completed the final revisions to the two maps (A: TWP partners' water sharing capabilities; B: water sharing capabilities of TWP partners plus larger interconnections within this geographic area.)<ul style="list-style-type: none">▪ These have been posted to the website and 1-pager.▪ Sarah shared for any new entities that the maps reflect capacity, not infrastructure or status of agreements.○ All other administrative action items have been accomplished: advertising RFQ, reviewing submissions and deciding on a firm.▪ Review and adoption of minutes from February meeting<ul style="list-style-type: none">○ Ruth moved to adopt the minutes, and Marie seconded. The motion passed with no opposition.

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- Update on finances:
 - 5-Year Project and Funding Plan and FY21 Annual Dues
 - Jen shared with the group the 5-year funding plan as proposed/accepted in fall of 2019.
 - Changes:
 - \$75,000 in partnership management support line: Will be lower than what was proposed in fall 2019 due to TJCOG contract for administrative duties starting slightly after the beginning of the fiscal year as well as not meeting in person due to COVID.
 - \$60,000 in small projects line: the group did not end up pursuing these small projects, so these have been moved forward to FY21
 - \$150,000 in large projects line has been shifted a year forward; other large projects for successive fiscal years have all been shifted a year forward based on the Technical Committee's assessment of what would be possible on a realistic timeline
 - Total expenses for FY21 ~\$30,000; more funds rolling forward. With these changes, the fund balance at the end of the 5-year plan almost doubles.
 - Syd noted that this funding plan was made while the partnership was being formed, and we did not know how much things would cost. Additionally: the group has had some delay in getting some projects started, specifically the regional distribution system model update. Regarding support we might need from HydroLogics regarding OASIS modeling, we didn't end up getting into that this year; rather looked at regional water shortage response and suspended for future revisiting. We have a large fund balance right now, but as we go into contract scoping and negotiation, we do not know how much the interconnections model update will cost.
 - Jen: Yes—this is one reason it is good to have rainy-day funds.
 - This 5-year funding plan document now reflects the changes that Jen outlined.
 - The anticipated dues structure is has not changed and is not anticipated to do so during this 5-year period. Syd pointed out that the dues are set to go down slightly in FY21
 - Sarah moved to approve the 5-year funding plan, and Ruth seconded. The motion passed with no opposition.
 - Update of contact information: Contact Jen with any contact information changes/additions
 - Partner host sign-up sheet: When it becomes possible again, the Partners will meet in person at host sites.
 - Update on Jordan Lake/USACE meeting: USACE still would prefer to meet at the Jordan Lake Dam whenever it is possible to meet in person.

10:45 — 11:45

Robust Modeling Approaches for Regional Water Resources Planning, RTI Center for Water Resources – see associated PPT from Katie van Werkhoven

- Katie van Werkhoven: RTI's Center for Water Resources' role is to provide practical tools that water managers can use to make better decisions amid uncertainty
- Advantages of high-resolution watershed modeling: site-scale analysis, flexibility for multiple approaches. RTI's Catawba Basin WaterFALL model is an example of how high-resolution modeling can facilitate conservation of specific high-priority plots of land.

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- WaterFALL model has been completed for all of North Carolina as a foundation for ecological flows analysis
- High-resolution watershed models can be connected to system models to assess the impacts of altered hydrology on system performance
- Michele Eddy: RTI has also applied WaterFALL for South Carolina as a foundation for ecological flows analysis. Includes daily time-series for 30 years at the NHDPlus catchment scale.
- Calibrating the model with >60 gages across the region allowed RTI to represent six different hydrologic regimes.
- The model incorporated a range of metrics to help assess impacts of water withdrawals
- Katie: The question we are asking is, given climatologically short records, how can we assess the climate variability prior to records? And how can we capture that variability for future planning?
 - RTI reconstructed past records based on paleoclimate data from bald cypress trees in the Black River area of NC back to 300 AD using the Palmer Drought Severity Index (PDSI)
 - Bald cypress has a strong climate signal and can be used to assess the severity of droughts
 - Approach: extract frequency and relative magnitude of dry/wet periods (from records and paleoreconstruction) and build up multiple future scenarios by resequencing them
 - These scenarios along with land use and demand scenarios can be used to assess system risk and reliability
- Accounting for future climate:
 - Top-down (traditional): based on continually updated GCMs
 - Bottom-up approach: generate future climate-adjusted time series inputs
 - Metric map over climate domain and compare with IPCC/GCM
- Enrique described an example of RTI's work for the City of Fort Collins to conduct scenario planning for a range of futures. Their goal was to capture all these projected hydrologies in a central database, to automate the link between a rainfall-runoff model and existing operations and yield model.
- Simulated climate impacts let RTI project how temperature change would change baseline flows.
 - Linking this with the demand model also helped Fort Collins predict the risk of not being able to meet future demand, and the percent of time they would have to enact restrictions.
 - Uses of this work include evaluating the vulnerability of current long-range water supply plans, exploring scenarios/solutions, and revising water supply and demand management policies.

Discussion:

- Sarah Braman: This might relate to our OASIS model. Was the demand model a static projection, or how much variability was worked into what the demands would be?
 - Enrique: We tried to capture the effect of climate in the demand; we had 3 different demand projections based on different population growth and zoning projections. All were tied to specific temperature and precipitation drivers so that when we simulated the rainfall-runoff and allocation of water with water rights, those were all tied together.
- Syd Miller: Yes, this would relate to our OASIS model, not our distribution model. It would be great to pursue something like this through TWP in the Cape Fear and Neuse basins, and we would want the state involved because it should involve everyone upstream.

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	<ul style="list-style-type: none"> ▪ Katie: There is a benefit of developing hydrologies at a regional/state scale; it could benefit so many other objectives as well as long-range planning. RTI has discussed this with the state somewhat. ▪ Syd: It is on the TWP's plate to update our regional water supply plan; it's a future project. ▪ Sarah: How does the model handle reservoir inflows? ▪ Katie: If this were done on a state or regional scale, it would feed into another model that captures the human influence on water ▪ Michele: We have done work a long time ago linking WaterFALL and OASIS; WaterFALL provided the inputs to the reservoirs; then OASIS would take that, do the allocations, and then spit out an outflow that WaterFALL would pick back up and add the human impacts until the next reservoir decision point. Along the way WaterFALL can handle all the intakes and outtakes in the stream network, including IBTs. ▪ Bill Holman: I totally agree with Syd; we need the state to be involved; I think there would be an opportunity for TWP to work with NCORR, NCDWR to get this work underway; let's find some funding. The need for planning for floods, droughts, and climate change, will only increase. ▪ Dave Gorelick: The Characklis lab has been doing similar work; see the recent paper about linking climate and land-use projections with regional utility management modeling: https://drive.google.com/file/d/1fWtllJTp1tu15EHy65YZFbDv-BOKoelp/view?usp=sharing <ul style="list-style-type: none"> • Syd has read the paper and recommends other TWP partners read it as well.
<p>11:45 — 12:00</p>	<p>Update by Ruth Rouse (OWASA) on COVID-19 regional utility workgroup</p> <ul style="list-style-type: none"> ▪ Background: When OWASA pulled together their incident management team, they realized that their emergency management plan was inadequate for pandemics. Also, they considered what they could learn from neighboring utilities, particularly those that they had interconnections/mutual aid agreements with. ▪ Utilities including Durham, Cary, Hillsborough and OWASA have been checking in weekly since the end of March, sharing continuity of operations plans, pay and leave policies, and cleaning, safety and PPE protocols for staff who have to be onsite. More recently, they have discussed sampling for COVID in wastewater and how to return to work safely. One major task they have all worked together on has been the building flushing: worked with public information staff to build on each other's media contacts, make sure common messaging was going out to everyone. ▪ OWASA has found this very helpful; has learned a lot from other utilities. They are now considering a regional subgroup for hurricane preparedness during COVID. <ul style="list-style-type: none"> ○ Vicki: It's been a very valuable experience; we have all implemented pieces of what others have done. Coordination between utilities has also helped ensure continual communication so no one is surprised. ○ Jen: New FEMA guidance has been released on preparing for the hurricane season.
<p>12:00 — 12:25</p>	<p>Around the table</p> <ul style="list-style-type: none"> ▪ Raleigh—Whit Wheeler: <ul style="list-style-type: none"> ○ Progressing toward normal status; contractors are working, and Raleigh is figuring out how to start taking bids again. Thanked Cary for backup water supply while tunneling under a 48" water main. ▪ Harnett Regional Water—Steve Ward: <ul style="list-style-type: none"> ○ Recently received bids for a major AMI project that will begin this summer. Harnett County has 650 square miles of customers to serve, so this will be a big project. ▪ OWASA—Simon Lobdell and Ruth Rouse:

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- The majority of OWASA employees are working from home; they are starting a modified operational and fieldwork schedule.
- Construction impacts were fairly limited aside from shutting down plant construction work for a month to cope with reduced staffing.
- OWASA will be having their first formal (outdoor) bid opening on Monday.
- OWASA has no significant capacity restrictions at this time.
- OWASA's long-range water supply plan will go back to the Board in August, including a sensitivity analysis on yield projections.
- Due to COVID, OWASA went from requesting a 5% rate increase next year to a 0% rate increase for next year, and anticipate the Board will approve budget next week.
- Cary—Jamie Revels and Sarah Braman:
 - Cary is near normal operations at all facilities, although operating at reduced staffing capacity. Construction has been going on and will be underway through the summer.
 - Watershed protection funds are still in the budget, which is exciting.
 - Those working from home will continue to do so through July 5.
- Durham—Vicki Westbrook:
 - Durham is operating with full operations staff except for those who have tested positive for COVID, and those who have been quarantined due to working with COVID- positive staff or traveling out of state to attend a funeral. Durham is considering a plan to bring teleworking staff in gradually, potentially before July 5. Customer billing staff would not be relocated to City Hall until that firmed up.
 - Durham had one bid opening last week in a large room, while wearing masks.
 - Construction projects are proceeding.
 - The Council agreed to move forward a rate increase of 2.1% (including request for 11 new positions to maintain a level of service on customer billing) to the final budget vote on June 15th. This will help Durham maintain a level of service in customer billing, meter reading and connects and disconnects.
 - Ongoing construction outside Mist Lake facility, as well as at the South Durham WRF's compliance services building which will house state certified lab and industrial waste FOG program projected to open up in mid-July; would love to host a meeting there once it's possible to meet in person!
- Apex—Matt Echols:
 - Things have gone well with reduced staffing; most office staff are at still working from home.
 - Apex began their Risk and Resilience Assessment recently and do not expect to have trouble meeting Dec 31 deadline.
- Hillsborough—Marie Strandwitz:
 - Hillsborough has not had to reduce staff much; field staff and operators have continued to work through pandemic with extra cleaning and distancing.
 - Construction has continued except for the project to raise the roads around the reservoir which was delayed by 6 months as the contractor did not want to start until emergency restrictions have been lifted.
 - Hillsborough has not been able to put forth a rate increase (had hoped to have a 5% rate increase.)
 - Marie recently received a call from the North Carolina Dam Safety Division informing her that they planned to install equipment at their reservoir for flood warning—asked if other TWP Partners received this request?
 - Syd received a similar request and emailed to ask questions but never received response.

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- Chris Sandt (Orange County) also got a call from a North Carolina Dam Safety Program staff member about installing additional gages and is meeting them at Lake Orange on Monday to discuss questions—he understands that NCSU received a grant to install 175 gages for the Dam Safety Program.
 - Jen: Based on the Triangle Regional Resilience Assessment that was completed a couple of years ago, and one of the components they assessed was Dam Safety. They found that there are many dams in the area that could be at risk of failure—the Department of Public Safety was frank that they do not have great data. It is likely that they are trying to rectify that with
 - Jen: Relatedly—the state of North Carolina just released their statewide Risk and Resiliency Plan, intended to cover all cabinets, so that includes Public Safety, NCORR, DEQ, DOT. Jen is happy to share it with anyone interested.
 - Chris Sandt received the following email from the NC Division of Dam Safety:

From: Norberg, Natalie B <Natalie.Norberg@ncdenr.gov>

Sent: Monday, May 11, 2020 8:48 AM

To: Christopher Sandt <csandt@orangecountync.gov>

Subject: [EXTERNAL MAIL!] Lake Orange Dam

Mr. Sandt,

The Department of Public Safety is undertaking a pilot project through the NC Geodetic Survey. DPS wants to install water level gauges and some other instrumentation at some of the larger dams across the state to improve DPS's ability to monitor and respond quickly during large precipitation events such as hurricanes. DPS is interested in installing these gauges at ORANG-005 Lake Orange Dam. Gary Thompson with DPS will be in contact with the Orange County Planning and Inspections regarding the installation of these gauges and to set up a site visit. Would you be the point of contact for Mr. Thompson? If not, could you provide the person who would be?

Thanks,
Natalie

Natalie Norberg
Environmental Specialist
Division of Energy, Mineral, and Land Resources
North Carolina Department of Environmental Quality
Phone: (919) 791-4210
FAX: (919) 571-4718
Email: natalie.norberg@ncdenr.gov

- Chatham County—Larry Bridges:
 - Chatham County has had minimal reduction from field operations standpoint; some office staff has worked remotely. They have had some difficulty/delays getting materials. Several construction projects are planned; the Board has decided to table some of these to give the public a chance to express concerns in person when that becomes possible.

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	<ul style="list-style-type: none"> ▪ Johnston County—Kim Rainer: <ul style="list-style-type: none"> ○ Johnston County has continued to work at near-full capacity, in the office on an alternating schedule and/or working from home. ○ Construction projects have continued; one was delayed when a contractor came down with COVID-19. ○ Next year’s budget may yield approval for a rate increase. ○ Johnston County has had a couple bid openings in their parking lot. ○ The county is undertaking a long-range water supply study and can share the results when completed. ▪ Holly Springs—Elizabeth Goodson: <ul style="list-style-type: none"> ○ Holly Springs has opened back up to the public with very limited staff rotating in the office; most are still working from home. ○ She believes they have conducted virtual bid openings (she has not been directly involved.) ○ A system development fee study update is in progress, evaluating what capital projects are needed and how they will be accounted for. This will be approved separately from the budget. ○ The land use plan update completed a few months ago has highlighted need for additional water supply for Town sooner than anticipated; Holly Springs is trying to react to that as well, consider options. ▪ Orange County—Chris Sandt: <ul style="list-style-type: none"> ○ Orange County office staff are largely working from home with some rotating through the office. ○ Eno River at the Hillsborough gage is flowing at about 50 cfs right now; there are no raw water intake restrictions as it has been very wet. ○ He is still pushing their CIP for some rehab work at Lake Orange
<p>12:25 — 12:30</p>	<p>The meeting was adjourned at 12:25pm.</p>

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