



Municipal Water Demand Technical Work Group Meeting Conference Call Summary

January 15, 2013 from 2-4 pm CST

The following summary was prepared by CDM Smith and is intended to capture the general topics, and discussion that was held and is not intended to be a verbatim transcription of the conference call. The following individuals participated in the call:

Lyle Godfrey – AR Department of Health
Kevan Inboden – Jonesboro City Water and Light
Sherrel Johnson – Union County Water Conservation Board
Dale Kimbrow – Central Arkansas Water
Larry Lloyd – Beaver Water District
Richard Penn – Hot Springs Municipal Water
Robert Reynolds – Union County Water Conservation Board
Jim von Tungeln – Arkansas Municipal League
Chris Soller – ANRC
Ed Swaim – ANRC
Rick Brown – CDM Smith
Bill Davis - CDM Smith
Mitch Horrie – CDM Smith

The meeting began at 2 pm CST time and followed the agenda.

Overall Conclusion(s) drawn from the Meeting

- CDM Smith should proceed with collecting data and generating preliminary numbers for the municipal forecast. CDM Smith should consider generating a range (i.e., average, high etc.) of forecasted demand if the data supports such an approach.
- CDM Smith should remain in communication with the work group and work group members as they begin to collect the data and refine any methodologies. CDM Smith plans to share preliminary numbers and results prior to developing the draft forecast (May/June timeline).
- Overall, the group agreed that population projections are an appropriate driver of future municipally-supplied domestic water demands. CDM Smith will develop a data table showing county population projections for each of the three scenarios.
- CDM Smith will proceed with an analysis of weighted county gallons per capita per day (GPCD) demand rates. This analysis will allow for us to highlight providers we may want to follow up with via phone call or survey to glean additional information.
- As data collection and analysis moves forward, for those areas where there are large wholesale providers, CDM Smith will explore where a regional/multi-county approach is more appropriate than county level demand forecasting.
- While it is likely that there is a discernable difference in the rate of water use between self-supplied domestic vs. municipally supplied domestic, that difference is difficult to quantify and the group generally supported using the same county level GPCD for both use categories. Furthermore, the relatively small portion of statewide population that is self-supplied (7% in 2005), suggests that it is unlikely that gpcd assumptions used to forecast self-supplied domestic water demand will drive specific water resource issues and challenges. However, CDM Smith will follow up with



representatives from rural providers and the Arkansas Rural Water Association to identify concerns with this assumption.

- The group agreed that a provider-level survey would be a good tool to identify water resources challenges facing municipal providers throughout the state.

The remainder of the summary provides the discussion items that support the above conclusions and overall direction provided to CDM Smith.

Opening Remarks/Review of December 17th Meeting:

- CDM Smith noted we are in the preliminary phase of data collection and analysis. The Methodology white paper that was provided at the December 17th meeting is a preliminary outline of the forecasting approach based upon a preliminary analysis of available data and this information has been condensed to the 6 page outline that was sent to facilitate today's conference; it was noted that both documents would be referenced during the call. CDM Smith highlighted the goals/purpose of the call and noted that this call will help the group to understand the drivers of the demand forecast and how those drivers and data availability will affect the approach. In many cases drivers of the demand forecast are both quantitative and qualitative and the work group can be especially helpful in areas where there are professional judgment calls.

Schedule

- A draft demand forecast will be available by early summer (May/June). We are working with several demand sectors to put that together.
- We anticipate communication between now and May will be primarily through conference calls and emails, however, we have worked in resources for a face-to-face meeting if it is necessary.
- As we get into the data, we plan to share progress and information using an iterative process. We plan to do some one-on-one outreach as we encounter issues we want to discuss.
- Once we have developed preliminary draft forecasts that have been reviewed by the work groups, we plan to hold public information and stakeholder involvement meetings throughout Arkansas to share the results. Concurrently we will be developing the water supply methodology.

Questions:

- Will we be keeping track of the work group's progress on the website?
 - We are thinking that the website is best suited for bigger picture information for the general public. We want the general public to get familiar with technical components of the work (i.e., the Water Plan Update will look at demands, supply, gap analysis, etc.), however we also want make sure our information is accurate before we share it will a larger audience. Once we feel the information is accurate we will share it via the website.
- How will we approach infrastructure needs in the plan? An infrastructure review would be helpful to help the general public understand the needs in the state.
 - ANRC is interested in outlining key infrastructure issues as part of the Plan. We are working with ANRC to determine an appropriate approach for examining infrastructure issue (level of detail, etc.). One of the things we want to do with the water plan is not just to collect data but to also address implementation needs and challenges. At a regional/statewide planning level we want to identify key challenges (e.g., policy, technical, financial challenges) that municipal providers are facing over the planning horizon. We



recognize that we won't be able to go to provider level planning. Rather, we see the plan as serving to identify, on a regional/county basis, some trends providers will be facing and inform the ANRC and the public what those challenges are and identify the policy needs to address those challenges. We also stress that our approach needs to be consistent and supportive of the direction of local planning.

Initial Approach/Assumptions

- Regional/State vs. Utility-Level forecasting. From a planning perspective, regional or state level planning takes a broader approach compared to utility-level planning. Utilities typically are concerned with their customer base, peak demands, categories of use, financial structures, etc. This is more detailed than what we recommend for state-level planning. We see that the plan would highlight those differences and explain that it will not necessarily articulate how entities deal with peak demands, water loss, customer classes, etc. and maybe point to some examples.

Comments:

- At the local level, some parts of the state are seeing flat or declining population and declining per capita water use. This equals higher water rates in the coming decades. This is an example of a local issue that may be seen throughout the state that should be communicated in the plan.
 - This is the type of discussion that is critical to identify policy, financial or technical implementation needs. It brings up financial and technical needs and policy questions regarding local and regional approaches and/or opportunities for joint funding agreements to address these challenges. Our efforts in statewide planning needs to support local planning. At a minimum, we want to look at areas where we see declining population and water use and identify potential solutions needed to address these issues. We will have to look at the data to see the level of detail we can go to. County level is realistic. Going down to smaller providers is probably not as realistic.
- You have to look at the challenges facing utilities, especially large regional utilities. For example, Central Arkansas Water completed a master plan 2 years ago. This document contains valuable regional information.
 - Agreed. It may be more appropriate to look at multiple county regions, especially if data is conducive to that. We plan to conduct some one-on-one outreach with larger providers.
- Would a provider level survey be a valuable tool to flag common questions and to identify some of these challenges?
 - Yes, municipal providers are accustomed to filling out surveys and it is likely that much of the data sought is readily available.
 - Yes, I think it would provide good insights into common issues and challenges.
 - CDM Smith should begin analyzing data and identifying where surveys may be most effective.
 - It was suggested to follow up with a USGS staffer in Illinois regarding their study of historical trend(s) of the conversion of groundwater to surface water. CDM Smith has had contact with this individual and will follow up with her for additional information.



Arkansas Water Plan Update



- Population projections: We propose to use population as the driver of future domestic (i.e., residential) water demands. For each county, the approach of a per capita water use rate times population allows us to use a common approach to growth throughout regions.
 - We have identified three population projection sources. These sources will allow us to develop a range of demands. This approach is useful because we can track demand over the coming years and understand which demand scenario is closest to what is actually happening.
 - Depending on service level boundaries, we may want to aggregate up to a multi-county region to make it a better representation of what is happening in the area.
 - The group agreed that a demand range makes sense. A band of low to high gives a greater chance of hitting the mark within the range.
 - CDM Smith will put the population projections in tabular form to share with the group. The group was asked to look at those numbers in comparison to what you know locally and while differences are expected, do the numbers generally correspond with your master planning?

- Municipally-supplied non-domestic:
 - The term municipally-supplied non-domestic water use refers to water delivered by a municipal system to customers that are non-residential (e.g., commercial, industrial, mining, agriculture, irrigation).
 - The approach we are suggesting uses employment as an indicator of potential growth in those sectors. We are recommending employment because it gives us a common/objective metric that allows us to tie employment to growth in non-domestic sectors. We recognize that this approach does not capture how technology affects water use by production unit but based on past experience it will be very difficult to get water use by production unit as this is often business confidential/proprietary information.

Questions:

- Large numbers of providers have lawn irrigation meters. How will you capture that?
 - Typically domestic outdoor water use is included with the GPCD. As part of their annual water use registration, municipal providers can report “irrigation” water deliveries. It is unknown what is included in this category but we will research this information (i.e., Does this include residential irrigation? Is it including irrigation for parks, golf courses, etc.? Both?).

With respect to domestic outdoor (irrigation) water use, this portion of the demand trend is usually carried forward unless there is evidence to support otherwise (i.e. urbanization and/or smaller lot sizes). Also in areas that have high transient water use (i.e., high tourism) we may see slightly higher water use because the GPCD is based on the permanent population base. We are aware of some of the unique variables and when we divide water use by population if there is something out of range we will do additional investigation/data collection.



Arkansas Water Plan Update



- Large wholesalers fill out water use registration forms. Do cities that purchase from wholesaler also fill out the water use registration information? In those areas with big regional suppliers, it is advised to drill down and look at data closely.
 - CDM Smith will be reaching out to wholesalers so we can better understand wholesaler/purchaser relationships.
 - Lyle at the AR Department of Health has provided CDM Smith with data on wholesalers in the state (who buys from whom).
 - CDM Smith will review these data and identify where information gaps may exist.
- Self-Supplied Domestic – Individual wells served outside of municipal system.
 - Population Served – Trends show steadily increasing municipally-supplied population served.
 - Overall the group felt it was unrealistic to assume that 100% of population will eventually be served by a municipal system.
 - CDM Smith will look at the trends on a county-by-county basis and look at the most appropriate statistical means to forecast the trend of municipal vs. self-supplied population.
 - Self-supplied GPCD – The group believes that there are compelling reasons suggesting that per capita demand is different among municipally-supplied and self-supplied domestic water users. However, the relatively small size of the population will likely not cause the forecasted demands to skew too much in one direction or another and the group did not feel there was good justification for an alternate value.
 - This issue provides justification for CDM Smith to talk to individual utilities. Rural utilities might have a totally different feeling per capita demand. CDM Smith will first follow up with Municipal Work Group members Dennis Sternberg and Steve Wear, who were absent from the call.
- Municipally-Supplied Non-Domestic
 - Thermoelectric power water demands will be forecasted separately using a different methodology.
 - We do have a good statewide source for employment projections but the duration of the projections and level of detail will require that we make some extrapolations. Additionally, we need to be aware that approach will not capture emerging trends in new industrial sectors.
 - We will work with the industrial sector to identify data sources or emerging sectors.
 - The group generally agrees with the approach of moving forward with the forecast using employment projections as the driver of non-domestic water demand. However, the group is interested in seeing preliminary numbers to get a better feel for the implications of the assumptions.