TRI-STATE WATER RESOURCE COALITION
BOARD OF DIRECTORS MEETING
WEDNESDAY, SEPTEMBER 18, 2013 – 9:00 A.M.
CITY HALL – COUNCIL CHAMBERS

Welcome:

President David Hertzberg called the meeting to order. He asked those present to introduce themselves. The following were present:

Brian Bingle – City of Nixa, Missouri
David Hertzberg – City of Joplin, Missouri
Hal VanDaGriff – Empire District Electric
Matt Barnhart – Missouri American Water
Pete Rauch – City of Monett, Missouri
Roddy Rogers – Springfield City Utilities, Springfield, Missouri
Bob Williams – Carthage Water/Electric, Carthage, Missouri
Tom Pittman – City of Carthage, Missouri
Fred Schlegel – Missouri Department of Natural Resources
Jason Choate – Carthage Water/Electric Plant
Mike Beezhold - CDM Smith
Chad Dulaney – U.S. Army Corps of Engineers, Little Rock, Arkansas
Russ Wallace – U.S. Army Corps of Engineers, Little Rock, Arkansas
Scott Gard – U. S. Army Corps of Engineers, Kansas City, Missouri
Edward Parker – U. S. Army Corps of Engineers, Kansas City, Missouri
Earl Pabst – Flutron & McIntosh
Gary Pendergrass – Geo Engineers
Jack Schaller – Olsson Associates
Dick Scott – Olsson Associates
Harry Styron - Executive Director, Tri-State Water Resource Coalition
Susan Champlin - City of Joplin, Missouri

Approval of Minutes from July 17, 2013:

Mr. Hertzberg asked for any corrections or additions to the minutes from July 17, 2013, and none were received. He asked for a motion to approve those minutes as written.

Matt Barnhart moved, seconded by Hal VanDaGriff, that the minutes from July 17, 2013 be approved as written. The motion carried, with all voting "aye".

Standing Committee Reports:
President:
Executive:

Mr. Hertzberg introduced Harry Styron as the new executive director for Tri-State. There were several good applicants for the position, with the executive committee serving as the search committee. Tri-State has arranged a good sound relationship with Mr. Styron, both financially and

professionally. Mr. Styron is an attorney who has performed some small community municipal work and has worked with the development and property side. He has a real interest in the water side and can bring Tri-State to the next level.

Mr. Styron was raised in Oklahoma and Missouri and attended college in Columbia, Missouri. He attended law school in Tulsa, Oklahoma, and took a lot of courses pertaining to natural resources, oil, gas, and water. He worked for an oil company in the technical services department while attending law school. He practiced law in Tulsa for 10 years as a municipal bond attorney and worked on infrastructure project financing. He left that law practice and moved to Branson, Missouri, in 1992 and did some teaching, writing, and real estate management. Since then he has performed a lot of municipal government law and real estate development and has continued working on natural resources projects.

Mr. Styron stated that Tri-State's executive director position presented him a good opportunity to branch out since Tri-State presents a great public purpose. He is very familiar with this area and looks forward to this opportunity to work with the members and the consultants who are present.

Financial:

Mr. VanDaGriff reported a fund balance of $344,556.00 and noted that 2013 membership dues will be sent during October or November.

Technical:

Mr. Rauch asked Mike Beezhold from CDM Smith to make his presentation on the Phase 2 Water Supply Report.

Presentation of Draft of Phase 2 Water Supply Report by Michael Beezhold of CDM Smith:

Mr. Dulaney introduced Mike Beezhold, of CDM Smith, who will be submitting the draft report to Tri-State within the next week. Mr. Beezhold recalled the draft report of Phase 1 that was presented last year to Tri-State and appreciated the board members' involvement with this process.

Mr. Beezhold explained that the purpose of the supply availability study is to compare what the available surface and ground water supplies are in a 16-county area of Southwest Missouri, and compare it to the Phase 1 water demand forecast, and in doing so, for the forecast years out to 2060, he arrived at what is called the gap. The gap represents the amount of supply yet needed to meet the future demands for Southwest Missouri.

Mr. Beezhold stated that Phase 2 is a planning level evaluation, with no additional modeling, since USGS has done a significant amount of ground water modeling in the region. He used the available ground water and surface water data obtained from Tri-State or from studies completed within the past couple of decades. The next phase will show how the gap relates to supply availability, with the amount of ground water and surface water available. It doesn't discuss the infrastructure necessary to make that water available. The water might be available, but the infrastructure to capture, store, and deliver that water may not exist.

Mr. Beezhold discussed the purpose of the project with Tri-State's board of directors on May 15. He then met with the technical committee and discussed data sources and assumptions and asked for input and verification validation on those data points and sources. He then visited with the technical committee on July 17 and offered them a preliminary draft report. He again asked for the technical committee's feedback on assumptions, methodologies, and preliminary findings.

Mr. Beezhold is now presenting the draft findings and will be delivering the report within the next weeks. He anticipates two weeks' review to try to finalize, with the final report being presented during November at the water conference.

Mr. Beezhold stated that one of the assumptions of making the comparison of future forecasted demands to the available supply was to choose a scenario. He chose the medium growth scenario, with the difference between 2010 and 2060 showing that about 125 MGD of additional water is needed by 2060.

Mr. Beezhold divided the demand forecast for Phase 2 into ground water and surface water for the 16-county area. Many counties rely on the surface water for municipal purposes, with some agriculture in Barry and Taney Counties. Over the past decade, a number of studies have been conducted in Southwest Missouri, with the most recent studies being the USGS ground water model studies for several counties in Missouri, Kansas, Oklahoma, and Arkansas as part of the overall effort. Another study was conducted in Greene County and several surrounding counties.

Mr. Beezhold divided Tri-State's 16-county region into sub-regions. Sub-region 1 contains Barton, Jasper, Newton, McDonald, and Barry Counties, with Sub-region 2 containing Greene, Polk, Lawrence, Stone, and Christian Counties. Sub-region 3 contains Taney County, with Sub-region 4 containing the five counties in the northern part of Tri-State's region. There are some fairly distinct differences in the ground water of the Ozark Aquifer in the west versus the east.

Mr. Beezhold looked at four scenarios. The first two scenarios look primarily at normal or average weather conditions over a 70-year period. Scenarios 3 and 4 look at drought conditions. A ground water evaluation was also added. Two ground water management options were reviewed, with the first option being what is reflected in the USGS reports at potential water withdrawals from the Ozark Aquifer, recognizing continued declines into the outer forecast years.

The second ground water option is what might be considered a more sustainable ground water future where the withdrawals might reflect on a fully saturated Ozark Aquifer to a more fully saturated condition having future less withdrawals from the ground water Ozark Aquifer.

Mr. Beezhold will focus on Scenario 1 (normal weather conditions—expecting future ground water declines) and Scenario 3 (drought conditions—again expecting future ground water declines at the current rate that ground water is being used). They are the most likely scenarios, but he asked about the other ground water option for the region, but that must be vented out and discussed with other stakeholders.

Mr. Beezhold stated that looking the flows in Shoal Creek, the supplemental available surface water from a Stockton Lane allocation that is currently held by Springfield City Utilities, and the available Lake Taneycomo water that seems to have no restriction into the future for Branson. During normal weather conditions, there doesn't appear to be a surface and ground water supply

gap. The question is if there is infrastructure available in Joplin in Grand Falls with only a couple of days of storage behind the dam, if that is really sufficient to meet the future need. Other studies have focused on reservoir storage scenarios, but as in terms of the available water and normal weather conditions, there is available water with anticipated future ground water declines.

Scenario 3 discusses the drought condition water flows or withdrawals with a significant need, as a region, with the difference in the demand forecast being about 125 MGD, with a need of over 80 MGD in 2060. Combining all the surface water available supply doesn't mean that the agreements are made with a certain utility, or the infrastructure is available to deliver or capture the water. This is just the available water.

Mr. Rogers asked if the demand forecast was 125 MGD, with the forecast now being 80 MGD. Mr. Beezhold replied that the difference in the future demand is 125 MGD. The future projected withdrawal from ground water makes up the difference.

Mr. Beezhold stated that the studies show hitting a ground water threshold for the region during 2040. This threshold is physical and is a financially economical threshold as to where it becomes not feasible or plausible to continue to dig more wells. After that, you start crossing into a threshold and making up the difference as being compensated for then by surface water. The report shows the combination of both ground water and surface water to meet that future demand. From 2040 to 2060, there is sufficient supply in the normal weather conditions.

Mr. Beezhold focused on the drought conditions and stated that in 2040, taking the drought pattern of the drought of record of 1954 flows in Shoal Creek, the drought pattern of 2012 for how Springfield Utilities used the allocations of Stockton Lake, with that drought pattern together showing that the gaps will first be seen during the summer months of 2040. The gap increases to 80 MGD by 2060 during those summer months. The gap also is pervasive across the entire year in 2060, with a shortfall throughout the course of the year.

Mr. Beezhold focused on Sub-region 1, the Joplin area, and stated that Shoal Creek has sufficient supply available to compensate for whatever ground water thresholds hit in the future. But the drought scenario presents a lot of challenges today, in that the study predicts a need for 20 MGD during the summer months of 2020, growing to over 50 MGD in 2060. The graph shows what the drought of record would look like in 2010, the base year, and if that were to happen in 2010, there would be a significant gap in the summer months to meet the demands.

Mr. Beezhold did not know the level of drought duration for 2012, but it certainly put Tri-State's area on the threshold of running out of water.

Mr. Beezhold looked at Sub-region 2, the Springfield area or Greene County vicinity, and stated that during normal weather conditions, a deficit occurs during 2060. In 2040, several MGD are needed during the summer months, with over 30 MGD being needed in 2060. This seems to reflect some of the early Burns & McDonnell studies that discussed what would be needed in the drought condition in terms of allocations from Stockton Lake, and we're at that time period where that study also said that a water shortage would be an issue.

Mr. Beezhold is looking primarily at surface water on the blue bars of the graph, with the red line being the 2012 drought condition evaluation when Springfield City Utilities switched over to

bringing Stockton Lake allocations in that particular drought year. The top line is an overlay showing the 30 MGD allocation. The average daily withdrawal available is 30 MGD. This will become a challenge during 2050, even with Stockton Lake's allocation.

Mr. Beezhold looked at the situation with ground water and surface water combined, which still shows a gap or deficit in 2050, particularly during the summer months.

Mr. Rogers asked Mr. Beezhold if he didn't get a gap until 2050 for Sub-region 2. He replied that there would actually be a gap during 2040, but the allocation just becomes more clear in 2050.

Mr. Hertzberg asked if Joplin is in trouble now with regard to drought conditions, and Springfield will be in trouble in 2040. Mr. Beezhold replied that is correct.

Mr. Beezhold made a prediction as to what the future might look like, and in visiting with the different utilities such as Branson, Springfield City Utilities, and others, there are plans to increase capacities to treat more water in the future. He took the 2011 census data and the capacities by county, and compared that to the peak day demands. Peak day treatment capacity issues will exist as early as 2020. Issues will exist in the counties where the population is increasing, with pretty significant capacity needs in 2060.

Mr. Beezhold stated that there is a point at which the supply availability needs to meet with infrastructure needs and make some efficient and effective decisions on how to use capital dollars as a region. That moment is coming before Tri-State and the Joint Municipal Utility Commission (JMUC) as they approach 2020 since Sub-region 1 is currently encountering some significant drought issues. Additional studies are needed as to where the infrastructure should be placed.

Mr. Beezhold discussed the two main points in that there is sufficient supply to meet future demands from the current sources, using the USGS ground water model and substantiated by the studies from models created by Black & Veatch and Whitman. Sub-region 1 doesn't currently have the infrastructure to capture, store, and deliver that water. Even in normal weather conditions, Sub-region 2 will experience a shortfall of at least 10 MGD by 2060 to meet future demands.

The second main point is, during drought years, the issues and challenges are upon us. The drought is an issue in Sub-region 1, with Sub-region 2 becoming a critical threshold around 2040 or 2050, which has been indicated as early as the 1990's with the Burns & McDonnell study.

Mr. Beezhold did not discuss Sub-regions 3 and 4. Sub-region 3 is essentially Taney County. Their surface water needs seem to be met sufficiently with no restrictions from Lake Taneycomo for Branson for the foreseeable future. Some ground water thresholds will be hit around 2050 for the rest of the county. There are some fresh water brackish issues on the west side of Sub-region 4, with those five counties experiencing declining populations. There are currently no issues with meetings demands now or into the future in Sub-region 4.

Mr. Beezhold will deliver the draft report to Tri-State within the week, with the technical committee having reviewed the preliminary draft report. He would like to finalize the report during October and present the findings in November.

Mr. Rogers expressed the need to meet the needs during drought conditions, and asked if this will take priority. Mr. Beezhold replied that is the primary conclusion, with a significant amount of water being needed to meet the future demands during the drought periods. He also expressed the need to make sure the infrastructure is available to transport the water.

Mr. Dulaney expressed the need to provide the water at the peak time, or the peak flows, and at the driest times. He discussed the yield studies on Stockton and Pomme De Terre Lakes. The Kansas City Corps of Engineers studied the period from 1929 to 2012, with the critical drought period occurring during the mid-1950's. They studied Table Rock Lake for the period from 1940 to 2000, with the critical drought period occurring between 1962 and 1966.

Mr. Dulaney stated that the Corps determines what the yield is at some point and time during the most adverse situations. The determined the yield and calculated the storage. He shows the board members a typical example of how the critical period is determined, with the draw-down given a particular demand, with that being maximized through the drought of record. The results are very similar, with Stockton Lake being the least efficient and Pomme De Terre being the most efficient with regard to the yield to storage ratio.

Communications:

Mr. Barnhart looks forward to working with Mr. Styron to develop a strategy to tell people how Tri-State will move to the next steps, and what financial impact that will have.

Membership:

Mr. Rogers met with Bolivar's City Council during July and visited with them about Tri-State. They were interested, but they are currently overwhelmed with some other issues and will revisit Tri-State at a later point.

Legislative/Regulatory:

Mr. Bingle had nothing new to report.

Ad Hoc Committee Reports:
JMUC:

Mr. Williams stated that since the July meeting and expressed the need to talk about points of order. There is also a Joint Municipal Utility Commission, and he asked to review the membership of that commission. The initial plan was to vote on the by-laws of the JMUC at this meeting, but that would be improper because the JMUC is an organization that will have its own board of directors who have already been designed by the cities. While all members of the JMUC are members of Tri-State, not all members of Tri-State are members of the JMUC.

Mr. Williams stated that in order to approve the by-laws, the JMUC must conduct a JMUC meeting with minutes being taken. He asked about preparing an agenda that includes seating the executive committee and verifying who the board members are that have been designated by the cities. He expressed the need to actually conduct a JMUC meeting before the JMUC by-laws can be approved.

Mr. Williams thought probably before the meeting takes place, the members of the JMUC need to discuss what the agenda will be like, and what actions are to be taken. Everything should be done separate from the Tri-State meetings to discuss these specific strategies.

Mr. Styron stated to keep in mind that the JMUC is a governmental entity and is subject to the Sunshine Law.

Mr. Williams stated that to date, Joplin has joined the JMUC and designated a representative to be the board member. Carthage has joined and has authorized a representative. Lamar, Springfield, Nixa, and Monett have also authorized their representatives.

Mr. Rogers thought there were eight JMUC members, and Mr. Williams replied that Mt. Vernon has also joined the JMUC. He will ask Gail Melgren if any other cities have joined the JMUC.

Mr. Hertzberg stated that a representative from Webb City attended some of the early meetings, but he wasn't sure if they joined the JMUC. Mr. Williams will contact them to make sure.

Mr. Williams asked about holding a technical committee meeting following the Tri-State board meeting. Mr. Styron would like to visit with technical committee members regarding the upcoming meeting with Southwestern Power.

Mr. Williams asked about scheduling the JMUC meeting or to hold a meeting today. Mr. Styron replied that a formal meeting must be scheduled when the JMUC members are ready to adopt the by-laws. Mr. Hertzberg stated that 48 hours' notice is required as per the Sunshine Law.

Mr. Styron would like to hold a technical committee meeting following this board meeting to discuss the September 19th visit to Tulsa.

Executive Director Report:

Mr. Styron did not have anything new to add at this point but stated he is enjoying his new responsibilities. He is continuing his law practice but stated that Tri-State is a nice change of pace from his daily activities, but it duck-tails in his representation of municipalities and helps him think about infrastructure.

Mr. Hertzberg stated that the Tri-State board members are excited to have Mr. Styron on board and look forward to working with him.

Comments by Representatives of Federal and State Offices/Agencies:

Mr. Schlegel had nothing new to report at this time. The representatives from the U.S. Army Corps of Engineers had nothing additional to report.

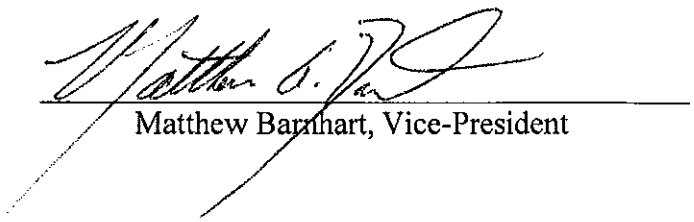
New Business:

Mr. Hertzberg asked for any new business to come before the board of directors, and none was received.

Adjournment:

Mr. Hertzberg asked for a motion to adjourn the meeting. He stated that the technical committee will meet following the board meeting.

Hal VanDaGriff moved, seconded by Roddy Rogers, that the meeting be adjourned. The motion carried, with all voting "aye".



Matthew Barnhart, Vice-President