CENTRAL TEXAS WATER COALITION

June 18, 2020

VIA E-MAIL TO ADMINISTRATIVE@REGIONK.ORG

Lower Colorado Regional Water Planning Group
c/o Mr. David Wheelock
Lower Colorado River Authority
P.O. Box 220
Austin, Texas 78767

Re: Comments of the Central Texas Water Coalition on the Region K Initially Prepared Plan Submitted to the Texas Water Development Board on March 3, 2020

Dear Mr. Wheelock:

The Central Texas Water Coalition (CTWC) appreciates the opportunity to submit the following comments on the Initially Prepared Plan (IPP) developed by the Lower Colorado Regional Water Planning Group (Region K) and submitted to the Texas Water Development Board (TWDB) on March 3, 2020. In addition, we wish to thank the representatives of Region K and the TWDB for their time and effort toward the preparation of the 2021 Region K Plan. For many reasons, this work is vitally important to the future of this region, as well as the State.

Chapter 1: INTRODUCTION AND DESCRIPTION OF THE LOWER COLORADO REGIONAL WATER PLANNING AREA. We appreciate the Planning Group's efforts to update the Planning Area information on topics such as flooding, drought cycles, water supplies, and the economic importance of the Highland Lakes. We encourage Region K to keep this information as current as possible in upcoming planning cycles.

Chapter 3: IDENTIFICATION OF CURRENTLY AVAILABLE WATER SUPPLIES. The CTWC encourages Region K to utilize a Safe Yield approach for the storage reservoirs included in its 2021 Region K Plan, rather than continuing to rely on traditional water availability modeling and water volumes calculated as the Firm Yield of a reservoir. A Safe Yield approach is justified in view of this Region's reliance on surface water reservoirs to provide water for a significant and continuously growing Central Texas population. Relying solely on the Firm Yield of Lakes Buchanan and Travis in today's water planning evaluations and planning carries risks associated with rapid drawdown of the lakes in times of drought. Utilizing a Safe Yield approach would add a safety margin to protect against dangerously low lake levels in times of prolonged drought. We understand that other Regions are incorporating a Safe Yield approach, and such an approach would certainly be justified for Region K.

Chapter 5: IDENTIFICATION, EVALUATION, AND SELECTION OF WATER MANAGEMENT STRATEGIES BASED ON NEED. The CTWC wholeheartedly supports conservation efforts as an essential strategy for sustaining the water supplies for this region and all of its water user groups. We support the conservation strategies presented for agricultural irrigation but are concerned that the conservation strategies may not be implemented without incentives such as higher water rates and funding. Water rates should be used as an incentive for water conservation and for funding efficiency projects.

In addition to describing the benefits of conservation and the various conservation-based strategies, CTWC requests that Region K collect data that allows an accounting of the results of the conservation strategies implemented by the Water User Groups. Collecting data and verifying the savings associated with a conservation method or practice would assist Region K in making better decisions in future Plans. With additional data on water savings, Water User Groups could identify their successes or deficiencies with respect to different conservation practices.

Chapter 8: ADDITIONAL RECOMMENDATIONS (INCLUDING UNIQUE ECOLOGICAL STREAM SEGMENTS AND RESERVOIR SITES, LEGISLATIVE ISSUES, AND REGIONAL POLICY ISSUES). CTWC supports the Policy Recommendations emphasizing the need for additional study and quantification of low inflow issues from the watershed; the need for new brush management funding; and the development of modeling for surface-water and ground-water interaction, followed by the incorporation of the modeling results and studies into the Region K Plan.

Other Comments on IPP. Recently, although it was not a part of Region K's IPP, we understand that the Region K Chairman received an email dated June 9, 2020 suggesting that an "Atmospheric Water Generation" technology should be included as an innovative technology in Texas' 2022 Water Plan. The email, distributed to Region K members and stakeholders, described this Atmospheric Water Generation (AWG) technology as a method for producing water, and it appeared to encourage Region K to include it in its 2021 Plan. The proposed technology estimates an efficiency of 0.93 kWh per gallon. While CTWC supports new ideas for increasing and sustaining water supplies, we have serious concerns about the feasibility and cost-effectiveness of the technology described by the AWG proponents, for the reasons described below.

The atmospheric water condensation scheme proposed in Region K / Atmospheric Water Generation Inclusion, TX 2022 Water Plan, dated June 9, 2020, estimates an efficiency of 0.93 kWh/gal.

Most electricity in Texas is generated by thermo-electric steam turbine plants (using some variation of the Rankine-cycle), which evaporate enormous amounts of water in their cooling reservoirs by both natural evaporation (wind, sun, etc.) and forced evaporation to cool their condensers. This water comes from our rivers, streams and aquifers, and is lost to the atmosphere. One source cites: "Evaporation losses from reservoirs are estimated to be greater than the combined consumption from industrial and domestic water uses."

On average in the US, per the USGS, a withdrawal volume of 15 gallons (gal) of water was used to produce 1 kilowatt-hour (kWh) of electricity in 2015. (Other sources estimate from 20 to 50 gallons.) Some of the withdrawn water returns to the environment as liquid water, except for that which is evaporated.

Thus, a scheme producing 1 gallon of water per 0.93 kWh (1.075 gal/kWH) by condensation from the atmosphere, at best consumes electricity at a rate that requires about 15 gallons of withdrawn water per kWh generated by thermo-electric power plants. In other words, 15 gallons withdrawn from lakes, streams and aquifers would only condense 1.075 gallons from the air.

While we encourage thinking out of the box for new water supplies, proposals must be carefully evaluated for efficiency and feasibility.

Again, thank you for the opportunity to submit these comments. We are happy to answer any questions that you may have. Please feel free to contact me at 512.755.4805.

Sincerely,

Jo Karr Tedder

Jo Karr Tedder, President
Central Texas Water Coalition

cc: Mr. David Wheelock, LCRA (*via email to david.wheelock@lcra.org*)