Missouri RAC Message

The Missouri Regional Advisory Committee established a Missouri River subcommittee that supplies pertinent River information to the remainder of the RAC at nearly every meeting. This message was formulated following a presentation at the September 10th RAC meeting. This message to the Kansas Water Authority from the Missouri RAC concerns the inter-basin transfer of water from the Missouri River and includes pertinent background information and staff input.

Message: The Missouri RAC has serious concerns with the inter-basin transfer of water from the Missouri River to non-adjacent River basins. Inter-basin transfers set a dangerous precedent and could ultimately cause arbitration based on science, engineering and/or statute, inter-state conflict with federal involvement in water supply allocation, be detrimental to downstream users and provide vectors for the movement of Aquatic Nuisance Species.

Background: The Missouri River is the largest river that flows through or is adjacent to the State of Kansas. It is also the longest river in North America and its basin covers one-sixth of the lower 48 states. The mainstem reservoir system includes six large dams that have the capacity to store over 74 million-acre feet (MAF), not counting exclusive flood control storage, about three times the river's average annual runoff above Sioux City, Iowa, located just downstream of the last reservoir on the mainstem reservoir system.

While issues related to the use of water from the river are complex, it potentially provides a very large water supply for use in Kansas. The history and the hydrological record indicate that the flows of the Missouri River are highly variable experiencing large floods and major droughts in the basin.

Under the Corps 1982 Study, quantification of water availability was simplified through assumptions. The 2015 update also used this simplified assumption. Availability is assumed when Missouri River flows exceeded the navigation and water supply intake structure targets; 41,000 cfs during navigation support season and 15,000 cfs outside of the navigation support season.

The Kansas Aqueduct system was evaluated for water transfer delivery systems of 2,000, 6,000 and 10,000 cfs. It is assumed that construction would occur over a 20-year period. The updated total construction costs for the system found to be the most cost efficient (6,000 cfs transfer capacity) is $12,231,000,000. The interest during a 20-year construction period is estimated to be $5,788,000,000 bringing the total investment cost to $18,019,000,000. Interest during the 20-year construction period was 7.375% in the 1982 study but only 3.5% for the 2015 update.

Assuming the 6,000 cfs diversion rate, the annual costs including operation and maintenance, interest and amortization and energy costs were determined to be $1,084,161,000. The annual energy costs were estimated to be $395,000,000, which assumes a total of 8.78 million megawatt hours needed to operate the system annually. The very preliminary estimate of the 2014 delivered water costs is approximately $450 per acre foot. These costs did not include costs associated with mitigation, legal challenges, or costs to get the water from the terminal reservoir to the field. Rough estimates are that these additions could double the overall cost.

A proof of concept (POC) of took place in September 2020 with nearly 6,000 gallons of water being pulled from the Missouri River and delivered to the dry Arkansas River bed. According to the POC, data analysis and a final report from the inter-basin transfer were supposed to be completed. Neither of these items have been submitted to date.

Staff Input: The Kansas Water Office, along with the Corps of Engineers, led the 2015 review of the potential project to transfer water from the Missouri River to western Kansas. The *Long Term Vision for the Future of Water Supply in Kansas* included a section to "allow for the transfer of water supplies between basins where feasible and cost effective." As can be seen from the background information, the project outlined in the 1982 Corps of Engineers study, and updated in 2015, was determined to not be viable or cost effective. We recognize that there are interests that continue to evaluate alternatives to the system as envisioned. The Kansas Water Office does not plan to evaluate or pursue any other alternatives unless directed to by the Kansas Water Authority or the Kansas Legislature.

KWA Response: The Kansas Water Office shall request information from KDHE, KDA-DWR, KDWPT and GMD #3 regarding the recent Proof of Concept (POC) project and share the findings of the project activities with the MO RAC and the Upper Ark RAC, and to include all appropriate RACs and the full Kansas Water Authority.