

2171 120th Avenue
Kinsley, Kansas 67547
April 5, 2019

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LEGAL SECTION
KS DEPT. OF AGRICULTURE

The Honorable Mike Beam
~~Acting~~ Secretary
Kansas Department of Agriculture
1320 Research Park Drive
Manhattan, Kansas 66502

Dear Secretary Beam:

RE: Petition for Administrative Review of the Master Order Contingently Approving Change Applications Regarding R9 Water Rights, issued on March 27, 2019 by David W. Barfield, P.E., Chief Engineer, Division of Water Resources

My name is Richard Wenstrom, and I am the owner of an irrigated farm in Edwards County and have farmed in the area for over 40 years now. Part of our farm is adjacent to property owned by the cities of Hays and Russell known as the R9 Ranch (formerly Circle K Ranch). In addition, I am a licensed Professional Engineer in the state of Kansas, and Past President and a current Board member of the Water Protection Association of Central Kansas (Water PACK), a private group of irrigated producers who are organized to support irrigated agriculture.

The basis for my petition is to outline problems that I see with the determination of the consumptive use by the Chief Engineer under K.A.R. 5-5-9 (1994 version) and how it is used to determine the amount of water that can be changed from agricultural use to municipal use.

The Chief Engineer and the consultant for Hays/Russell are quick to point out that they did not do a site specific analysis of net consumptive use as outlined in K.A.R.5-5-9 6(c) because the reasons given in the statute were not met in their view. I would say that this is a precedent setting project involving many water rights that involves removing water from one part of the state with no subsequent return flows to the aquifer of supply, and exporting that water to another part of the state. The public interest is of paramount importance in this project due to the magnitude of the removal and the finality of the consequences of the decisions spelled out in the Master Order, not to mention the effect of this project on the irrigated producers and communities in the vicinity of the Ranch.

For example, the Chief Engineer and his staff failed to check the validity of the cropping records for the R9 Ranch for the year of record back in the mid 80's. If they had gained access to FSA records they would have found an entirely different cropping pattern. A few local producers and citizens contacted the tenants that were in place during the year of record, and these two tenants agreed to go to the FSA-USDA in Edwards County to see what the reported cropping for

that year actually was. The former tenants obtained the cropping data, and graciously agreed to give us access to the data. What we learned is that, instead of the 2,901 acres of alfalfa and 2,247 acres of corn reported by the Chief Engineer, the FSA records show: 2,387 acres alfalfa, 488 acres corn, 176 acres milo, 1,670 acres wheat, 293 acres of circles not farmed or crop destroyed. This also explains why the satellite photos of the R9 Ranch for the year of record generated for Water PACK by Dr. Andy Keller, Keller-Bliesner Engineering, show so many circles that were obviously not corn or alfalfa....some actually look like they were not even farmed, but now we know that was wheat stubble.

The NIR for corn for 50 % chance rainfall for Edwards County is 13 inches for corn, and 20.9 inches for alfalfa, as specified and used by the Chief Engineer. THE NIR for milo and wheat for 50 % chance rainfall for Edwards County is 11 inches and 8.7 inches, respectively. Obviously, if the cropping acres were accurately known, with wheat, milo, and empty circles replacing corn and alfalfa, the consumptive use on the R9 Ranch during the perfection period would have been much less as the NIR and acreage figures are adjusted lower. This would then have caused the amount of water that can be converted from agricultural to municipal would also have been correspondingly lower as well.

Consumptive use is supposed to be a measurement of the water that is actually consumed by the crop being irrigated or watered by precipitation as a fraction of the total water that is applied in either case. As irrigated producers, we have an obligation and a task of minimizing the amount of irrigation water that is not consumed by the crop, as this water is being pumped at cost and any water not consumed is wasted through deep percolation and/or evaporation. We live with this process every day of the growing season. It is no wonder, then, that when we observe a process set in place by the Chief Engineer that ignores what is happening to consumptive use at the actual irrigation site at the R9 Ranch (apparently allowable under K.A.R. 5-5-9 even though this consumptive use may seem unrealistic but does not impair other water users) we are dismayed considerably.

Here's why.....the R9 Ranch has many factors where it is well nigh impossible to optimize beneficial consumptive use on crops raised under irrigation. The best evidence for this is the history of unprofitable crop production at the R9 Ranch (formerly Circle K Ranch) back through its troubled history. As owners discovered this, they sold the ranch over and over again to try to recover their investment through land appreciation rather than through profitable farming. This is not to say that this ranch has not had good farmers.....there have been some excellent famers who have tried to make a profit on this operation. But Mother Nature is extremely cruel to those who try.

First of all, low water holding capacity soils on the ranch.....I personally used the USDA/SCS Soil Manual for Edwards County and offer these observations: 17 % of the R9 Ranch has a Tivoli fine sand soil type. This soil type is so coarse that it is labeled by the Manual as "not applicable to irrigation". How easy would it be to have positive consumptive use on this soil type? 67 % of the Ranch has a Pratt-Tivoli loamy fine sand soil type. The Manual says this soil has "extremely low water holding capacity, rapid permeability, and subject to blowing". What happens to

crops on these soils is that the irrigator keeps pumping and pumping, but most of the water returns to the aquifer through deep percolation without positive consumptive use. As the season progresses, this vicious cycle continues and the result is very poor yields for corn, and reduced cuttings in quantity and quality for alfalfa compared to normal soils that can hold more water. The Chief Engineer, given his decision on consumptive use allowing 6,767.8 Acre-Feet of consumptive use (out of 7,625.7 Acre feet of Ag water rights) has essentially said that 88.6 % of the water pumped on these soils during the perfection period was used consumptively by the crops. As a farmer and irrigation engineer, I cannot agree with this decision.

Further complicating this situation are the shallow wells on the R9 Ranch.....most are less than 100 feet deep, with 40-60 feet of saturated thickness. Under high pumping situations such as heat, wind and low humidity affecting Ranch crops, especially corn and alfalfa, the wells tend to dewater and provide only a portion of designed flow rates. This further complicates the irrigator's ability to provide enough irrigation water to meet evapotranspiration demands. This has always been a huge problem for operators of the R9 Ranch, or its predecessors. Sadly, even if the wells did not dewater, and pump normally, most of the water just returns to the aquifer as deep percolation because of the coarse gravelly soils, as stated above. This is also why local producers such as us are concerned about the amount of water that is allowed to be transferred in this water transfer matter. There will be no more deep percolation to the aquifer as there was under irrigated crops, since Hays/Russell will pump water from the aquifer and transfer 100 % of this water out of our basin and to another part of Kansas. If that quantity is too high, eventually impairments will occur with nearby farms like ours. This will not be good for Hays/Russell either.

Finally, some comments regarding the unique situation this matter presents to anyone who attempts to quantify consumptive use under K.A.R. 5-5-9 to determine the amount of water that can be changed to municipal use from agricultural use. In full disclosure, I discussed the following with Dr. Andy Keller, P.E., President, Keller-Bliesner Engineering. Dr. Keller is widely recognized as one of the foremost experts in Consumptive Use Concepts under Irrigation in the entire world, and a very able hydrologist. Water PACK has been extremely fortunate to be able to access his services as a consultant. He is very familiar with central Kansas, having worked here early in his career, and also has provided consulting service to Water PACK on two other occasions.

The Kansas Water Appropriation Rules and Regulations governing change in use of water from irrigation to other beneficial use are intended to ensure the change does not result in an increase in the net consumptive use from the water source:

"K.A.R. 5-5-9. Criteria for the approval of an application for a change in the use made of water from irrigation to any other type of beneficial use of water. (a) The approval of a change in the use made of water from irrigation to any other type of beneficial use shall not be approved if it will cause the net consumptive use from the local source of water supply to be greater than the net

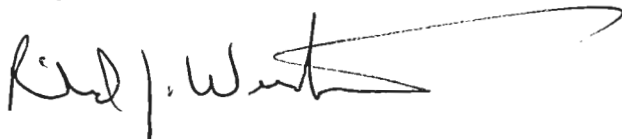
consumptive use from the same local source of water supply by the original irrigation use..."

When formerly irrigated land is no longer irrigated, in time, as dryland vegetation becomes established, the consumed portion of precipitation falling on the land will become greater than under irrigated conditions. This is what will happen on the R9 Ranch when irrigation ceases. Accordingly, to ensure no net increase in consumptive use from the R9 Ranch post-transfer, the increased consumptive use of precipitation under dryland conditions should be accounted in determining the amount of water that can be transferred.

The Chief Engineer, in his Master Order, appears to not agree the consumed portion of precipitation on the R9 Ranch would increase under dryland conditions and, without substantiation, concludes (paragraph 89) "the diversion of a total of up to 6,756.8 acre-feet of water per calendar year from all of the R9 Water Rights combined, will not cause the net consumptive use from the local source of water supply for the new municipal use to exceed the net consumptive use from the same local source of water supply by the original irrigation use." The net consumptive use of 6,756.8 acre-feet per year found by the Chief Engineer is significantly greater than the 3,790 acre-feet per year calculated by Water PACK's consultant and, at a minimum, should trigger a site-specific net consumptive use analysis by the Chief Engineer per K.A.R. 5-5-9 (c) to ensure no increase in net consumptive use from the R9 Ranch as a result of the change from irrigation to municipal use.

Thank you very much for this opportunity to submit this Petition.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard J. Wenstrom". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Richard J. Wenstrom, P.E.