STATE OF NEBRASKA

DEPARTMENT OF NATURAL RESOURCES
Roger K. Patterson
Director

Mike Johanns
Governor

November 7, 2003

IN REPLY REFER TO:

Terry Zeigler, General Manager
Midwest Electric Cooperative Corporation
P. O. Box 970
Grant, NE 69140

Dear Mr. Zeigler:

Although I have already spoken over the telephone with Dana Cornelius, I am sending you this letter to formalize my request for data. Mr. Cornelius was quite helpful and he provided me with District-wide irrigation customer hours of use and total power consumption figures for 2001, 2002 and 2003. We are currently in the process of requesting more detailed information from Power Districts in your area.

We are requesting power record information from your District in order to update the Republican River Compact Administration groundwater model. As you are probably aware, this model was developed as part of the settlement of the Republican River Compact litigation. The purpose of the model is to determine the stream flow depletions that result from the consumptive use of groundwater. The determination of stream flow depletions is needed for the accounting formulas required by the Compact. A key input to the model is the amount of water pumped by groundwater wells.

It is important to Nebraska that we get accurate estimates of groundwater pumpage so that we can both stay in compliance with the compact and at the same time make the most efficient use of the water Nebraska is entitled to use under the Compact. Currently most irrigation pumps outside of the Upper Republican NRD are not equipped with flow meters. Therefore, we use power record data to make the best estimate of irrigation application volumes, a main input to our model. Although irrigation flow meters are being installed in the entire Republican River Basin, we do not anticipate the completion of these installations until 2005. In the meantime, we are dependent on indirect estimation of irrigation application through the use of power records.

We use the electric records to estimate hours of use so we may multiply hours by the withdrawal rate of each well (gpm). Previously we compared the results of using power records and well registration information to the water meter data from the Upper Republican NRD. We were able to refine our estimation techniques comparing estimates to actual withdrawal. We would like to further refine them by comparing more localized information.

Specifically, we need three key pieces of information for the years 2001, 2002 and 2003: the location of irrigation service, kilowatt hours sold to irrigation customers, and the horsepower demand for irrigation customers. We need these data for the portion of the Midwest Electric Cooperative Corporation service area that is south of the South Platte River. The ideal data set would be in digital form, and include data broken down by meter with legal location (section, township, range). The more localized the data, the better the results. However, more generalized data are still useful, such as data by township. Use codes indicating the sources of power consumption (eg. Pivot motor, well, re-use pit) would also be very helpful. The more specific the data, the better we can do our work.

We would appreciate your cooperation in this matter of importance to Nebraska. Please contact me if you have any questions or concerns.

Sincerely,

Mike Thompson

Mike Thompson
Natural Resources Specialist

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