

CE05-001

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ELECTRONIC MAIL & OVERNIGHT DELIVERY

July 25, 2005



Rec'd Elec. 7/25/05

Al Bierbaum
Engineer
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

Re: Informal meeting between Otter Tail Power representatives and Minnesota Public Utilities Commission Staff on July 20, 2005.

Dear Mr. Bierbaum:

After our meeting on July 20, 2005, we felt it was appropriate to provide a summary of the discussions we had and to formalize Otter Tail Power Company's ("Otter Tail") position regarding the Hendricks Golf Course ("Golf Course") situation. Discussion items during the meeting included: details of the situation at the Golf Course and how the operation of the irrigation motors is affecting service to other customers, service to the town of Hendricks, MN and the Golf Course, Otter Tail's motor starting policy and portions of Otter Tail's General Rules and Regulations tariff, load growth of the Hendricks area, other possible solutions for this situation. We have also included correspondence we have had with the Golf Course and the affected customers. The sections below provide a brief summary of these items.

Situation at the Golf Course

The Golf Course operates two motors for their irrigation system. The motors are 15 hp and 25 hp. Operation of these motors has been affecting the service to other customers that are located just across the South Dakota border. Otter Tail representatives have worked with the Golf Course and the affected customers on a resolution to this issue since at least April of 2003. We have met with representatives from the Golf Course on several occasions to discuss possible solutions, which have included: altering the hours of operation of the motors to limit the impact to the customers, recommending the installation of soft starts on the motors at the Golf Course's expense, which would eliminate the voltage flickers, and extend additional facilities to the Golf Course, which would enable Otter Tail to isolate the affected customers from the operation of the irrigation motors at the Golf Course, which was also at the Golf Course's expense. Other than altering the hours of operation of the motors for a short period of time, the Golf Course has refused to take further corrective action. The affected customers wanting resolution to this issue

filed a formal complaint against Otter Tail with the South Dakota Public Utilities Commission ("SD PUC"). Because this complaint involved two State Commission's and we wanted to make sure we were taking the appropriate steps, we contacted the Minnesota Public Utilities Commission ("MN PUC") Consumer Affairs Office ("CAO") for an opinion on this issue. Otter Tail believes the Golf Course is in violation of our General Rules and Regulations because they refuse to take further action to correct the voltage flicker experienced by the affected customers. Because of this violation, Otter Tail believes disconnection of the service to the Golf Course may be used as a last resort.

MN PUC Analysis and report

After the MN PUC Staff completed the analysis of this situation, the MN PUC Staff sent Otter Tail a letter dated July 8, 2005, which recommended three alternatives, all of which were at Otter Tail's expense. These recommendations raised significant concerns with Otter Tail's current systems. These concerns led to a meeting on July 20, 2005 between Otter Tail representatives Rick Johnson, Joe Braun and Ron Spangler Jr. and MN PUC Staff members Janet Gonzalez, Tracy Smetana and you.

Service to the town of Hendricks

The town of Hendricks, MN and the surrounding area, is served by a 2,500 kVA, 41.6/4.16 kV delta-wye grounded transformer. The demand on this transformer is approximately 1,250 kVA (50% loaded).

Service to the Golf Course

The Golf Course is served by 2 phases and three-phase is made available by utilizing 50 kVA and 25 kVA transformers connected in an open delta configuration, with a three-phase capacity of 64.5 kVA. The demand on this power bank is approximately 32 kVA. Sizing of the power bank was determined by referring to the GE Distribution Transformer Manual. Nominal system voltage at the Golf Course is well within acceptable limits.

Correspondence with the Golf Course including recommended solutions

As stated earlier, Otter Tail's has worked with the Golf Course and the affected customers on a resolution to this issue since at least April of 2003. Below is a list of contacts that have been made between the affected customers, the Golf Course and Otter Tail.

- On April 14, 2003, one of the affected customers contacted Otter Tail's customer service office expressing concerns with the dimming and blinking lights they had been experiencing.
- On May 2, 2003, an Otter Tail representative, after determining the cause of the problem, contacted the customer and stated we would contact the Golf Course to discuss possible solutions.
- On June 5, 2003, the customer contacted Otter Tail again to express concerns about the dimming and blinking lights.
- On June 6, 2003, an Otter Tail Representative contacted the customer and stated we were working with the Golf Course on solutions to the problem, but we stated it might not be resolved for some time.
- On July 3, 2003, several Otter Tail representatives met with the Golf Course president and greens keeper to inform them that Otter Tail has been receiving complaints about dimming and blinking lights when the Golf Course opens in the spring. We stated the dimming and blinking lights are the result of the operation of the irrigation motors at the Golf Course.

- August 1, 2003 through August 12, 2003, Otter Tail recorded the voltage at the Golf Course and at the locations of the affected customers. The data recorded proved the voltage flickers were the result of the operation of the irrigation motors at the Golf Course.
- On July 15, 2004, an Otter Tail representative talked to the Golf Course board chairman and discussed altering the hours of operation of the irrigation motors. The Golf Course board decided at their next meeting that they would water at night from midnight to 6:00 AM. However, the Golf Course would run the irrigation motors during the day if the weather dictated. This approach only helped minimize the dimming and blinking lights experienced by the customers. The Golf Course used this approach for a very short period of time.
- On September 3, 2004, several Otter Tail Representatives met with Golf Course board and greens keeper. The discussion items of this meeting were the installation of soft starts (at that time at a cost of about \$7,000) on the irrigation motors or extending additional facilities to the Golf Course (at that time also at a cost of about \$7,000), which would enable Otter Tail to isolate the affected customers from the operation of the irrigation motors at the Golf Course. We informed the Golf Course that either of these options would be at their expense. At this meeting we asked for a letter by September 17, 2004 stating the Golf Course's preference for a solution to the voltage flicker.
- On September 13, 2004, we received a letter from Golf Course, which stated their position on the solution to this issue. Their position is that Otter Tail does not have adequate facilities to serve them under all conditions.
- On May 26, 2005, one of the affected customers filed a formal complaint against Otter Tail with the SD PUC.
- On July 12, 2005, an Otter Tail representative visited with the affected customer about the progress of the complaint. We indicated that we are in discussions with the MN PUC and that we are working towards a resolution.

Financing options for the Golf Course

During the July 20, 2005 meeting with the MN PUC Staff, Otter Tail stated we may have offered financing options to the Golf Course to help spread the expense associated with correcting the voltage flicker. However, to date we have not offered any financing options to the Golf Course; however, we believe financing can be an option.

Other possible solutions

During the July 20, 2005 meeting with the MN PUC Staff, you asked about replacing some of the conductor between the substation and the Golf Course, as some of the conductor could be causing a voltage bottleneck. You recommended looking at replacing the 3S8C (3 strand #8 copper) conductor, which has a higher amperage rating than #4ACSR (#4 aluminum conductor steel reinforced), which is 140 amps. The peak load logger readings for the Golf course tap showed 50 amps. We have not made any further studies with this option. A study of this sort would be preformed if unacceptable voltages were experienced. That is not the case with this situation. As we stated earlier, nominal system voltage at the Golf Course is well within acceptable limits, which our studies show is 120 volts, steady state. Because we have a solid system in this area and the 10-year annual average kilowatt-hour and revenue growth for this area is less than 2%, there are no economic or engineering drivers for making system improvements. Improvements would be made at such a time as it is justified.

Other 4.16 kV systems Otter Tail currently has

Otter tail has numerous 4.16 kV systems throughout our service territory that are performing well and serving customers very adequately. For example, the town of Devils Lake, ND has

3,688 customers of which 592 are commercial customers. Several of these commercial customers have motor loads. The town of Devils Lake, ND is served by a very adequate 4.16 kV system.

Otter Tail's position on this situation

It is Otter Tail's position that the strength of the system serving the Golf Course, including their motors, is sufficient to serve the Golf Course's connected load at full usage. It is not reasonable or economic to build a system that can handle a load that only lasts 15 cycles or a quarter of a second. Therefore, when this type of condition is encountered, it has been Otter Tail's long-standing policy to require the customer to install equipment on motors, at the customers expense, that minimizes the voltage flicker; e.g. soft starts, variable frequency drives, etc. Otter Tail bases this policy on section 10 of its General Rules and Regulations on file with the MN PUC, which states:

10. SPECIAL EQUIPMENT: At a customer's request, the Company will make service available to certain special equipment over a separate service line or separate transformer, and through a separate meter with separate billing. If it appears to the Company that its expenditure may not be justified by the anticipated revenue, the rule covering extension of service will apply.

Equipment which, because of its operating characteristics, may interfere with satisfactory service to other customers may, at the Company's option, be served through a separate service and meter with separate billing. When this condition is encountered, the customer shall at his expense make the necessary changes to properly correct the existing condition.

The above Special Equipment section has been in our tariffs since at least May 31, 1975. The first sentence of the second paragraph of this section is true in the Golf Course situation for two reasons. One, the operation of the irrigation motors at the Golf Course interferes with the satisfactory service to other customers. Two, it is Otter Tail's option to serve the Golf Course through a separate service and meter with separate billing, which we naturally do for some customers. So in the situation of the Golf Course, the first condition of this section has been satisfied. When this condition has been satisfied, then the last sentence of the Special Equipment section above applies, which requires the customer to correct the existing condition at their expense. In this case it is to minimize the voltage flickers caused by the operation of the irrigation motors.

Otter Tail is not unique with its motor starting guidelines or rules and regulations. Through informal discussions Otter Tail has had with other Minnesota electric utilities, motor-starting guidelines among the utilities are consistent. The other utilities require that any motor start that places a high short-lived demand on the system shall be resolved by the customer installing soft start or variable speed drive equipment on the motor at the customer's expense.

The implications of correcting customer induced motor starting problems with system enhancements would have significant ramifications, where the revenue would not support such enhancements. These types of enhancements would be added to Otter Tail's rate base and eventually all rate payers would pay for these types of enhancements. Otter Tail maintains the position that motor starts that affect the service to other customers should be resolved at the customer's expense, not at the expense of all customers.

Next steps

We believe that the recommended solutions that Otter Tail has given to the Golf Course are consistent with our Rules and Regulations, previous treatment of Otter Tail customers and industry standards. At the end of the meeting on July 20, 2005, it was our understanding that the MN PUC Staff would meet to review and discuss the additional and corrected information. The MN PUC Staff would then make a decision and inform Otter Tail of their recommendations. Please review the information provided and we ask for reconsideration of the recommendations in your letter dated July 8, 2005.

We look forward to your recommendations in this matter, which we believe should be in the best interest of all customers.

Please call me at (218) 739-8838 or rlspangler@otpc.com should you have any questions with respect to this matter.

Sincerely,



Ron Spangler Jr.
Regulator Services

c: Janet Gonzalez, Energy Manager, MN PUC
Tracy Smetana, Consumer Affairs Mediator, MN PUC
Rick Johnson, Manager Delivery Engineering, Otter Tail
Joe Braun, Senior Area Engineer, Otter Tail
Bernadeen Brutlag, Manager, Regulatory Services, Otter Tail
Bruce Gerhardson, Associate General Counsel, Otter Tail Corporation
South Dakota Public Utilities Commission