## Exhibit \_\_\_\_ (GWE-10)

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## OTTER TAIL POWER COMPANY Docket No. EL10-011

Response to: Public Utilities Commission Analyst: Ryan Soye, Staff Attorney Date Received: 11/24/2010 Date Due: 12/8/2010 Date of Response: 12/03/2010 Responding Witness: Bryan D. Morlock, P.E., Planning Consultant - (218) 739-8269

Information Request No: SD-PUC-08-01

Please state whether the Luverne wind facility has provided system energy savings since August 26, 2009. If so, please provide the dollar savings by hour and by calendar month.

## **RESPONSE:**

In terms of system energy cost savings, the Luverne Wind Farm has reduced energy costs paid by OTP customers through the FCA since it became operational. This is because the energy (kWh) produced by the Luverne project has been reflected in the FCA calculation at no cost (\$0)—and that energy reduced OTP's need to secure energy to meet customer needs from other sources. OTP has not conducted any studies to determine how much OTP customers would have paid from August 26, 2009 to date if OTP had supplied their energy needs through purchases or resources other than the Luverne Wind Farm. If one were to attempt to determine the hourly and monthly savings, one would have to make assumptions about what alternative resources would have been selected and what the fuel or purchase price for the energy might have been in each hour and month.

In terms of total cost (capital costs plus energy costs) the Luverne project is expected to result in net energy savings over the life of the project as compared to other generation resources and purchases. It would not be appropriate to look for these costs during any particlar discrete time period, especially a discrete time period during the first years of the project. Long-range planning analysis is life-cycle analysis, involving periods that may have higher costs and periods that may have lower costs. Short-term analysis can provide information as to the accuracy of analysis assumptions over that time period, but is also likely to provide misleading information if used to make long-term decisions.

If the Luverne Wind Farm was fully in base rates from its initial date of operation it is unlikely that the energy savings that would exist in this first year of operation would exceed the total cost of the wind farm for that period (assuming the calculation of energy savings was based on a comparison to market purchases, for example). The very first year of operation is the highest average cost year in the expected life of the wind farm (as it is for most generation projects). The following chart demonstrates the expected representative cost curve over the 25-year life of the wind farm.



The cost of the wind farm is a rapidly declining curve. Energy savings will occur throughout the life of the wind farm, but it can be a few years before those savings outweigh the total cost of the facility assuming those costs are in base rates. Because of depreciation and debt service, the initial years of a project are the highest cost years, and because of the steep drop in the cost curve, the Luverne Project is expected to result in savings very early in its life—how early will depend on market energy prices and other factors.