

To: Sharla Cox, Administrative Assistant, Idaho Dept. of Water Resources

From: Greg English, Non-Consumptive Use Applicant (Ref. #75-14473)

Subject: Response to Criteria for the Non-Consumptive Use Application Process

The below information is provided based on IDWR's request to answer the below criteria (identified in bold) as part of the normal non-consumptive use application approval process.

- **“The potential to reduce the quantity of water under existing water rights”**

Response:

All the Owl Creek surface water rights that currently exist are all well upstream from the proposed diversion for the non-consumptive use permit, e.g. a diversion that feeds a ditch that is more than 500' upstream from the proposed diversion for the non-consumptive use permit. This same ditch referenced above is used for irrigation purposes for a pasture and orchard, to include a gravity fed water line that comes from this same ditch to water several lawns and non-potable water for several residences, one of which is my residence. The water that flows through this ditch is for all surface water right holders and this ditch diversion is located upstream from the proposed non-consumptive use diversion. Additionally, I have taken responsibility and spent extra time to chose the hydro site location, which is all located on my property, to be downstream and be totally unable to affect anyone else's water right.

- **“The sufficiency of the water supply for the proposed appropriation”**

Response:

The body of water flowing through Owl Creek is of sufficient capacity that the non-consumptive water use is estimated to be less than 5% of the overall stream flow during the non-runoff summer months and significantly less than this during other periods. Furthermore, by collaborating with a hydro turbine representative who has installed a variety of different technologies for this type of small hydro application, we were able to identify a low head technology turbine that is efficient enough that limits the length of the diversion as well. This has resulted in a significantly shorter diversion length opposed to the high head turbines that would have required a significantly longer diversion length in order to obtain the higher head needed for this other technology.

Additionally, I have included in the design of the small hydro system to be shutoff during periods of non-use in order to eliminate any diversion of water when I am not at the residence.

- **“The good faith nature of the application”**

There is no electrical power supply or power utility that services this area. My residence is far removed from the nearest power grid. The nearest location of electrical power is more than 20 miles away. Typical power usage has required me to run a generator and store larger quantities of fuel that can pose a spill and fire hazard. Additionally, I am attempting to reduce the noise and emission pollution from my generator.

Based on the needs of my small family (five in all), it has become difficult and impractical to use the generator for all of our needs. The lack of electricity has required me to use alternatives that are not as safe, nor as environmentally friendly, e.g. transporting and storage of fuel, careful handling to prevent fuel spillage, noise and air pollution and fire hazard associated with the storage of fuel.

I have optimized the turbine and hydro system design by receiving professional advice, to include an on-site visit, to optimize and limit the amount of water that is needed to produce electricity to service my house.

- **“The adequacy of the applicant’s financial resources”**

Response:

I have received a written estimate from a small hydro vendor company that has been in business for many years to install, design, advise and procure small hydro systems. Both my wife and I have full time jobs. I plan on paying for this system after final installation, e.g. no loans. We have the financial resources to purchase the necessary equipment and complete the final design/installation and we are approaching this with knowing what we need, to include costs, upfront.

Please refer to the attached cost estimate that was provided to me, which was finalized after optimizing the system based on an on-site visit from the small hydro company representative. The list of equipment and cost estimate was finalized only after we spent considerable time in choosing the best technology application for the site coupled with the most efficient system to limit the non-consumptive water usage to the lowest practical CFS level.

I hope this provides sufficient information and should you have any questions, then please do not hesitate to contact me (208) 526-0716 at work and (208) 523-1683 at home.

Remote Power Systems / Fite
Enterprises,LLC

Estimate

171 Fite Lane
Stevensville, MT 59870
(406)207-1414
FEIN#90-013250

Date	Estimate #
7/10/2007	12

Name / Address
Greg English 4940 East Loma Circa Idaho Falls, ID 83406

			Project
Description	Qty	Cost	Total
INVCAB 5' 4/0 INVERTER CABLES (WELD)	1	137.00	137.00
Inv-Outback VFX3648 Inverter	1	2,150.00	2,150.00
MIDNITE SOLAR E-PANEL to include MNE250ST,MNDC-GEP, 2qty MNEPV63	1	574.00	574.00
OBDC-60 BREAKER FOR PSDC USE	1	29.00	29.00
OB- REMOTE TEMPERATURE SENSOR	1	29.00	29.00
OB MATE REMOTE MONITOR & CONTROL	1	279.00	279.00
SOV-Lightning Arrestor, DC	1	39.00	39.00
BATTERY-MK-8 L16	8	242.00	1,936.00
BI 16" 4/0 RED	8	19.00	152.00
MH-ES&D-LH1000 Low Head Micro Turbine	1	2,650.00	2,650.00
SHIPPING AND HANDLING estimate only	1	787.00	787.00
Option would be to buy 8 more batteries \$2088.00 shipping is free with 10 or over battery order that would pay for two batteries. We need 8 batteries in each 48v string.			
Any questions please call TJ @ 406-207-1414		Total	\$8,762.00