



SMALL HYDRO ELECTRIC SYSTEMS

Small hydro is a hydroelectric generator on a small scale normally serving a residence, irrigation facility, a small community, or an industrial plant. The size definition of a small hydro facility varies; however, a generating capacity of up to 10 megawatts (MW) is generally accepted as the upper limit of what can be termed small hydro.

Small hydro can be further subdivided into mini hydro, usually defined as less than 1,000 kW, and micro hydro, which is less than 100 kW. Micro hydro is usually the application of hydroelectric power sized for smaller communities, single families, or small enterprise.

Small hydro plants may be connected to conventional electrical distribution networks as a source of low-cost renewable energy. Since small hydro projects usually have minimal reservoirs and civil construction work, they are seen as having a relatively low environmental impact.

Pend Oreille PUD has a program called “net metering” for micro hydro facilities up to 100 kW, which allows the system owner to store any excess energy created when generation exceeds the amount of power being used in the form of credits, which you will see on your bill. Then, during periods of heavy energy use, such as a cold snap or a heat wave, you can draw on those credits to make the most of every single kilowatt-hour (kWh) your system produces.

Small hydro developers usually need to apply to the Federal Energy Regulatory Commission (FERC) for an exemption when the project impacts navigable waters, impact interstate commerce (connected to regional electric grid), use federal lands, use surplus water or water power from a federal dam. For small projects that just provide enough energy to run a home, irrigation system, or farm (micro/nano size), developers can go to the Washington State Governor’s Office of Regulatory Assistance for information (www.ora.wa.gov/resources/permitting).

FOR MORE INFORMATION

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