

DOCKETED

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Role: Public

Comment Title: New Alternative Energy Source

Comment:

Dakota Energy Systems, LLC (DES) has developed and deployed a patented technology that harvests energy from closed loop municipal and private water systems. Most of California's private and public water districts maintain multiple pressure reducing stations throughout their domestic potable water system in order to deliver household and agricultural water at a safe and reasonable pressure. These pressure reducing valves (PRVs) reduce the water pressure by absorbing the water flow enough to reduce its pressure to a usable pounds per square inch. The DES Hydro-Electric Power System (HEPS) harvests inherent energy by flowing the water through a turbine that reduces the water's pressure while harvesting electricity. This system can work in conjunction with a PRVs and/or replace them. Our systems are modular in design so they can fit any size PRV. The smallest unit harvests 9KWH with a 40-pound pressure drop and only 500 gallons per minute. DES can tie multiple units together in one skid to support PRVs as large as necessary and can harvest into the megawatt range. Unlike solar and wind, the HEPS system harvests continuous electricity sun up or down, wind or no wind. Because these units are located in major water junctions, water continuously flows almost 24 hours a day. Our engineers have used reliable American made components to develop the HEPS system. This equates to reliable production of electricity 24/7/365 for over 30 years with a minimal annual maintenance cost and relative low startup costs when compared to other alternative energies. Another key cost savings comes with the distributed nature of the existing PRVs. Water districts locate PRVs throughout their service area; this creates an opportunity for a safe, distributed power source that can either go directly into a facilities electrical panel or into the electrical grid without the construction of new power infrastructure, major transmission lines or large swaths of land.

Thank you for the opportunity to submit my information. I look forward to speaking to a staff member about our technology.

See Attachment

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DAKOTA
ENERGY
SYSTEMS

HEPS
HYDRO ELECTRIC POWER SYSTEM

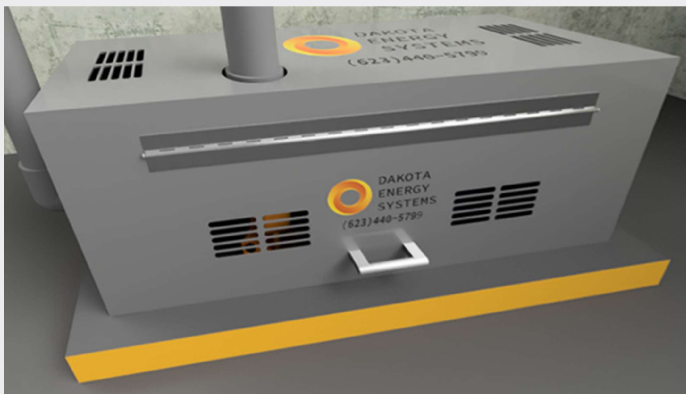
Zero Carbon,
Clean Energy
for a Sustainable
Environment



Dynamic energy harvesting, Dakota Energy System's Hydro Electric Power System (HEPS)

The Hydro Electric Power System captures energy from a new or existing, closed, or open loop constant volume hydronic piping/pumping system.

If a pressure reducing valve (PRV) is being used within a new or existing municipal water or private water distribution system, our patented HEPS technology can replace or work in conjunction with the PRV to, not only reduce the pressure, but convert it into clean, carbon-free electricity.



The DES HEPS Advantage

Dynamic Fluid Energy Harvesting
Closed-Loop or Open-Loop

Extraordinary Reliability

Return on Investment 2-4 years

Low Maintenance

Low Cost of Harvesting Electricity
88-90% Conversion Efficiency

Wide Range of Fluid Flow (GPM)
400-25,000 GPM (or larger)

Pressure Differential of 40-200 PSI or higher

Wide Range of Fluid Viscosity (CPS)

Modular Design

From 9 KW to 360 KW (Or larger)

Applications

Municipal & Private Water

Oil Injection Wells

Water & Wastewater Treatment Plants

Pressure Reducing Applications

Patented Technology

 DAKOTA ENERGY SYSTEMS

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