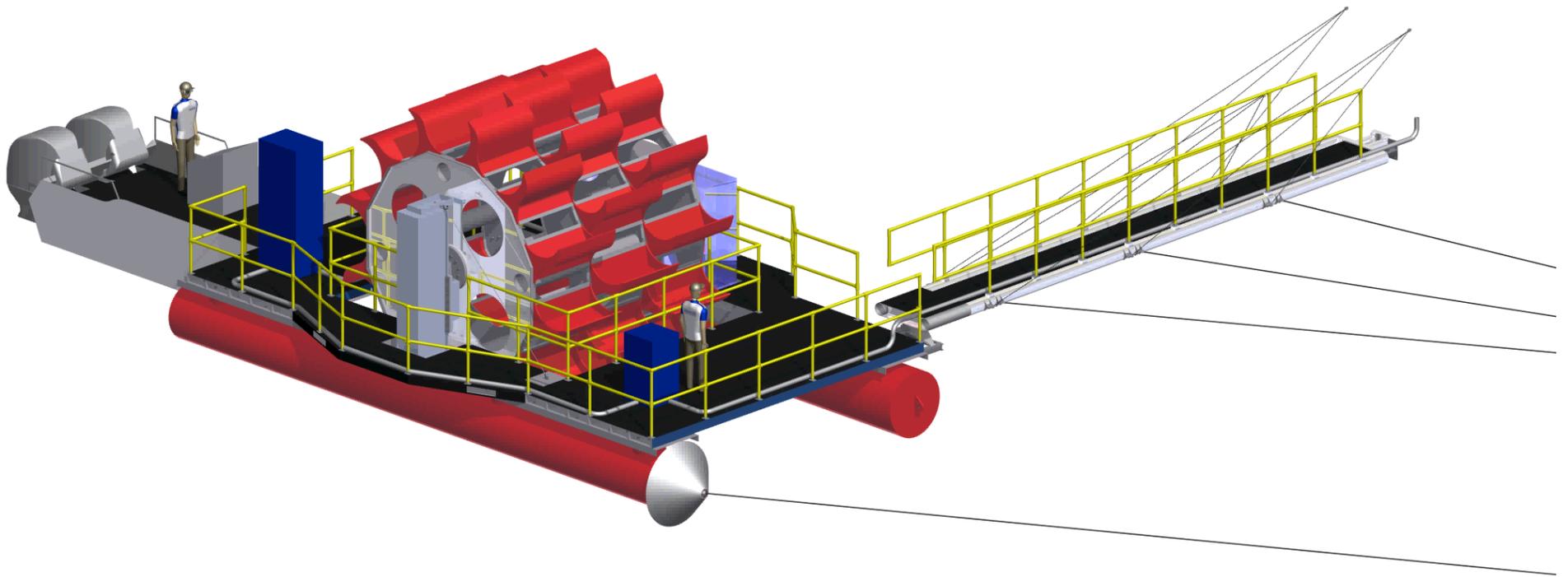


Poncelet Kinetics RHK100



**WHITESTONE POWER
& COMMUNICATIONS**



PONCELET KINETICSTM

RHK- 100 PROTOTYPE

Design Objectives

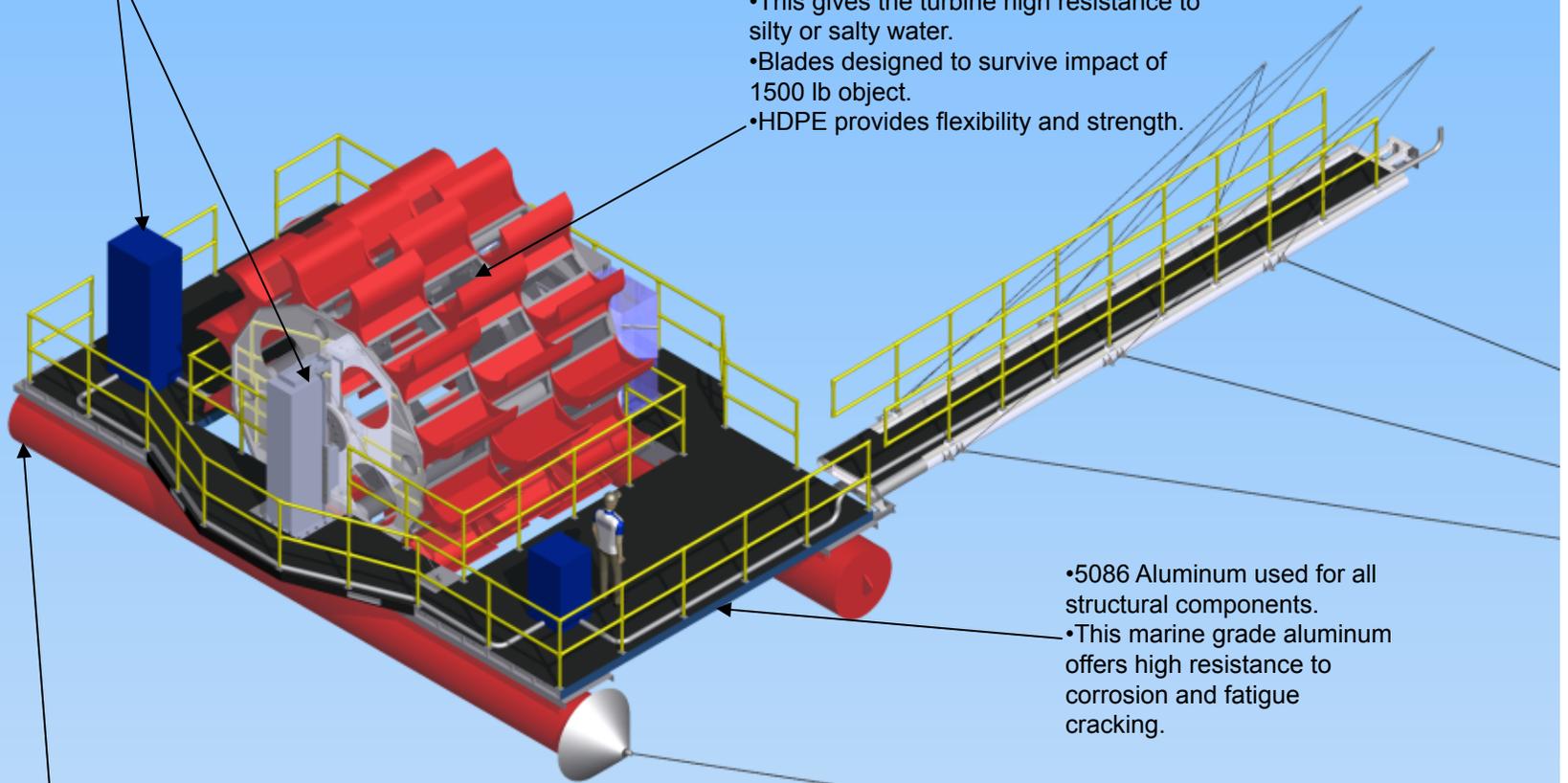
- Robustness
- Versatility
- Environmental Friendliness
- Simplicity
- Low Cost



Robustness

•Sealed cabinets and maintenance free, sealed bearings provide resistance to windborne sand infiltration

•HDPE blades the only moving parts in the water.
•This gives the turbine high resistance to silty or salty water.
•Blades designed to survive impact of 1500 lb object.
•HDPE provides flexibility and strength.



•5086 Aluminum used for all structural components.
•This marine grade aluminum offers high resistance to corrosion and fatigue cracking.

•HDPE pontoons provide superior toughness, durability and low weight.
•Pontoons filled with closed-cell foam to insure floatation in case of puncture.

Debris diversion cable runs at the surface of the water near the center of gravity of large debris.



Versatility

- Blades penetrate water 24 inches allowing for deep and shallow operation.
- Mounting design allows for variable depth operation for varying river conditions.

Bridge constructed from multiple sections for deployment in a wide range of situations.

- Wheel constructed in 3 sections
- Modular design allows wheel to be easily scaled from 25 kW to 200 kW capacity
- Pontoons can be easily resized to accommodate larger or smaller wheels

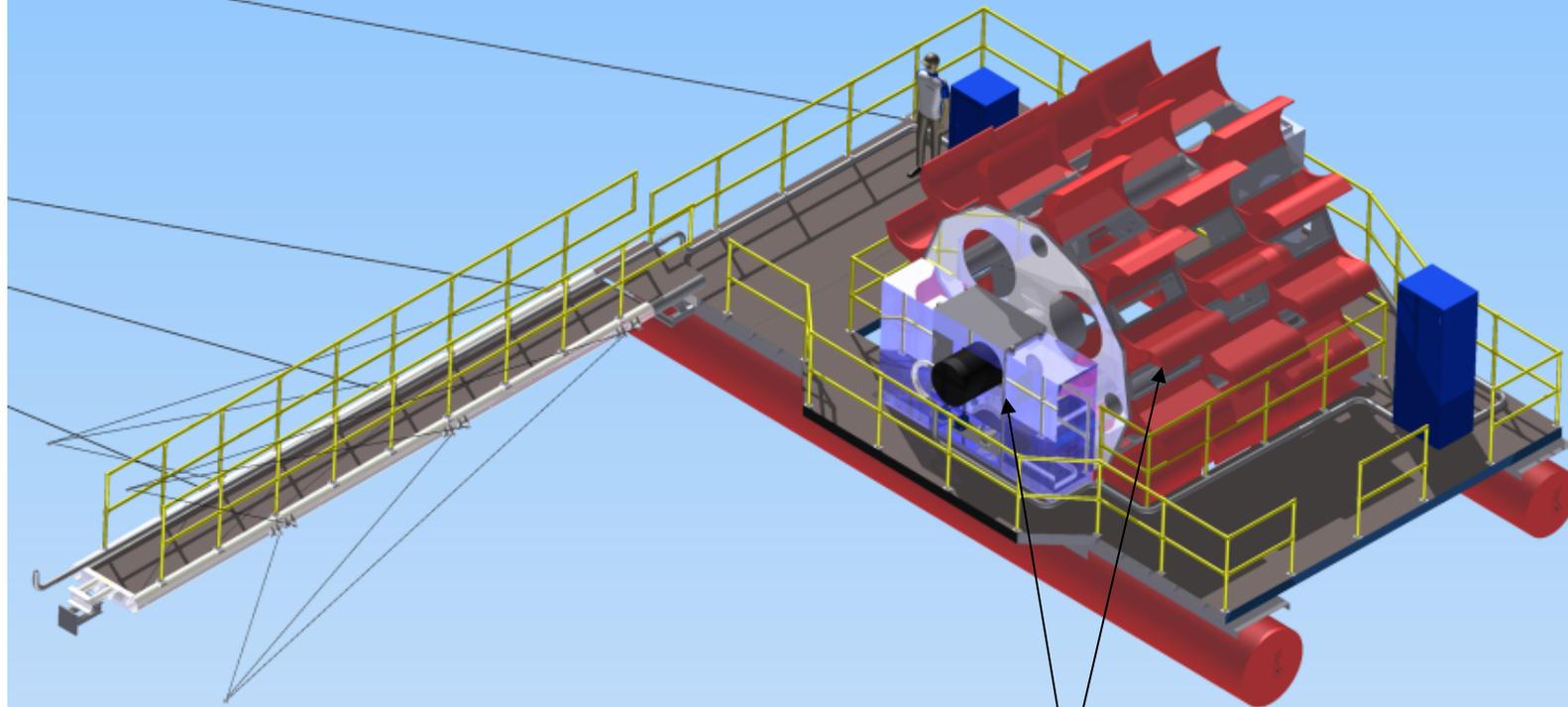
Electronic controls for single unit can be used to control multiple units allowing use of arrays at greatly reduced costs.

Technology can be adapted to tidal applications using modified anchoring methods.



Environmental Friendliness

- Craft moored to shore for river applications.
- No disturbance of river beds.



- No hydraulic components to minimize chance of oil release to sensitive environments.
- All bearings sealed and maintenance free.
- Gearbox sealed and maintenance free.
- No petroleum products stored on site.

- All submerged prime-mover parts constructed from HDPE
- No underwater gearboxes, generators or electrical cables
- Pressure drop from blade operation safe for juvenile salmon
- Velocity of blades 50% of velocity of river current

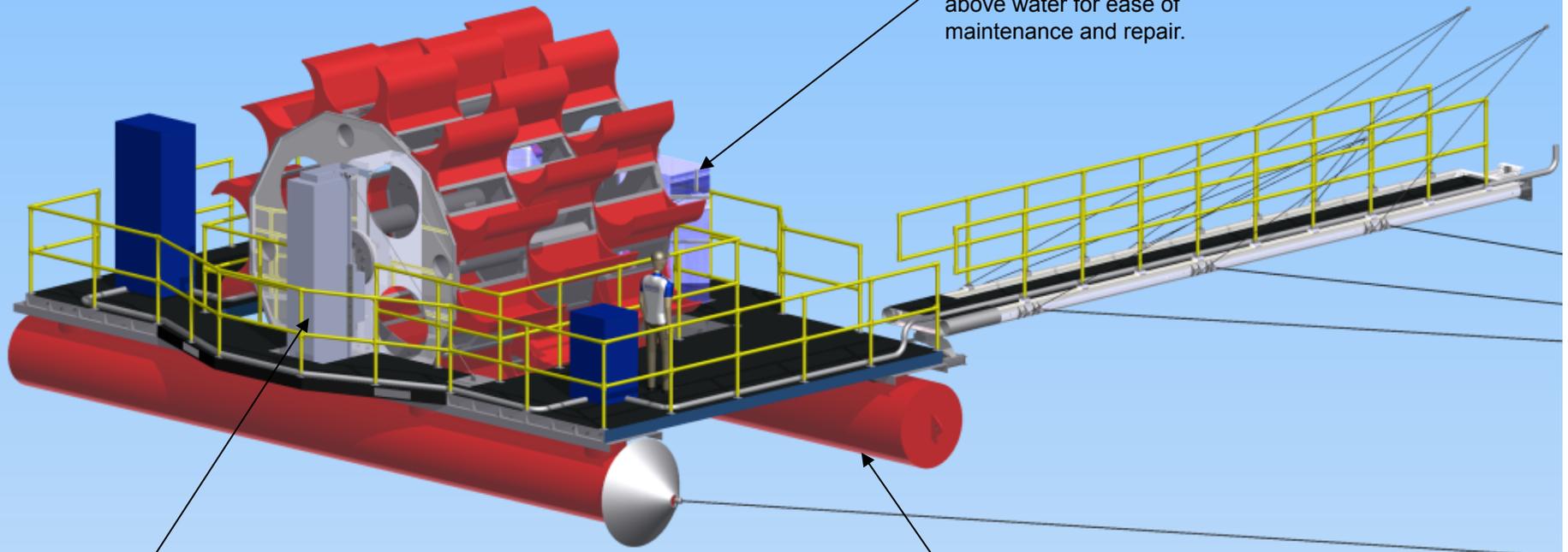


Simplicity

- All components can be shipped in two 40-ft connexes.
- The 3 wheel-frame sections must be shipped separately.
- No special permits needed for shipping by truck.
- All components can be shipped by air without modifications if necessary.

- Craft design allows for in-situ repair avoiding costly downtime.

- Mechanical components all above water for ease of maintenance and repair.



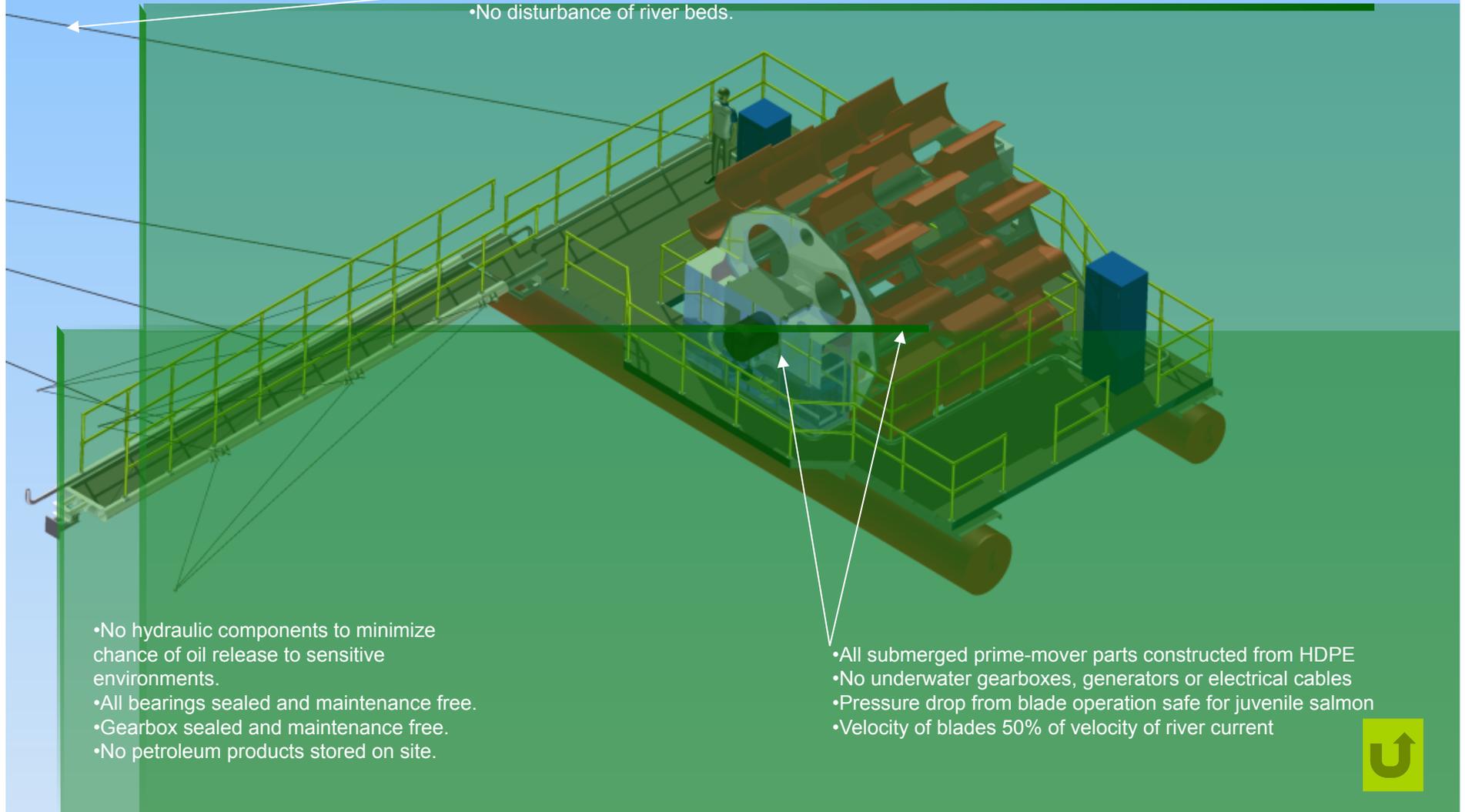
- Fewer than 20 active components.
- All parts easily repairable by a competent mechanic.
- No special training needed for routine maintenance or repair.
- No welding needed for assembly on site.

- Ultra-high performance metals and plastics used to reduce the number of complex mechanisms needed.



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Village Of Ambler

- Cost of Electricity: \$0.62/kWhr
- Per Capita Income: \$14,000
- Average Summer Load: 142 kW
- Power could be provided by 1 Poncelet Kinetics turbine at a cost of \$1,000,000
- Annual savings per capita: \$1,000 or 7% per capita income
- Total annual savings in displaced fuel costs: \$ 255,000

