

Cost effective, standalone hydropower for low head non-powered dams

\$200,000 STTR Phase I with U.S. Department of Energy Water Power Technologies Office (DE-SC0022831)

Timetable: June 2022 – June 2023

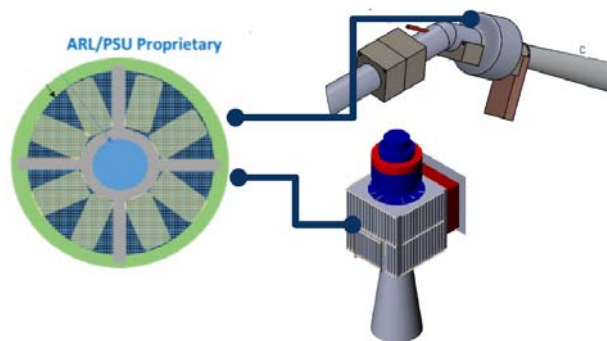
Principal Investigator: Nick Jaffa, Ph.D.

Summary: Team proposes to develop an economical, fish-friendly standalone hydropower turbine system for a wide range of low head sites with or without existing infrastructure.

Team members:

- LPS
- Penn State University Applied Research Laboratory
- Clear Energy Hydro

Project Key Idea: Integrate novel fish friendly turbine into standalone siphon and pressure box turbine systems



Technology: Rim drive turbine with integrated bypass and additively manufactured honeycomb guide vanes

Technical Challenges

- Cost challenge at low head sites
- Costs and timeframes of ecological impacts
- Gaining agency acceptance of new technology

Technical Approach

- Start with proven, low cost standalone systems
- Integrate ARL fish friendly turbine
- Multi-year, risk reduction testing program