

Resume: Richard Proeschel: Founder – Proe Power Systems, LLC

Registered Professional Engineer #PE.71779 in Ohio



Experience:

Extensive experience in engineering and management of design, analysis, integration, manufacturing and test of advanced propulsion & power systems for aerospace and terrestrial applications

Owner/Founder of Proe Power Systems, LLC 1997-Present

- Initiated and drove development of the Proe Afterburning™ Cycle Engine leading to the PPS 250 Powerplant.
- Won and successfully completed a NASA (Goddard Center) contract for a heat recovery steam generator and feedwater pump for a Rankine bottom cycle used in a combined cycle with a hydrogen fueled gas turbine.

Heat Exchanger Expert for Echogen Power Systems, LLC (formerly rexorce) 2008-2009

- Performed system analysis to determine specification requirements and procured heat exchangers for Echogen's breakthrough power generation cycle for waste heat recovery.

Program Manager and Engineer at Boeing and Rockwell International 1969-2001:

- Provided program management, engineering management, and subcontract management leadership for the International Space Station Electrical Power System (Solar Arrays, Batteries, Power Generation Controls, Thermal Control Systems and Organic Rankine Cycle Solar Dynamic Power Module)
- Supervised the design and test group for the Space Shuttle Fuel Cell Powerplant and the Hydrazine monopropellant Auxiliary Power Unit during the Shuttle development program
- Assisted ground control of the Shuttle test flight missions in the Mission Evaluation Room at NASA's Johnson Space Flight Center in Houston, Texas.
- Eliminated the need for vacuum jacketed lines for the Shuttle Orbiter fuel cell reactant liquid oxygen and hydrogen lines by developing means for loading reactants through foam insulated lines – a significant weight and cost savings over prior vacuum jacketed lines.
- Invented a means to passively operate the heater for the Shuttle Fuel Cell liquid oxygen tank and thus eliminate the need to mechanically stir the oxygen – incorporating a "lesson learned" from the Apollo 13 oxygen tank explosion.
- Performed system design analysis and test for the Space Shuttle Fuel Cell and associated liquid oxygen and hydrogen Power Reactant Storage and Distribution systems.

Publications and Patents:

- US Patent #5,894,729 "Afterburning Ericsson Cycle Engine"
- SAE Paper 1999-01-2880 "Afterburning Ericsson Cycle Engine"
- US Patent #6,390,185 "Annular Flow Concentric Tube Recuperator"
- ASME Paper GT-2002-30406 "Proe 90th Gas Turbine Recuperator"
- US Patent #6,672,063 for Heat Recovery Power Generator
- US Patent #7,028,476 for Proe Afterburning™ Cycle Engine
- US Patent #8,858,223 for "Glycerin Fueled Afterburning Engine"
- US Patent Application Pending for "Low Stress Maintainable Air Heater for Indirectly Fired Solid Fuel Engine"
- Author of several NASA New Technology briefs and computer programs in thermal analysis, cryogenic fluid transfer, two phase flow, radiation heat transfer, and solar array performance
- Author of NASA/Contractor reports on electric rocket propulsion and cryogenic insulation

Memberships:

- American Society of Mechanical Engineers, Society of Automotive Engineers, Association of Energy Engineers, National and Ohio Societies of Professional Engineers, Ohio Academy of Science

Education:

- BS with Honors in Fluid, Thermal, and Aerospace Engineering from Case Institute of Technology, Case Western Reserve University, Cleveland Ohio, USA (1969)
- MS in Systems Management from the Viterbi School of Engineering, University of Southern California, Los Angeles California, USA (1981)
- Additional course work in Patent Law and Small Business Management

Community Support:

- Veteran Judge for Ventura County (CA), Ashland Regional (OH), California State, and Ohio State Science Fairs

Contact:

Phone: 1-800-315-0084 ext 600 (1-330-723-4469 x600 from outside the USA)

skype: richard.proeschel

E-mail: raproe@proepowersystems.com