Resume: Richard Proeschel

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

Senior Consulting Engineer at the Boeing Company May 2016-Present

- Providing senior technical leadership to Boeing's Space Launch System team developing the gas turbine powered hydraulic gimbal control (Thrust Vector Control) system for the main engines of the Artemis Core Stage Rocket

Program Management Consultant for Parker Aerospace Aug 2015 to May 2016

- Successfully transitioned three major product lines for liquid spray cooled electronic equipment from manufacture in Washington state to manufacture in Mentor Ohio with minimal impact to delivery schedules.

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

- Initiated and drove development of the Proe Afterburning^{tm} Cycle Engine for conversion of any combustible fuel to power and heat.
- 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 the critical heat exchangers for Echogen's breakthrough supercritical CO_2 power generation cycle for waste heat recovery.

Program Manager and Engineer at Boeing/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)
- Led the design and test group for the Space Shuttle Fuel Cell Powerplant and hydrazine monopropellant Auxiliary Power Unit during the Shuttle development program.
- Provided hardware knowledge and recommendations to assist ground control of the Shuttle test flight missions in the Mission Evaluation Room at NASA's Johnson Space Flight Center in Houston, Texas.
- 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 90tm* Gas Turbine Recuperator"
- US Patent #6,672,063 for Heat Recovery Power Generator
- US Patent #7,028,476 for Proe Afterburning^{tm} Cycle Engine
- US Patent #8,858,223 for "Glycerin Fueled Afterburning Engine"
- Authored multiple NASA New Technology Briefs and computer programs for 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

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