

William F. Acton, PE
Owner and Principal Engineer

Bay Area Innovations, Inc.
97 East Saint James Street, #44
San Jose, CA 95112

(508) 439-1159

bill@bayareainnovationsinc.com

Areas of Expertise

Business Administration

- Incorporated engineering consulting firm in 2007.
- Actively managing the financial, legal, marketing, and administrative aspects of the company.

Engineering Project Leadership

- Project Engineer for replacement of 3-pairs of Feedwater Heaters (FWH's) for Extended Power Up-rate (EPU) project at 1775 MWth nuclear power plant. Acted as owner representative to interface with prime contractors, GE Power and Shaw, Stone and Webster. Position entailed reviewing and accepting all engineering drawings, specifications, testing and work instructions.
- Lead engineer for mechanical design of nuclear plant hardware used in emergency core cooling system (ECCS) for pressurized water reactors (PWR) including the conceptualization, fabrication, and equipment layout drawings.
- Lead tooling engineer for two boiling water reactor (BWR) vessel modification projects. Coordinated efforts of tooling engineers, interfaced with project managers, and managed the design, testing, and delivery of the completed tools.
- Principal technical lead in Japan for first phase of project for installation of vibration mitigating hardware.
- Lead engineer on setup reduction team for powder metal factory. Analyzed and implemented reorganization of the machine fixtures and tooling areas which resulted in both a reduction in set up time of nearly 50% as well as a cost savings of \$550,000 per year.
- Principal team lead focused on improving product flow for powder metal factory. Analyzed and implemented reorganization of the shop floor and modification of work cell layout resulting in a cost reduction of nearly \$250,000 per year.

Machine, Equipment, and Tool Design

- Designed and monitored testing of Electro-Discharge Machining (EDM) actuators and associated handling tools for underwater cutting of reactor vessel internals.
- Designed more than 10 nuclear reactor vessel training mockups based on as-built dimensions of various nuclear power plants. Supervised the fabrication and verification to confirm that critical dimensions were in line with specifications.
- Designed measurement tools for quantification of interference between reactor internals and mitigation hardware. Successfully developed and delivered tools within 24 hours to accommodate this unanticipated situation.
- Designed hoisting equipment (shafting, wire rope system, motor, gearbox, and supporting frame) to actuate custom designed, retractable stair for in home use. Designed safety hooks to fully support stair in the retracted position. Assisted in design of control system.
- Designed production equipment for a multinational electronics manufacturer specializing in tantalum capacitor production to move product from prototype stage to mass production.
- Designed and developed equipment used for cutting high temperature insulation to increase thru put and improve cutting accuracy.
- Designed trash removal screen for storm water system.
- Supervised the design, procurement, and fabrication of prototype and production powder press tools in more than 25 projects. In addition, successfully designed and deployed associated gauges and press automation.

Engineering Analysis

- Performed extensive analysis and testing required to establish torque range for fasteners based on preload requirement for two reactor vessel internals repair projects.
- Verified engineering documents, drawings, and calculations for nuclear industry
- Using Finite Element Analysis (FEA), developed new design of press tools to simplify fabrication and reduce cost.
- Applied Failure Modes and Effects Analysis (FMEA) techniques for automotive and nuclear industries.

Manufacturing

- Provided leadership and technical support to 24/7 manufacturing line. Primary responsibilities included resolving quality issues, troubleshooting automated equipment, and coordinating activities in final assembly work cell.
- Competent in Statistical Process Control (SPC) including evaluating data trends required to troubleshoot processes.
- Capable of developing and deploying work cells which facilitate thru put and eliminate ergonomic concerns.

Technical Writing

- Revised 110+ page Design Description summarizing the entire technical content of project to replace 3-pairs of FWH's for an EPU project at a nuclear power plant.
- Marked up and reviewed revisions to applicable plant procedures to ensure changes resulting from higher power levels and new FWH's were incorporated.
- Proof read and edited more than 50 work orders to ensure accuracy and continuity. The work orders directed demolition and construction activities for EPU project.
- Proof read and edited testing instructions for newly installed FWH's.
- Authored several design, material, and installation specifications as well as the O&M manual for nuclear plant hardware.
- Authored testing specifications used to qualify tools and processes for reactor internals repairs for nuclear industry.
- Compiled and edited numerous process sheets and statistical process control (SPC) charts for manufacturing company.

Field Work

- Spent 18-months on interim basis in Minnesota for Extended Power Up-rate (EPU) project at 1775 MWth nuclear power plant.
- Lived in Japan for 2 months for nuclear reactor vessel internals repair project.
- Made 3 short duration trips to Japan for project review with plant owner in advance of reactor internals repair. On-site for 2 week field project.
- Lived in Africa for 2 years as a Peace Corps volunteer.
- Spent 10 months in California for engineering contract job.
- Spent 3 weeks at nuclear power plant in New Hampshire to provided technical support during plant hardware installation.
- Made 2 week trip to Israel to assist in training Russian technicians to operate equipment as part of new product line.

Employment History

Bay Area Innovations, Inc. – San Jose, California

2007 - Present

Owner and Principal Engineer

Mechanical engineering design firm providing best in class tool and mechanical designs to a variety of businesses in the Bay Area.

GE-Hitachi Nuclear Energy Americas – San Jose, California

2004 - 2009

Global OEM supplier of Boiling Water Reactors (BWR).

Positions Held:

Lead Tooling Engineer, Reactor Services Engineering
Senior Mechanical Engineer, Suction Strainer Group
Tooling Engineer, Reactor Services Engineering

CellTech Power, Inc. - Westborough, Massachusetts

2003 - 2004

Mechanical Engineer, Systems Group

Engineering start-up focused on designing and building solid oxide fuel cell (SOFC) systems designed to run on natural gas.

Vortech, Inc. – Scarborough, Maine

2003

R & D Design Engineer

Engineering design firm specializing in storm water drainage systems.

Vishay Sprague Division, Vishay Intertechnology, Inc. – Sanford, Maine

1999 - 2003

Equipment Design Engineer

Multinational electronics manufacturer specializing in tantalum capacitor production.

Nichols Portland Division, Parker Hannifin Corp. – Portland, Maine

1993 - 1999

Manufacturer and supplier of powder metal components to the automotive and industrial hydraulics industries.

Positions Held:

Tool Design Engineer
Manufacturing Engineer

Professional Development

Metal Corrosion in Boats (Westlawn Institute of Marine Technology On-Line Course)

Hydraulics and Pneumatics (ASME On-Line Course)

Thermodynamics (ASME On-Line Course)

Renewable Energy: Solar and Hydrogen (ASME Seminar)

Basic Gas Turbine Engine Technology (ASME On-Line Course)

Machine Design (ASME On-Line Course)

Refueling Floor Activities and Operations (RFAO) - GE-Hitachi Nuclear Energy Americas LLC Seminar

Affiliations and Licenses

Licensed Professional Mechanical Engineer:

- California - M33813
- Maine - 9993
- Minnesota - 48086

NCEES Record Holder - #29767

American Society of Mechanical Engineers, Santa Clara Valley Chapter, member number 7822562

Education

Bachelor of Science, Mechanical Engineering – Rochester Institute of Technology, 1990