

BRUCE “ART” RUSSELL P.E.

Engineering Services

(808) 938-0229

art@barthurr.com

Hawaii P.E. #EE 11449

Also licensed in OK, TX, CA, AK



EMPLOYMENT

Consulting Electrical Engineer (November 2004 to Present)

State of the Art Consulting Engineer – Owner, Principal Engineer

On-the-job accomplishments include: engineered over 5,100 projects in Hawaii, engineered over 45 mega-watts of renewable energy systems, electrical engineering, commercial building lighting and load calculations, utility installation coordination, one line diagram design, NEC compliance, and special systems design.

Protection & Control Engineer (2011-Present)

American Electric Power, Principal Engineer

212 East 6th Street, Tulsa, OK 74119 (918) 599-2770

Accomplishments include electrical protection engineering, line settings, station settings, coordination studies, protection & control drawing review, needs assessments, scope development.

Station Electrical Engineer (January 2008 to 2011)

American Electric Power

212 East 6th Street, Tulsa, OK 74119 (918) 599-2770

Accomplishments include electrical engineering, Southwest Shreveport Auto transformer protection, relay protection design, YJ Distribution Electrical and P&C design, North Brady DSTATCOM design.

Substation Electrical Engineer (November 2004 to January 2008)

Hawaii Electric Light Company, HELCO

54 Halekauila Street, Hilo, HI 96720 (808) 969-0200

On-the-job accomplishments include electrical engineering, Hawi wind farm 10.5MW, South Point wind farm utility project manager 20.5MW, utility interconnection, relay design, communications design, transformer installation design, island utility telephony.

Project Engineer (June 2000 to November 2004)

Warren Smith & Associates Consulting Engineers

4817 E. 34th Street, Tulsa, OK 74135 (918) 742-3385

On-the-job accomplishments include electrical engineering, commercial building lighting and load calculations, utility electrical service installation coordination, riser diagram design, NEC compliance, and special systems design - fire alarm, clock, bell, network provisions, and interfacing.

Industrial / Production Engineer (1 year, June '99 to June 2000)

Webco Industries

P.O. Box 100, Sand Springs, OK 74063 (918) 245-2211

On-the-job accomplishments include time studies, standards development, SAP (Systems Applications Programs) implementation and training, shop floor support, cost analysis, utilization / efficiency analysis, and data manipulation.

Research Associate (8 months, August '98 to May '99)

Tulsa University Chemistry - Bill Potter

600 S. College Avenue, Tulsa, OK 74104 (918) 631-3027

On-the-job accomplishments include Oklahoma ambient air mapping / modeling, automation computer script development, data manipulation, pollutant correlation, and web page documentation.

Environmental Engineer and Information Technology

Specialist (2.75 years, August '96 to June '99)

Tulsa City County Health Department / Oklahoma Dpt. of Environmental Quality 4616 E. 15th St., Tulsa, OK 74112 (918) 595-4381

5051 S. 129th E. Ave. Tulsa, OK 74134 (918) 293-1600

On-the-job accomplishments include ambient air permit writing, dispersion air modeling, facility permit inspection, site computer network maintenance: Novell 4.11 network administration, computer configuration, hardware setup, repair, and diagnostics. Database application development (MS Access). [over 7 years of total service for these now merged agencies]. Other accomplishments include:

- Development of a near real-time ambient air monitoring data network. The system posts real-time data from air monitors on the Internet
- Software development of air toxics database / emissions calculation program

Electrical Designer (1 year, August '95 to July '96)

Flight Safety International

2500 N. Hemlock Circle, Broken Arrow, OK 74012 (918) 251-0500

On-the-job accomplishments include use of AutoCAD for cockpit lighting design, Cockpit Management Monitoring System design, fire detection, smoke generation, Beech 200 project, Gulfstream V project, Bell 430 helicopter projects, Falcon 2000 project, technical support for production staff, and computer card configuration.

- Design and development of a new smoke generation unit to simulate fire in aircraft flight simulators.
- Design of a chip that generates serial communications necessary to communicate with video recording equipment.

EDUCATION

Ongoing professional development, with minimum of 15 continuing education credits per year since 2004.
- Hundreds of courses / training available upon request.

CFITRAINER.NET Coursework, 21 programs completed, 66 credits
- Courses available upon request

University of Alaska Anchorage (2019)
Arctic Engineering

Oklahoma State University UCT (1994-1998) (OSU Tulsa)
700 N. Greenwood Ave., Tulsa, OK 74106 (918) 594-8000
BS degree in Engineering, passed **PE Electrical Engineering – Electrical Power**, October 2003, passed **FE – EIT** exam, April 2001
GPA 3.32

Tulsa Junior College (1989-1993)
Northeast Campus / Metro Campus
3727 E. Apache, Tulsa, OK 74115 (918) 631-7526
Associates Degree in Engineering

Tulsa Vocational Technical Schools (1988-1989)
4600 S. Olive, Broken Arrow, OK 74145 (918) 455-1588
Industrial Electricity- Electronics

Broken Arrow High School (1987-1989) Graduated
1901 E. Albany, Broken Arrow, OK 74012

SKILLS / EXPERIENCE

Presently I am a Consulting Professional Electrical Engineer. Some areas of experience include:

- Engineered thousands of commercial and residential electrical services.
- Engineered thousands of renewable energy systems. Expert at renewable energy system interconnections for commercial and residential systems. This also includes energy system with multiple sources such as battery bank, combustion generator, photovoltaic, and utility.
- Renewable Energy PV system design, including local Muskogee VA hospital energy system design. Portfolio of solar projects available upon request.
- Engineered hundreds of commercial building power and lighting projects.
- Inspection of commercial building electrical systems and installation.
- Engineered hundreds of electric utility substation physical designs
- Engineering related to station design using motor operated switches, breakers, circuit switchers, transformers, battery banks, control systems, regulators, control houses, and other station equipment.
- Engineered hundreds of protection and control substation projects
- Engineered hundreds of transmission line protection settings projects.
- Substantial experience with National Electric Code, National Electric Safety Code, and Life Safety Code.
- Experience designing electric vehicle charging stations: residential and commercial
- Independent research on Electric Vehicles, considering emissions, economics, maintenance, utility load, peak versus non-peak loading.

- Energy calculations and code limitations
- Backup generator engineering for commercial systems
- Commercial building power distribution
- Commercial building kitchen electrical design.
- Electrical fault and event analysis
- Protective relay misoperation analysis
- Protective relay settings engineering for station and line settings
- Ground grid design and analysis
- Microwave radio communications feasibility and design
- Wind turbine energy system design
- Hydro energy system design
- HVAC for building systems option analysis
- Mechanical, Electrical, and Plumbing commercial building coordination and design
- General, task, mood, and emergency lighting engineering
- Fire protection systems in commercial buildings
- Fire alarm, detection, and fire annunciation design and engineering
- Visual Lighting design and photometric design / evaluation
- MS Office Software Applications
- Lighting contactor control systems design
- AutoCAD, Microstation, Aspen Modeling, software
- Substation Engineering
- LAN / Network design

REFERENCES

Available upon request.