## Pedro Barrios

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**Electrical Engineer with strong hands on experience in power systems, Substation design, Protection and Control systems for Transmission and Distribution systems, manufacturing processes and Standardization procedures.**

# Summary of Qualifications

Design Experience in Power generation packages 600Vac up to 13800Vac GE Aeroderivatives systems LM2500, LM6000, LMS100

Design Experience in Utilities Substation Protection & Controls (P&C) systems 12kV up to 500kV Schweitzer Engineering Lab microprocessor relays

Schweitzer RTAC SCADA system GE microprocessor relays

GE D20 series SCADA systems

Strong working experience in Motor Control Centers (MCC) Distribution Systems 480Vac & 600Vac Allen-Bradley

General Electric

Design Experience in Power Distribution and system controls for onshore drilling Rigs Omron Precise Chair Control Systems

Experience in Voltage Rectifiers and Variable frequency drives (AC/DC Converters & VFD Inverters) from 480Vac and 600Vac

Yaskawa A1000 VFD

Yaskawa AC/DC Rectifier 1000 Series

Hands-on and Design experience of Electric Power Distribution systems for manufacturing plants and general commercial and industrial facilities

Experienced in Design of Standardization Processes and Procedures for Engineering Projects Experienced in hazardous locations and area classification in accordance with **NEC, UL, ATEX, NZ/AS** Proficient in AUTOCAD, MicroStation, EXCEL, PowerPoint, Microsoft Project, ETAP, SKM

Knowledge of Simatic Manager, STEP7 and RSLogic software for Siemens and Allen-Bradley PLC’s

Effective communication skills in English and Spanish

# Summary of Experience

**Western Area Power Administration – Bismarck, ND (August 2016 – Present)** *Permanent position*

**Electrical Engineer**

**Currently GS-13 ( from 2016 to present)**

Commissioning Engineer for Electrical projects in Power Substations. Design modifications and upgrades of existing protection equipment. Driving Service Request to ensure compliance with Regulatory Institutions like NERC, WECC and others. Oversees installation and review drawings to ensure proper operation of Protection equipment. Revise and implement final changes in Wiring and Schematic diagrams. Perform testing of protection schemes to ensure proper operation. Perfumed SCADA updates and system support for new installations. Worked closely with Communications teams and Dispatch in the updates from legacy systems to RTACs implementations and updates.

**Omron Oilfield & Marine - Houston, TX (August 2013 – May 2016)** *Permanent position*

## Electrical Design Specialist

Design of power distribution and controls associated with onshore drilling platforms. Generated One-Lines for Requests for Quotes and supported Applications and Sales. **Burns & McDonnell - Houston, TX (May 2013 – August 2013)** *Contract position* **Electrical Engineer - Substation Design, Power System Protection, AEP projects**

Design of power systems protection relays associated with substations including the implementation of protective relay schemes in accordance with the utility standards. Retrofit from electromechanical relays application into microprocessor based relay schemes. Voltages up to 345kV.

**TAS Energy - Houston, TX (November 2012 –April 2013)** *Permanent position*

## Electrical Engineer – Chiller Packages, Geothermal Power Generation Systems

Design of Cooling systems for Gas Turbine Generation packages. Created system drawings for Power Distribution and Controls for Turbine Inlet Filter system

**Burns & McDonnell - Houston, TX (June 2011 – November 2012)** *Contract position*

## Electrical Engineer - Substation Design, Power System Protection, AEP projects

Design of power systems protection relays associated with substations including the implementation of protective relay schemes in accordance with the utility standards. Retrofit from electromechanical relays application into microprocessor based relay schemes. Voltages up to 345kV.

## Eastern Petroleum Services - Pasadena, TX (November 2010-June 2011) *Contract position*

**Systems Engineer / Plant Manager- Sintagma Project**

Petrobras Asphalt, LLC

Design of Power Service and Power Distribution for manufacturing plant. Design of process control of packaging line. Manage plant personnel of 25 employees.

**GE Energy - Houston, TX (March 2008-October 2010)** *Contract position*

## Electrical Design Engineer

Design of Aeroderivatives generation Packages. Created Electrical Schematic /Fabrication drawing set for the manufacturing of LM2500, LM6000 and LMS100 GE Gas Turbine Generator systems

## Universidad Politecnica de Puerto Rico, Orlando campus - Winter Park, FL (Oct 2007-Feb 2008) Assistant Professor in Electrical Engineering Department

Professor for the Electrical Measurements Lab. It provided training to students in the techniques associated with troubleshooting, data recollection and circuit simulation using components and computer software simulators.

**Q.E. Controls - Casselberry, FL (Jul 2007 - Oct 2007)** *Contract position*

## Production Manager in Control Systems manufacturing

Design of Control Panels for Lift Stations and Pump Controls for Waste Water Management systems.

**Laser Photonics - Lake Mary, FL (Feb 2007-June 2007)** *Contract position*

## International Engineering Sales Manager

International sales manager for Central and South America markets specifically with Mexico and Brazil. Develop proposals and Request for quotes for Laser engraving systems and CO2 Laser cutting systems

## Chair Gallery - Orlando, FL (Jan 2002 - Dec 2006) Entrepreneur

As business owner I design and manufacture custom furniture for residential and commercial buildings servicing several design firms in the Central Florida area. I managed a team of 6 employees.

## Bacardi Corporation - Catano, Puerto Rico (Oct 1999 - Dec 2001) Electrical Department

Electrical maintenance mechanic. Provided service to Electrical system installations and new construction.

## Truly Diesel Mechanics - Carolina, PR (January 1987 - August 1999) Service & Repair

I worked as service technician on heavy equipment for construction and diesel engines for emergency plant generators (EPSS).

## Electrical Power Authority - Puerto Rico (Jan 1985- Dec 1986) SCADA Networks Department - Field Service Technician

SCADA Network Technician for Utility Substations at Distribution and Transmission Levels.

# Education and Training

## Universidad Politecnica de Puerto Rico – Orlando campus, FL (2010)

Masters in Engineering Management, MEM - Manufacturing & Operations

## Universidad Politecnica de Puerto Rico – Orlando campus, FL (2007)

Bachelor’s Degree in Science of Electrical Engineering, BSEE Power Systems (ABET approved curriculum)

## Universidad de Puerto Rico - Bayamon campus, P.R. (1984)

Associate’s Degree in Electrical Engineering Technology - Electronics

* Digital Systems, Communications and Power Electronics for Power Systems applications

## Carlos F. Daniels Vocational School - Carolina P.R. (1981)

* Master Electrician License, Puerto Rico #10763