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| **Experience*** Transmission planning and interconnection assessment
* Arc flash studies and forensic engineering
* Critical infrastructure projects

Education* M.S., Electrical Engineering, University of South Florida, 2006
* B.S., Electrical Engineering, University of South Florida, 2003

Organizations* Member of IEEE
* Etta Kappa Nu

Registration* PE (Washington)

Total Years’ Experience15 |  Ala (AL) Wadi, PE 13717 NW 2nd Ave, Vancouver, WA 98685 Phone: (360) 553-8372 e-mail:wadi@mail.usf.edu **Summary:**•A creative, highly energetic electrical engineer experienced in high voltage transmission planning, medium & low voltage renewable energy projects’ interconnection and transmission analysis, and currently working as an independent, self-employed consultant.•Assisted in compliance with FRCC, NERC and FERC standards.•Utilizing of electric utility standards, including ANSI and NEMA.**Education/Certification:**•MS, Electrical Engineering, University of South Florida, Tampa, FL 2006 •BS, Electrical Engineering, University of South Florida, Tampa, FL 2003 •Area of research: Utilization of power electronics, shunt capacitors, Ferro-resonant magnetic transformers and synchronous machines to optimize power factor and capacity of industrial three phase and urban power systems. The objective of the thesis is to investigate and document the impact of coordinating multiple corrective devices on power quality, power flow, high voltage equipment’s transmission capacity and conductors’ sizing.**Professional Experience:****Intertek, Vancouver , WA****September/2017-Present****Project Support Specialist (Part Time)**• Diagnose malfunctioning systems, equipment, and electrical components failure to determine the root cause of damage and breakdown.• Utilize test devices and instruments to determine the nature, type, and cause of electrical parts breakdown including transformers, conductors, and capacitors.•Examined telemetry, recorded data and laboratory reports and provided engineering failure analysis reports to customers and stakeholders.•Investigated and documented low and medium voltage breakers, motors and distribution panel’s potential hazards and failure modes.  •Reviewed manufacturer test reports and nameplate data for damaged and replacement electrical apparatuses.**Akana, Portland , OR****June/2016-September/2017****Electrical Engineer**• Prepared and reviewed Hanford’s nuclear electrical facilities design documents for arc flash studies and NFPA 70 compliance.• Created “as found” one line diagrams for DOE’s existing electrical pump sewage system and GSA’s electrical infrastructure.• Review and design of municipal and healthcare buildings’ power.•Reviewed CAD drawings’ modifications & corrections and provided engineering support to CAD drafting staff.•Provided senior management with weekly progress reports and development updates.•Provided subcontractors with guidance on internal processes and quality control. •Assisted principal engineer in identifying and classifying potential arc flash hazards.•Provided Power Systems Fundamentals training for new employees**EQL Energy, Portland, OR****October/2015-September/2016****Electrical Engineer (Consultant)**•Proposed interconnection locations for renewable energy projects on utilities’ distribution system.•Provided insights on utilities’ loads and resources plan through utilities OASIS and Renewable Portfolio Standards.•Reviewed utilities’ design and operational requirements in order to optimize cost and schedule of proposed projects.•Researched energy storage and load management technologies and proposed energy systems schemes to the stakeholder.•Identified potential risks and limitations of existing and proposed renewable energy projects.**SunEdison, Pennsauken, NJ****January/2015-Sept/2015****Senior Interconnection and Transmission Planning Engineer**•Interfaced with utilities to secure and negotiate interconnection rights.•Analyzed system impact studies to optimize cost and schedules for renewable energy and energy storage projects.•Administered, performed and documented various electrical engineering activities.•Interacted with vendors, clients, and staff members to ensure compliance with utilities’ standards.•Recommended equipment’ sizing and configurations to optimize cost and schedule.•Provided engineering support to stakeholders to facilitate forging of interconnection agreements.•Mentored junior engineering staff on utilities’ technical and regulatory requirements.•Prepared, recommended and reviewed design package standards for interconnection facilities.• Coordinated scope of work and deliverables from consultants, vendors and cross-functional teams.**Burns & McDonnell, Kansas City, MO****November/2013-June/2014****Substation Design Engineer (Contract)**• Performed substation protection relay design and proposals, cost estimates, equipment’s specification and panel layouts.• Assisted in detailed electrical design of 115/161/69 kV substation protection and control scheme, and AC/DC schematics & wirings.• Conducted grounding studied and fault duty studies.• Performed wiring and panel’s removal and the addition of existing substation upgrade from 115 kV to 161 kV.• Assisted in project scopes included transmission line upgrades and additions, breaker additions and replacements, cap bank additions, transformer bank addition and a breaker and a half addition.• Supported the training of new engineers.  **First Solar, Phoenix, AZ** **February-October/2013****High Voltage Project Engineer (Contract)** • Reviewed and analyzed energy projects one-line diagrams and utilities’ interconnecting facilities design for solar, wind and energy storage projects. • Interfaced and coordinated with utilities and vendors to ensure quality control and budgetary compliance. • Assisted and supported department managers in the technical training of new employees. • Supported and provided project managers with preliminary interconnection and transmission assessments. Performed power flow studies and system impact analysis to verify and satisfy utility’s reliability requirements.**EDF Renewable Energies, Portland, OR****May 2010-October 2012****Transmission Specialist Engineer**• Acquired and managed transmission & interconnection rights, and queue applications for multiple simultaneous energy projects.• Identified utilities’ transmission constraints and competing generation in proposed project’s area.• Reviewed and tracked technical, feasibility, and system impact studies.• Verified and tracked projects’ progress through OASIS.• Assisted in formulating project’s team KPI and provided technical support and guidance to optimize the utilization of resources and consultants.• Recommended and implemented project management process improvements.• Provided technical insight throughout feasibility, system impact, short circuit, stability and facility studies.• Anticipated and evaluate utilities’ future system upgrades to minimize project’s cost allocation and scheduling.• Participated in BPA’s customer conferences to adequately stage renewable projects with scheduled and planned upgrades.• Performed resource planning, cost estimates and control, and budgeting.• Communicated risks and pending issues with cross-functional team members.•Prepared project’s plans and documentation to ensure process uniformity and provided updated status reports to senior management.**PacifiCorp, SLC, UT****January 2008-May 2010****Associate Transmission Planning Engineer**• Develop One line diagram for substations and transmission lines.• Performed power flow studies on HV transmission projects.• Performed substation and transmission system design & upgrades.• Perform fault analysis studies for HV transmission systems.• Designed 345&500 kV substations, bus layouts, and configurations.• Designed specification for substation equipment and conductors.• Assisted in system impact & feasibility studies documentation.• Performed path rating studies and load forecasting.• Performed voltage collapse studies on 500 kV systems.• Performed TPL reliability studies.• Performed QV&PVanalysis for voltage & reactive margins studies.• Assisted in the compliance studies of NERC TPL standards.• Assisted in series compensation and sub synchronous resonance studies.**Jacksonville Electric Authority (JEA), Jacksonville, FL** **May 2007-August, 2007** **Co-op Transmission Planning Engineer**• Assisted in the designing and analyzing of new and existing 230 kV transmission systems.• Performed and documented power flow studies and simulations for transmission planning.• Assisted in compliance with FRCC, NERC and FERC standards.• Assisted in managing electric power transmission planning.• Performed fault analysis and reliability studies on 3pahse systems.• Assisted in the design & upgrades of 230kV transmission systems.• Attended regional and national transmission planning conferences.• Modeled congestion and flow on the transmission system. **Florida State University, Tallahassee, FL****2006-2007** **Researcher and Instructor** • Prepared experiments, created course syllabi, supervised lab procedures, and data acquisition reports for 40 undergraduate engineering students at CAPS (the Center for Advanced Power Systems).• Electrical engineering and power courses instructor.**Repetron Electronics Manufacturing Services, Tampa, Fl.****May-August, 2005****Co-op Engineer**• Performed Auto CAD Manipulation and translation.• Revised device modeling and in-system programming.• Assisted in panel test generation.• Performed PCB layout design and functional tests.**Computer skills:** PTI PSS/E load Flow, EMS 500 Data Acquisition, Windows NT/200/XP, Microsoft Office, Visio, C++, Visual Basic, Python, GE/PSLF, Aspen, ADS, Orcad, Spice, Mat lab, SKM, Mathcad, Lab view, PID controller, Power World, AutoCAD, ETAP. |