Chris Hilling

Power systems, automation and SCADA engineer
Kent, WA
-Email me on Indeed: http://www.indeed.com/r/Chris-Hilling/a7843f980cf162f4

To obtain a challenging engineering position where I can expand my knowledge and abilities while helping company achieve its goals by fully utilizing my extensive power systems, automation and SCADA engineering experience.

Work Experience

Staff Power Systems Engineer

Schneider Electric - Seattle, WA
April 2020 to Present

Staff project engineer supporting the design, programming, and commissioning of low-voltage (LV) and medium-voltage (MV) power system automation and control projects. These projects include main-tie-main schemes and generator control and paralleling schemes, with both open and closed-transitions. These projects used SEL, Schneider, GE, and Rockwell Automation relays and PLCs. This also includes designing, programming, and commissioning HMI systems to integrate into existing and new LV and MV switchboards and switchgear using Schneider Vijeo Designer. In addition to the above, I also performed power system studies using ETAP which includes settings recommendations, protection coordination report and arc-flash analysis. This position also requires me to:
• Create project estimates and proposals for external and internal customers.
• Provide remote and on-site commissioning and troubleshooting assistance for LV and MV protection and control systems.
• Perform peer technical review of proposals, design documents and settings files.
• Identify potential projects with customers while developing scope and functionality prior to estimate and proposal.
• Attend pre-bid job walks to identify issues and to define or refine scope and equipment specifications.
• Create sequence of operation and user manuals for main-tie-main schemes. Perform hands-on functional training on newly installed schemes.
• Function as first-line manager for projects that are assigned to me. This includes cost and expense tracking, customer invoicing, and final closeout. This ensures that projects are completed in a timely fashion and within the budget and scope requirements.

Project Engineer, Supervisor - Automation

Schweitzer Engineering Laboratories - Pullman, WA
February 2017 to Present

Project engineer supporting automation, communication and SCADA applications for customers worldwide.
These responsibilities include:
• Supervise a team of three automation engineers.
• Create and program HMI graphic screens using multiple different SEL and 3 rd party programs.
• Program automation controllers for customer-specific SCADA and automation applications using DNP3.0, IEC 61850 (MMS and GOOSE), Modbus, and SEL protocols.

• Generate proposals for SCADA projects for customers in the United States and Canada.
• Perform site assessments, factory acceptance testing, and installation guidance.
• Perform on-site and remote commissioning of automation systems. This includes site testing, troubleshooting automation, networking and communication systems.

Technical Application Engineer - Automation

General Electric - Black Diamond, WA
February 2019 to April 2020

Provide technical sales support on GE Grid Automation substation portfolio equipment. This equipment includes substation gateways, automation controllers, precise time clocks, network switches, Digital Fault Recorders (DFR) and Sampled Values merging units. This position also required me to:
• Work closely with customers and integrators to determine project equipment requirements.
• Demonstrate effective use of GE Grid Automation equipment at local and national seminars, as well as at customers' facilities.
• Act as an expert consultant to guide customers in planning and development of technical solutions.
• Assist with technical development of proposals, ensuring compliance and adherence to customer's specifications.
• Provide product and technical training to customers and sales teams.
• Develop, prepare and present technical presentations, white papers, and case studies at industry conferences
• Assist customers with remote and on-site troubleshooting and resolution of issues with GE Grid Automation equipment. This includes SEL, DNP3.0, DNP3.0 SA Modbus, IEC61850, FTP and SFTP protocols.

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Application Engineer

Schweitzer Engineering Laboratories - Lewis Center, OH
April 2014 to February 2017

Automation
Application Engineer supporting SEL's automation, networking, precise time, radio communication, and computer products. These responsibilities include:
• Assist field application engineers, sales representatives, and strategic customers in applying SEL integration and application products through telephone contact, in-person visits, trade show demonstrations, and application literature.

• Assist field sales representatives in specification reviews to verify if an SEL automation product meets the customer specification.
• Develop and deliver product-specific training to groups of engineers and technicians on SEL automation products. This training ranges from one-day seminars to multi-day SELU training support.
• Provide guidance to customers for selecting equipment that will meet their current project needs and provide for future capabilities.
• Assist internal and external customers with applications that utilize Modbus RTU/TCP, DNP3.0, IEC61850, and SEL communications protocols.
• Assist with Research & Development functional testing for SEL Time-Domain Link Technology (TiDL®) hardware. This included equipment setup for testing, programming and running Omicron test equipment, and interpreting test results for pass/fail conditions. This also includes documenting the results of these functional tests in test reports.

Industrial Solutions Engineer

Schweitzer Engineering Laboratories - Lewis Center, OH
July 2012 to April 2014

Engineer and design control, power, and communication systems for the Industrial market which includes:
• Identify and create solutions for applications customer and OEM applications for SEL equipment. Then verify the performance of the solution using test-rack equipment, and authoring technical paper(s) demonstrating how the application can be integrated by the customer.
• Author of eight technical documents published to SEL's website: three application guides and five application notes.
• Programming Power Quality meters for Load Data Profile and Voltage Sag Swell reporting.
• Design and create HMI screens using SEL Diagram Builder for SEL PLC and HMI applications.
• Network different relays and meters using serial protocols (DNP and Modbus) and Ethernet protocols.
• Technical owner for SEL campus-wide metering initiative. This includes selecting, programming, and networking multiple SEL-734 and SEL-735 meters using DNP3/IP protocol. This also included programming the campus RTAC in the IEC 61131 language.
• Create VBA program to collect, analyze and plot meter load data using Microsoft Excel and AcSELerator TEAM software.
• Certified SELU (SEL University) trainer.
• Visit existing and potential customers as a technical liaison for existing and future SEL applications.
• Co-Author four sections of SELU PROT405; Industrial Power System Protection.
• Design demonstration equipment for trade shows and customer site visits. This included: creating demo specifications, mechanical and electrical design of equipment, collaboration with manufacturing department during demo construction, developing instruction and test material, and demonstrating the equipment for sales representatives and customers.

Controls Designer

General Electric - Westerville, OH
May 2011 to July 2012

Member of an Alliance team that designs substation equipment controls for utility company customers. This
includes addition of integrated protection and control panels onto existing feeder breakers and upgrades to station
Supervisory Control and Data Acquisition (SCADA) systems. Other responsibilities include:
• Maintain standard template drawings for a team of over 40 engineers and designers in five regional

offices.
• Create bills of material for purchasing.
• Train and mentor junior designers.

Electrical Designer

American Electric Power - Columbus, OH
December 2000 to May 2011

Design of controls for substation equipment, such as circuit breakers, motor operated switches, transformer
cooling controls, digital relay systems, fiber optic communication equipment, metering equipment, and Supervisory Control and Data Acquisition (SCADA) systems. Other responsibilities include:
• Create bills of material, order material for projects, and ensure timely delivery to work site or storeroom.
• Interface with Transmission Construction Representatives (TCR's).
• Handle the design and coordination responsibilities for multiple concurrent projects with accelerated schedules.
• Assigned as a mentor for new hires within the team. Mentoring responsibilities include: getting new candidates familiar with CAD system, acclimating new users to design and drafting standards and periodic performance review.
• Work with outside vendors for delivery of material to storeroom and job site.
• Power Line Carrier (PLC) equipment specialist. These duties include specifying appropriate equipment for PLC applications, selecting proper frequencies, maintaining company database records and maintaining carrier equipment database for government reporting.
• Design and application of protective control relaying and substation networking utilizing General Electric
and Schweitzer Engineering Labs (SEL) digital relays.

Adjunct Computer Instructor

American Electric Power - Columbus, OH
December 2004 to December 2006

Was a part-time adjunct faculty instructor for AutoCAD, Microsoft Office applications, computer technology and general education classes. Other responsibilities included:
• Class sizes range from eight to 30 students.
• Develop and deliver lecture material from syllabi.
• Develop and administer tests over lecture material.
• Provide learning leadership for students in the class.

Electrical Designer

River Consulting Inc - Columbus, OH
June 1999 to December 2000

Designed, documented and managed control systems for bulk material handling equipment. This included the electrical design, microprocessor control layout and communication design, National Electric Code compliance
and load and voltage drop calculations. Other responsibilities were:
• Programming microprocessor controllers and Human Machine Interfaces (HMI's).
• Supervising drafting staff responsible for project drawings
• Generating equipment specification documents for vendor bidding
• Provide cost and schedule estimating, maintain project schedules and hold regular project process meetings.

• Supervised the installation of control equipment on customer facilities, which included interfacing with the plant manager, overall project manager, electricians and tradespersons, and factory equipment representatives.
• Performed system checkout, start-up, and final customer acceptance testing.

Designer

Techneglas Inc - Columbus, OH
February 1998 to June 1999

Designed, documented and managed control systems for glass-melting furnace, bulk material handling, and communication systems. Other responsibilities were:
• Programming and troubleshooting of bulk material handling systems
• System start-up and commissioning.
• Supervised the installation and wiring of control system equipment, including control cabinets, emergency-stop stations, burner control equipment and other process devices.

Electro-Mechanical Designer

ADB Airfield Solutions - Columbus, OH
August 1990 to February 1998

Designed, documented and managed custom control projects for airfield lighting projects. Design duties included
creating schematic, wiring and mechanical designs for custom projects. This included creating bills of material
for procurement; submittal drawings for customer review, production drawings for manufacturing, and record
revisions upon project completion. Other duties included:
• Cost and schedule estimation
• Generation of vendor bid documentation and customer submittal documentation
• Generation and issue of production drawings and documentation.
• Production testing and support, which included customer factory acceptance testing, on-site installation
supervision and start-up, and technical support.
• Active in company quality teams and initiatives, ISO9001 implementation and application and cost-reduction initiatives.

Education

Bachelor of Science in Electrical and Computer Engineering in Electrical and Computer Engineering

The Ohio State University
2012

Bachelor of Science in Management

Franklin University
2005

Associate of Science in Mechanical Engineering

Columbus State Community
2002

Skills

- ETHERNET (6 years)
- AUTOCAD (10+ years)
- SCADA (8 years)
- TRAINING (5 years)
- MICROSOFT OFFICE (10+ years)
- Windows

Certifications and Licenses

Professional Engineer, Washington
August 2020 to September 2022

Certified Professional Engineer, Power Engineer, in the state of Washington

Additional Information

Computer Skills
• Omicron Test Universe 3.00 SR2 • Bentley Microstation
• Microsoft Office • Copa-Data Zenon
• SEL AcSELerator TEAM • Matlab R2008b
• SEL AcSELerator RTAC • AutoCAD 2012
• SEL AcSELerator DiagramBuilder • Schneider Citect SCADA
• SEL AcSELerator QuickSet
• SEL AcSELerator Architect
SELU ® Training
• PROT401, Protecting Power Systems for Engineers
• PROT403, Distribution System Protection
• PROT405, Industrial Power System Protection
• PROT409, Generation System Protection
• APP351, SEL-351 Protection System
• APP451, SEL-451 Protection, Automation, and Bay Control System
• APP700G - SEL-700G Generator Protection Relay
• APP751A, Feeder Protection Relays
• APP3620, Sensible Cybersecurity Using the Ethernet Security Gateway
• APP87, SEL-387 and SEL-587 Percentage-Restrained Differential Relays
• APP ICON, SEL-ICON Integrated Communications Optical Network
• COM201, Multiplexing and TDM Communications
• COM203, Cybersecurity Best Practices for Critical Infrastructure
• SYS403, IEC 61850 Fundamentals and Applications
• SYS406, AcSELerator TEAM SEL-5045 Software
• Grammar and Style Review Workshop
• Authoring Technical Documents Workshop
• Speakers Training Camp