
Employed as Principal Engineer, B.S.M.E. Specializing in Process Control, Automation, IT/OT, and Project Management

I have a very broad technical background and have found that controls/process engineering is my best fit. I love making things work and enjoy working with peers that are equally as passionate about their trade. My experience ranges from small material handling systems to the online tuning of a 1.4 gigawatt power plant. I have served as the project manager on many successful control system installations and enjoy leading multi-disciplinary teams through construction and commissioning.

TECHNICAL PROFICIENCIES AND KNOW-HOW

Control Systems, Automation, System Integration; logic, electrical and mechanical design
Programmable Logic Controllers (PLC), Distributed Control Systems (DCS), VFDs, and instrumentation of all types
Proficient with Ladder, Sequential Function Charts, Function Block Diagrams, S.A.M.A, Structured Text programming languages
Automation platforms such as Allen-Bradley, GE Fanuc, WonderWare, Modicon, iFix, Ovation, and Bailey
Virtual computing platforms such as VMware and their use in the control system environment
Adept with EtherNet/IP, ControlNet, DeviceNet, HART, and Modbus protocols
Cyber Security best practices for IT / OT Network Systems, firewalls, and network domain administration
Plant Process Historians and associated data analysis software
Very proficient at control strategies for difficult to control processes, both continuous and batch
Project management of control system installation, integration, upgrades, and commissioning
Know-how for technical specification writing, factory acceptance testing, and new equipment integration and commissioning
Computer and programming languages: VB.NET, VB Scripting/ASP, SQL, PERL, PHP, LISP, others; Adept in Microsoft and Linux

RECENT CAREER HIGHLIGHTS

Luminant – Zimmer Power Station – *Principal Engineer, Control Systems, Instrumentation, OT– 2016 to Present*

Zimmer Station is the largest single unit coal fired plant in the United States. I am responsible for all the process controls and instrumentation systems at the plant. I also manage projects to improve the reliability, agility, and efficiency of the unit, and to improve various sub processes throughout the plant.

- Maintained and augmented the existing plant control systems and instrumentation
- Engineered replacements for obsolete DCS, HMI, and PLC systems
- Tuned process control loops for flow, temperature, and chemistry to make the plant more stable and efficient
- Diagnosed and corrected many operational deficiencies in the gypsum byproduct recover systems
- Managed a project to replace obsolete and failing control system in the plant air compressor
- Managed and maintained Allen-Bradley and Square-D/Modicon PLC systems for all balance of plant operations
- Integrated new and obsolete control systems an HMI upgrade
- Engineered and supervised the installation of a critical valve monitoring project
- Administrator for the plant control networks and managed hardware and software

Arizona Electric Power Cooperative – Apache Station – *Controls Engineer III – 2011 to 2016*

Apache is a power generating station in Arizona. I was hired to maintain and improve the plant's control systems.

- Developed, installed and maintained the Allen Bradley based PLC systems for all balance of plant operations
- Constructed and installed all SCADAs and HMI stations throughout the plant
- Designed in-house, oversaw installation of, and commissioned PLC based control systems for:
 - Wet-type sulfur dioxide flu gas scrubbers
 - Medium voltage natural gas compressors that support a 40MW combustion turbine
 - High pressure feed water heater level controls
- Installed thin client-terminal server based HMI systems reducing the number of workstations by 30%
- Lead vendor selection and served as Project Manager for
 - A control system upgrade of a GE LM6000 combustion turbine. After this upgrade, start up failures were 100% eliminated
 - The retrofit of a Frame-5 turbine to allow it to serve as a black start resource
- Re-programmed centrifugal compressor controls and upgraded vibration monitoring, extending the rebuild cycle by years
- Served as Domain Admin for the control network, managed computers, backups, security, and regulatory compliance
- Upgraded and maintained the Emerson Ovation DCS controllers and software for three generating units

OLDER EMPLOYMENTS

Integrity Internet & Wallace Technical Services, ISP – Owner – 2009 to 2011

Designed and maintained a large scale wireless ISP network in Southern Arizona
Implemented networks, RF systems, and a solar powered autonomous communications site
Technical consultant work for area businesses.
Designed and installed material handling automation at a local agricultural production facility

Southwestern Machine Inc. - Engineer and Second Shift Supervisor – 2005 to 2009

Managed production during second shift operations
Designed complex machining processes for aerospace parts production
Created quality control procedures and training
Served as the IT/OT Administrator

Outokumpu Copper Nippert Inc. - Manufacturing Engineer – Intern during school, Full time 2001 to 2005

Designed and installed automation systems that boosted the production of an inductive annealing operation by over 25%
Oversaw the production and improved the operation of the frangible munitions product line
Identified the need for and oversaw installation of a heat exchanger that saves over 1 million gallons of water annually
Developed new cold forming processes to save over \$200,000 per year in consumable tooling
Oversaw the purchase and installation of plant equipment and capital investments projects

EDUCATION AND ACADEMICS

The Ohio State University – 2001

Bachelor of Science, Mechanical Engineering, Cum Laude, With Distinction
Honors Program Graduate
Defended thesis, *Optimization of a power train at steady state conditions utilizing a continuously variable transmission*

Fundamentals of Engineering Exam – 2016

Verifiable via <https://account.ncees.org/rn/1489275-868989-b1f4238>

OSHA – 30 Certified – 2017

General Industrial Safety and Health - # 21-900502491

Miscellaneous Training

Rockwell Automation and Allen Bradley, Toshiba and A-B Variable Frequency Drives, Emerson Ovation classes