

PROFESSIONAL SUMMARY

Licensed Professional Control Systems Engineer (in Alabama & Washington) with over thirty-nine years' experience in Process Engineering and Process Control Engineering specifically with Distributed Control Systems (DCS'), Programmable Logic Controllers (PLC's), and Human Machine Interfaces (HMI's) combining extensive experience with both Hardware and Software Design, Programming & Configuration, Implementation, Startup, & Commissioning, including Advanced Continuous and Batch Control Programming. Designed, implemented, commissioned forty-seven DCS/PLC/HMI and Advanced Control (APC) automation projects over four continents (N & S America, Hong Kong, U.A.E, & South Korea) and specifically twenty-five pulp and paper mills & twenty-two other (oil&gas, waterwater, food) industrial manufacturing facilities.

EQUIPMENT EXPERIENCE:

- Emerson (Westinghouse) Ovation
- WonderWare FactorySuite (InTouch 7/8/9, InSQL)
Wonderware System Integrator Program 2000-2002
- Rockwell Software FactoryTalk, RSView, RSLogix, and RSBatch
- Ci Technologies SCADA MMI/HMI
CiTect System Integrator Program 2002-2003
- Monitor Pro (Factorylink) HMI
- Modicon Quantum PLC
- Modicon 584 PLC
- Siemens S5 & S7-1215 PLCs
- Allen-Bradley ControlLogix, PLC/5 & SLC/500
- Siemens/TI Simatic Net, APT, TISoft, WinCC - TIA Portal V13
- Triconex 1131 Tristation
- Bentley-Nevada 3500 System Vibration Monitoring
- Honeywell Experion Distributed Control System (DCS)
- Honeywell TDC3000 Distributed Control System (DCS)
- ABB Bailey Net- & Infi-90 (DCS)
- Siemens APACS (DCS)
- Ethernet I/O:
 - Moore Industries Net Concentrator System
 - Opto22 Ultimate I/O
 - Phoenix Contact InLine I/O, SMS Relay

PROVIDED ENGINEERING CONSULTING SERVICES:

- Created Software Integration Plan, Software Requirements Specifications, Software Design Description, and Software Requirements Traceability, and Software Configuration Management Plans per IEEE & NRC guidelines.
- Software Quality Assurance, specifically NQA-1 2008/2009 requirements
- Specifying and Requisitioning of Hardware
- Developing and Implementing Configuration
- Human Machine Interface (HMI) Graphics
- Factory (FAT) & Site (SAT) Checkout
- Commissioning, Loop Check and Tuning
- P&ID's, Instrument Loop Sheets, & Data Sheets
- I/O List, Instrument Index, Alarm/Interlock Lists
- IJB Termination Layout Wiring Drawings
- Process Functional Specifications
- Training of Operators, Maintenance, And Instrument Personnel

PROCESS INDUSTRY EXPERIENCE:

- Anoxic/Oxic and Secondary Clarifier
- Manufacturing Bulk Chemical Handling Facility
- 250 GPM Hazardous Industrial Waste Treatment Facility
- Gas Desulfurization Plant
- High Fructose Corn Syrup Batch Plant
- Cogeneration Plant Fuel Handling System

PULP & PAPER TECHNICAL EXPERTISE

- Bleached and Unbleached Kraft Mills
- Sulphate & Sulphite Pulp Mills
- Power and Recovery Boilers
- Paper Machines Extruder & Rewinder "Flying Splice"
- Stock Preparation including Starch Cooker
- Recycle Advanced Control Packages
- 450 TPD Secondary Fiber Mill (with Automatic Control Of Pulpers)

CLIENTS:

- US Dept of Energy - Office of River Protection
- Andritz Automation
- Worley Parsons
- Pasadena (CA) Water & Power Glenarm Repowering Project
- Hanford MSA at the Volpentest Hammer Federal Training Center
- MPC Consulting Ltd; Sidney, BC for Education City in Doha, Qatar
- Potlatch Mutual Water Company Pumphouse Automation
- LUKOIL Kandym project near Karakul, Uzbekistan
- Refinería Batalla de Santa Inés project in Venezuela
- Gulf Intercoastal Waterway West Closure US Army Corps of Engineers.
- International Paper; Franklin, VA & Bogalusa, LA.
- Pacific Gas & Electric; Diablo Canyon Project
- Abu Dhabi Gas Industries Limited (GASCO);
- Syncrude Canada Ltd.; UE-1 Project; Fort McMurray, AB
- Air Liquide America; Houston, TX
- Ultramar Diamond Shamrock; Three Rivers, TX
- Northeast Philadelphia Water Treatment Plant
- Escambia County Utilities Authority; Pensacola, FL
- Wellman Chemical Plant; Bay St. Louis, MS
- British Petroleum; Prudhoe Bay, AK
- GAF Building Products; Mobile, AL
- American Electric Power/Houston Pipeline/Louisiana Interstate Gas; Houston, TX
- Kerr McGee; Theodore, AL
- Mobile Energy Services Corporation; Mobile, AL
- Weyerhaeuser Company; Plymouth, NC; Oglethorpe, GA & Port Wentworth, GA
- Boise-Cascade Corp., St.Helens, OR & Jackson, AL
- Packaging Corporation of America, Wallula, WA
- Celulosa del Pacifica, Mininco, Chile
- Wisconsin Tissue; Menasha, WI
- Riverwood International; West Monroe, LA
- Inland Container; Rome, GA
- Mead Coated Board Inc., Cottonton, AL
- Potlatch Corp., Cypress Bend, AR
- Georgia-Pacific, LLC; Brewton, AL
- Port Townsend Paper Corporation; Port Townsend, WA
- Boeing Commercial Airplane Division

- Taconite Pelletizing Plant
including Furnace Grate Speed Control, Concentrator, Precipitators, Limestone Addition; and Resin Batch Reactors
- Diesel Hydrotreater
- Fortrel polyester Bale Line Control System
Designed Variable-Speed AC Drive for Hog Fuel Boiler Feed Conveyors

- Multiple-Effect Black Liquor Evaporators
- Hot Brown Stock Refiner & Screens
- 500 TPD Brown Stock Washers
- 600 TPD Multiple-Stage D/C-Eo-D-E-D Bleach Plant
- 30 TPD R-8 & 8 TPD R-3 Chlorine Dioxide (CLO2) Generator
- Recovery Boiler Sootblower & TRS
- Causticizing and Lime Kiln & Lime Kiln Safety Systems

PROFESSIONAL RECORD

BSC Engineering; Hoodspport, WA October, 2020— Present
Katmai Health Services; Richland, WA; Consultant- Startup & Commissioning Oversight. May, 2020 - October, 2020
Andritz APO Site Process Control Engineer for pulp mill. May, 2019 – September, 2019
Boeing Commercial Airplane Division; Everett, WA; September, 2018 –March, 2019
Port Townsend Paper Corporation; Port Townsend, WA; January, 2017 –April, 2018
BSC Engineering; Hoodspport, WA October, 2013— January, 2017
Hyundai Engineering & Construction – Process Plant Division; Seoul, South Korea November, 2012–July, 2013
Maverick Technologies; Charlotte, NC; May, 2012 – July, 2012
Invensys-Triconex; Lake Forest, CA; February, 2011 – March, 2012
Schweitzer Engineering Laboratories, Inc.; Pullman, WA; September, 2009 – April, 2010
Bechtel International Inc.; Asab, U.A.E.; May, 2007 – August, 2009
Bechtel National Inc.; Richland, WA; February, 2007 – April, 2009
Honeywell Canada Ltd; Fort McMurray, AB July, 2005 – May, 2006
Air Liquide Process & Construction; Houston, TX January, 2004 – April, 2005
GE Industrial Systems; Pensacola, FL November, 1999 – April, 2000
Raytheon Engineers & Constructors; Birmingham, AL; April, 1998 – March, 1999
Bailey Controls; Hong Kong; November, 1997 – December, 1997
Honeywell IAC; Phoenix, AZ; May-October, 1995 & February-December, 1996
Instrument Control Services; Pensacola, FL December, 1991 – August, 1993
H.A. Simons Ltd.; Vancouver, BC CANADA July, 1989 – November, 1991
CS Technologies; Poughkeepsie, NY February, 1987 – July, 1989
Wright Schuchart Harbor; Tacoma, WA February, 1986 – July, 1986
Atlantic Gulf; Woodinville, WA August, 1985 – December, 1985
American Technical Services; Eugene, OR February, 1985 – May, 1985
Weyerhaeuser Company; Springfield, OR (Summers 1977 – 1981) & Cosmopolis, WA (May–October, 1984)

EDUCATION

Ci Technologies CiCode & Advanced CiTect Course; Charlotte, North Carolina *June, 2002*
WonderWare Basic InTouch Course; Mobile, Alabama *July, 2000*
Registered Control Systems Engineer; *License No. 43988, State of Washington October, 2007 - Current*
Registered Professional Engineer; *License No. 23362, State of Alabama January, 2000 - Current*
Rockwell Software Basic RSView Course; Birmingham, Alabama *September, 1998*
The Dale Carnegie Course; Mobile, Alabama *September, 1993*
Bailey Basic Graphics (SODG) Course; Vancouver, BC Canada; *December, 1990*
Bailey Basic Configuration (CADEWS) Course; Vancouver, BC Canada; *April, 1990*
Bachelor of Science / Mechanical Engineering; February, 1984; **Washington State University; Pullman, WA**

PUBLICATIONS

"**The Autonomous Process Plant: Utilizing Digital Twins to Optimize the Process Plant of the Future**" presented to ISO/TC 184/SC 4 Industrial Data (Manufacturing) ISO/TC 184/SC 4 WG 3 Oil, Gas, Process and Power on Wednesday, October 25, 2023 Saratoga Springs, NY USA
"The Autonomous Mill: Utilizing Digital Twins to Optimize the Pulp & Paper Mill of the Future" UPDATED September 9, 2023
"Implementing A Controller With Embedded Webserver & Cellular/CABLE Router & In A Rural Water Company Pumphouse" presented at the 29th Annual Evergreen Rural Water of Washington Conference & Tradeshow February 15, 2023 Hilton Vancouver, Washington
"The Autonomous Mill: Utilizing Digital Twins to Optimize the Pulp & Paper Mill of the Future"
66th annual IEEE Pulp and Paper Industry Application Society (IAS) Virtual Technical Conference, June 20 - 24, 2021
(2022 International Society of Automation (ISA) Excellence in Technical Presentation award recipient)
"Implementing a Cellular Router & Controller with Embedded Webserver in a Rural Water Company Pumphouse"
November, 2017; ISA Process Control & Safety Symposium; Houston, TX
"Optimizing Your Process Through Lignin Management"; November, 2015; ISA Process Control & Safety Symposium; Houston, TX
"Manage your KPIs over the Web and Smartphones" *November, 2013; ISA Automation Week 2013* Nashville, Tennessee
"Ethernet I/O" *October, 2010; ISA Automation Week 2010* Houston, Texas
"Optimization in the Pulp & Paper Mill" *October, 2008; ISA 2008* Houston, Texas
"Configure Your Ethernet I/O: A "Hands-On" Tutorial" *October, 2003; ISA 2003* Houston, Texas
"Ethernet PLC's Reduce Oxygen Consumption (Tutorial)" *September, 2001; ISA 2001* Houston, Texas
"Automated Recovery Boiler Sootblowing Control System" *March, 2001 TAPPI/ISA Symposium;* San Antonio, TX
"Recycled Advanced Control Package" *March, 1996 TAPPI Recycling Symposium;* New Orleans, Louisiana



PROFESSIONAL MEMBERSHIPS

INTERNATIONAL SOCIETY OF AUTOMATION (ISA); [Industries & Sciences Department Vice President \(2020 - 2021\)](#); [Geographic Assembly Chairman \(2016 - 2017\)](#); [Society Executive Board Member & District 9 Vice President \(DVP\) for WA, OR, ID, MT, WY, UT, & AK \(2014 - 2015\)](#); [Pulp & Paper Industry Division \(2001 - Present\)](#); [Technical Conference Committees \(1997 - 2018\)](#); [CSE PE Review Course Instructor \(2015\)](#), FE/EIT Review Course Instructor (2020 - 2021). Member of [ISA18, Instrument Signals and Alarms](#), [ISA99, Industrial Automation and Control Systems Security](#), [ISA101, Human-Machine Interface](#), and [ISA105, Commissioning, Loop Checks, and Factory & Site Acceptance/Integration Tests for Industrial Automation Systems](#) Standards Committees