

Update

Newsletter for ISA Certified Control Systems Technicians® (CCST®)



Fall 2009

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CCST® Profile of the Quarter: Daniel Machado



Daniel is a Process Control Analyst who works with the Cobb County Water System – Technology Support Group in Marietta, Georgia, USA. He earned his CCST level III certification in October 2002. We found his story interesting and would like to share it with the CCST Community.

How long have you worked in the control systems industry and what positions have you held?

I have worked in the control systems industry for more than 25 years, 4 of those years being spent with my current employer.

What are some of your job responsibilities?

I design and plan metering systems, electronic and pneumatic control systems, and data acquisition systems. I install, configure, program, and maintain PLCs. I lead and coordinate the installation of new equipment, staff training, documentation and procedures. In addition to those responsibilities, I communicate with county staff, contract engineers, and vendors on equipment and designs for process control and data acquisition systems, including availability and applicability of components. I also provide systems support to ensure continued accuracy and processing operations, e.g., database administration, network/server administration, and system security.

Does your company or your do your job responsibilities require certification?

Presently my employer does not require certification, but we are striving for all personnel to become ISA certified and it may become a requirement in the near future.

How did you hear about the CCST program? Why did you decide to pursue it?

While working for a Controls Systems Integrator that special

ized in municipal water and wastewater control systems, many of the bid packages we received required that the Field Engineer responsible for the project start-up be ISA certified. I did some research into the ISA CCST certification program and decided to pursue it for a number of reasons: to be compliant with the above mentioned requirements, to increase my value as an employee, and to augment my credentials as an automation and process control professional.

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— Machado

Has your employer supported the program?

Yes, the company maintains a library of ISA publications for use by our less experienced and new personnel to assist in their professional growth. In fact, our department's goal is to have all of our Instrumentation Technicians and Process Control Analysts ISA certified.

Have you heard any feedback from your customers about your certification?

In my present position, I regularly interface with consulting engineering firms, systems integrators, and equipment vendors, as well as our own engineering department. My CCST certification brings me increased credibility, which helps position me as a qualified automation professional.

So, Daniel, what benefits has the CCST certification brought to you or do you expect it will bring in the future?

It brings instant credibility and recognition of my knowledge and expertise in the automation and process control field.

CCST Profile, continued on page 4

Progression is Good, But Not Required

By Kristy Becker, CMP, ISA Certification Administrator

The ISA CCST certification program offers three levels and two formats of examinations. The minimum requirements for qualifying range from five–thirteen years, with Levels II and III having set years of work experience required specifically in instrumentation and control. The CCST program requirements can be found online at www.isa.org/ccstrequire.

Technicians can start at any level that they can meet the requirements. Many choose to start with Level I, regardless of being able to meet the minimum requirements for Level III.

The CCST program is broken down into seven performance domains and full details of what the CCST exams cover can be found by going to www.isa.org/ccstknowledge. The downloadable PDF on the webpage drills down to the tasks, knowledge, and skills that questions may focus on for any of the exams. Preparation materials are then mapped to the domains to aid candidates in studying.

| | |
|-------------------|----------------------|
| Domain I | Calibration |
| Domain II | Loop Checking |
| Domain III | Troubleshooting |
| Domain IV | Start-up |
| Domain V | Maintenance/Repair |
| Domain VI | Project Organization |
| Domain VII | Administration |

CCST Level I covers domains I-IV, Level II covers domains I-VI, and Level III covers all seven domains. Levels I and III are multiple choice exams with 175 questions on each exam. The Level II exam is a simulation exam of eight problems, which assesses the technician's ability to make decisions, troubleshoot, and make professional judgments in situations too complex or critical to test in a hands-on, practical examination. The exam forms include the same material whether testing in the paper/pencil format or electronically. All candidates have four hours to complete CCST exams.

Visit the CCST website at www.isa.org/ccstsearch and you'll notice that CCSTs are listed by his or her highest level achieved. Becoming a CCST at any level is a great accomplishment. **Take a look at those who have progressed through all of the levels and are currently CCST Level IIIs:**

Clarence Bearce, E & I Technician

Lincoln Paper & Tissue

Brian Bodary, Treatment Plant Maintenance Supervisor

Genesee Cty Water and Waste Services

Lydia Brown, Technician Specialist

Englobal Engineering

Brent Burgess, Instrument Technician

BASF

John Cochlin, Instrument Technician

Sunoco Inc

Frank DalCanton, Maintenance Mechanic First Class

CSL Behring

David Fredricksen, I & E Technician

Madison Paper

Jeff Goodin, Instrumentation Technician

Firmenich

Joseph Gottstein, Field Service Tech

Air Liquide

Lawrence Hildestad, Electrical Supervisor

Conoco Phillips

Nandkishor Khidkikar, Analyzer Engineer

BP Products North America Inc

Douglas Leath, Maintenance Supervisor

Peace River Manasota Reg Water

Evan Maple, Instrument and Electrical Technician

Dynegy Inc

Stanley Mongin, Instrument Tech

Georgia Pacific

Melvin Moore, Instrument Engineer

Sazerac

Dennis Naughton, Project Engineer

Eli Lilly & Co

Charles Palmer, Instrument Technician

IBEW Local Union 369

John Prine, SCADA Coordinator

Chevron

Russell Roark, Control Systems Engineer

Equitable Resources

Thomas Robinson, Master Maintenance Tech II

Talecris Biotherapeutics

Scott Rucki, General Foreman

EII Inc

Ward Schultz, Field Service Engineer

Emerson Process Management Inst & Valve Svc

Roy Simmons, Process Control Systems Technician II

Roxane Laboratories

Dave Singer, Team Leader Solids PCS

Roxane Laboratories

Morty Theriot, I/E Lead Technician

Honeywell International

Keith Todd, First Class Instrument Repairman

Lyondell-Basell Houston Refinery

David Welch, Instrument/electrical Planner

BP Amoco

John Whisman, E & I Project Manager

Rohm & Haas Co

Steven White, Electrical and Instrumentation Technician

ConocoPhillips Alaska Inc

Ken Willard, I & E Maintenance Engineer

Evergreen Pulp Inc

Michael Zlebis, Instrument Technology

Merisol USA LLC

Clearly Superior

New plant, SCADA system mean better remote control for Canadian water treatment plant

By Ellen Fussell Policastro

Article compliments of *InTech*, February 2009/Vol 56, Issue 2

The City of Thunder Bay is a growing community on the shores of Lake Superior in Ontario, Canada. Ranked as one of the top 10 cities for business in Canada, population is likely to continue to increase from the 120,000 citizens who live there today. To provide safe drinking water as well as protect the environment, Thunder Bay set a goal to implement lake-to-lake water management—taking water from Lake Superior through the treatment process to the distribution system, and then back through the pollution control plant before returning it to the environment. In less than a decade, Thunder Bay has succeeded.

The old electronics system used to be connected by a telephone line and involved local computers to transmit the information. "Moving to PLCs at each of the water stations tied all these systems together for easier decision making," said Carl Goodwin, process engineer at Thunder Bay. After expanding again in 2004, the plant is now updating its system for more effective process management by having the same software at all of their remote locations, "which cuts control costs and provides standardization at all locations," Goodwin said.

"The remote stations manage the water distribution system from source water treatment plant to the city limits," said John

Marchant, electrical engineering technologist from AutomationNow, system integrator for the project. "These stations include booster pumping, water storage reservoirs, pressure zone stations and storm lift stations. There are a total of 16 new and existing stations online and two more currently in the construction phase." Integrating these stations into the current SCADA system was easy with the new system, he said.

"We now have greater station control," Goodwin said. "Operators at the central treatment plant can get information more quickly and can relay information back and forth," he said. "They can now remotely control these locations when before they could only gather data—no control process was available before. They have control over chlorine residual and water pressure. We even have a more efficient water model by being able to look at gaining energy efficiencies," he said. "Having this control, we can more fully implement a more efficient water model."

Lake-to-lake management

Thunder Bay was actually the first of its kind to achieve lake-to-lake water management by constructing an entirely new facility. While the previous plant used direct filtration with sand filters and disinfectants, the Bare Point Water treatment plant uses an advanced ultra filtration system to purify the city's water, while expanding daily capacity from 14 million gallons to 25 million gallons.

Clearly Superior, continued on page 4

Welcome New CCSTs!

Congratulations to our newest group of Certified Control Systems Technicians!

CCST Level I

Tito Aparicio Montes
ESINSA El Salvador

Victor Aviles Jovel
La Geo SA de CV

John Bartholomew
Boehringer Ingelheim
Roxane Labs

James Bercik
M/R Systems Inc

Steve Brosnan
BL Technology Inc

Danilo Cea Escobar
La Geo SA De CV

Westley Chesser
University of Virginia

Scott Christianson
Xcel Energy

Deric Delaney
BJ Services Co Canada

David Dillon
University of Virginia

Joseph Dooley
Cincinnati State

Dean Dornbier
Double D E I

Gustavo Fajardo
Arlington County

Clinton Frazer
University of Virginia

George Garcia
Hewlett-Packard Co

Norman Grant
Holly Refining

Howard Hammond
Revere Control Systems
Inc

Eric Hardman
SABIC IP

James Harnist
Sun Chemical

Brian Hobaugh
Calumet Penreco

Robert Hornberger
University of Virginia

Jeffrey Hubbard
K Corp Technology
Services Inc

Ryan Hughes
Wyeth Pharmaceuticals

Bradley Jordan
Salt Lake Community
College

John Knuckles
Double D E I

Steven Kowalski
IBEW Local #8 RMF
Electric

Patrick Loflin
Oleo Chemicals LLC

Wayne Loflin
Cognis Oleochemicals LLC

Joshua McCastle
Nestle Gerber

Paul Makynen
Newpage

Zachary Meacham
IBEW Local #8

Kevin Miller
University of Virginia

John Moylan
EAS Inc

Ronald Nykanen
Xcel Energy

Allen Pender
Board of Public Utilities

Lewis Persinger
University of Virginia

Thomas Porter
NewPage Duluth Paper
Mill

Robert Ross
TEC Industrial Services

Mark Seely
Rio Tinto

Timothy Stafford
Miller Coors

Jon Strauss
Florida Keys Aqueduct
Authority

Giles Thrift
Clermont County Sewer

Hector Tovar Castro
Industrias la Constancia
NIXPA

Daniel Vigil
Double D E I

Michael Wehrmeyer
Barr Labs/Cincinnati State

Michael Wilberg
USMag

Mark Wilson
M R Systems Inc

Daniel Winski
Heritage WTI

Steven Woodruff
Dominion Energy

Davin Young
Board of Public Utilities

Ross Young
Revere Control Systems

CCST Level II

Jack Miller
Telstar Instruments Inc

David Minton
Arkema Inc

Mark Mosley
Logical Innovations

Brian Mowrer
IBEW Local 58

Steven Ross
Aqua Sierra Controls

CCST Level III

Clarence Bearce
Lincoln Paper & Tissue

Timothy Gallagher

Augustus Gomes
Dominion Energy New
England

Kyle Thomas
Wade Trim Operations
Services

Do you plan to renew your certification?

CCST certification was not an easy certification to achieve. I absolutely will continue to renew and my renewal date is in October 2011.

How did you prepare for the CCST exam?

I made use of publications provided by ISA, including the CCST study guides available on the ISA website.

What advice would you give others who are considering the certification process?

If you work in the automation or process control fields, I would highly recommend that you pursue the highest level of certification for which you qualify. Make use of the study materials or training classes provided by ISA. If this is your chosen profession, the recognition and respect that an ISA certification provides is extremely valuable, if not to your present employer, it may open doors in the future. It really helps round out a resume!

Last 2009 Testing Window Approaching

The last electronic testing window for 2009 is 1 November–31 December. The deadline to postmark and/or submit an application is 15 September. Remind those you know who may be interested in CCST certification to prepare now. The online CCST application is user friendly and can be completed in less than 30 minutes! To apply, go to www.isa.org/ccst/apply.

2010 Exam Testing Windows and Exam Application Postmark Deadlines

| Exam Testing Window | Exam Application Postmark Deadline |
|---|------------------------------------|
| Window 1: 1 March 2010– 30 April 2010 | Friday, 15 January 2010 |
| Window 2: 1 July 2010– 31 August 2010 | Friday, 14 May 2010 |
| Window 3: 1 November 2010– 31 December 2010 | Wednesday, 15 September 2010 |



Founded in 1945, the International Society of Automation (www.isa.org) is a leading, global, nonprofit organization that is setting the standard for automation by helping over 30,000 worldwide members and other professionals solve difficult technical problems, while enhancing their leadership and personal career capabilities. Based in Research Triangle Park, North Carolina, ISA develops standards; certifies industry professionals; provides education and training; publishes books and technical articles; and hosts the largest conference and exhibition for automation professionals in North America. ISA is the founding sponsor of The Automation Federation (www.automationfederation.org).

Challenges included integrating an existing pumping station with the new plant equipment as well as planning for future expansions. The initial facility had 12 PLCs, with 20 additional remote pumping stations to come that would incorporate PLCs from different manufacturers. Communications between the local PLCs and remote locations would be vital to the success of the project.

Without the ability to closely monitor and control this complicated system, the quality of Thunder Bay's water would be at risk. So it was critical to find the right supervisory control and data acquisition (SCADA) system—one versatile enough to meet the needs of the new facility plus its future expansion. Bare Point required accurate, real-time data-gathering to ensure reliable control of the plant's equipment, regardless of location. Recording and logging the data, sounding alarms for threshold conditions, and securely storing information were also priorities. The new system needed to be easy to use as well as provide comprehensive reports for management's informed decision-making.

A Windows-based system located in the operations center of the main plant controls the Bare Point plant software. "Redundant servers with UPS backup systems log over 5,000 points of data, 24 hours a day, 7 days a week," said Larry Levchak a manager at AutomationNow.

The human machine interface (HMI) software forms the core of the Bare Point system. In the application design phase, it provided power and flexibility as well as connectivity for the broad range of devices in the local and remote plant locations. Now operators can closely monitor pumps and control valves; graphics let them visualize water moving through the plant.

Working with the new software, the historian provides a high-performance, real-time, and historical database to integrate the operations center with the plant floor. As an extension of Microsoft SQL Server, the historian collects comprehensive Bare Point operating statistics while reducing the volume of data to store. And it integrates this information with event, summary, production, and configuration data.

To read the complete article visit www.isa.org/ccstarticle.

Certification

ISA certification provides an objective, third-party assessment and confirmation of a person's skills, and gives them the opportunity to stand out from the crowd and be recognized. ISA currently offers two certification programs: Certified Automation Professional® (CAP®) and Certified Control Systems Technician® (CCST®).