

### Workshop Speaker:

Bruce Borders has been involved with his current employer Control Systems West, Inc. for over 30 years. He is very experienced in all aspects of the business. In 2004, Bruce was made President when Control Systems, West, Inc. became incorporated. His company is actively involved with CWEA, HWEA and AWWA and has also participated at many related organizational functions and training sessions. Control Systems West, Inc. is best described as a Systems Integrator, which designs, manufactures and services a broad variety of its own specialized municipal and industrial control equipment.

### Workshop Locations:

#### Tuesday, May 4—Fresno 1-5pm

Fresno/Clovis RWRP  
5607 West Jensen Ave.  
Fresno, CA 93706

#### Thursday, May 6—Eureka 1-5pm

Humboldt Bay Municipal Water District  
828 Seventh Street  
Eureka, CA 95501

#### Tuesday, May 11—Riverside 1-5pm

City of Riverside  
5950 Acorn Street  
Riverside, CA 92504

#### Thursday, May 13—Vacaville 8am -12pm

Ulatis Community Center  
1000 Ulatis Drive  
Vacaville, CA 95687

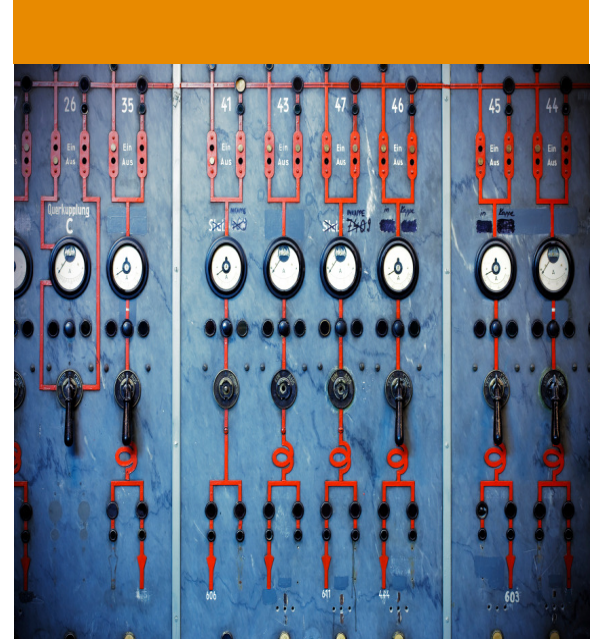
CWEA and its Board, members and volunteers are not responsible for the actions of speakers or the contents of their papers, and no endorsement is implied or given of any persons or their philosophies, ideas or statements; nor of any products or processes; nor of any organizations or companies who volunteer to serve as speakers at the conference.



California  
Water  
Environment  
Association

7677 Oakport Street, Suite 600  
Oakland, CA 94621

## CWEA's Pump Station Optimization Electrical & Instrumentation Workshop



### Conference dates and locations

*Tuesday, May 4 - Fresno*

*Thursday, May 6 - Eureka*

*Tuesday, May 11 - Riverside*

*Thursday, May 13 - Vacaville*

Brought to you by CWEA and its  
Central San Joaquin Section,  
North Coast Section,  
Santa Ana River Basin Section and  
Sacramento Area Section

Non Profit Organization  
U.S. Postage  
PAID  
OAKLAND, CA  
Permit #1483

# Pump Station Optimization Electrical & Instrumentation Workshop

## Who Should Attend:

Operators, maintenance personnel, design engineers, facility managers and supervisors who would like more information about power and control systems used for the operations and monitoring of pumps.

## What will be Discussed:

- Typical power distribution based on 240 and 480 volt, 3 phase, 60 Hertz power as the motor voltage.
- Monitoring of station power and examination of what to do if trouble is detected.
- Components used for power distribution and motor control.
- Various pump control systems and PLC based control.
- A variety of typical pump station instrumentation components will be examined and discussed.
- The importance of understanding the operation of a station's electrical and control system by using the information available in the electrical drawings.
- Maintaining careful and complete records of changes incorporated into the electrical and instrument operating systems.
- Understanding the drawings and control logic for quick and accurately detecting and trouble shooting station problems.
- Various methods for achieving optimum utilization of status and alarms conditions.

## Workshop Times:

The workshops will last 4 hours each. Fresno, Eureka and Riverside will take place from 1pm-5pm. The Vacaville session will take place from 8am-12pm. Please arrive a half an hour early to pick up your badge.



## What You Will Learn:

It is important for operations and electrical maintenance personnel to fully understand the electrical system at each of the pump stations for which they are responsible. You should understand the function and operation of the overall system, which will typically include:

- Incoming Power, Transformation and Distribution
- Pump Motor Control – Various Types, including Variable Speed & Soft Start
- Pump Control System – Relay Systems, PLC, Etc.
- Instrumentation Most Often Used
- Electrical Drawings – Schematics, Wiring Diagrams and Symbols
- Trouble Shooting and Preventive Maintenance
- Station Communication – Status and Alarm



## Earn up to 4.8 contact hours in the following vocations:

- Industrial Wastewater Treatment Plant Operator
- Collection Systems Maintenance
- Plant Maintenance
- Mechanical Technologist
- Electrical/Instrumentation



**CWEA Specialty Conferences**  
7677 Oakport Street, Suite 600  
Oakland, CA 94621  
Fax: 510-382-7810

Questions? Call 510-382-7800 ext. 115  
Register online at: [www.cwea.org/conferences](http://www.cwea.org/conferences)

First Name	Last Name	Name for Badge
Agency/Company		
Address		
City	State	Zip Code
Email Address		
Phone	Fax Number	
Emergency Contact		Phone
<input type="checkbox"/> <b>Member</b> CWEA , WEF or CA-NV AWWA Mbr # _____ (Current membership required for member rates.)		
<input type="checkbox"/> <b>Special Services:</b> Please check here if you require special accommodations to fully participate & attach a written description of your needs.		

<u>Register for:</u>	Tues 5/4 Fresno	Thur 5/6 Eureka	Tues 5/11 Riverside	Thur 5/13 Vacaville
Early Bird Member Rate Before April 19th	<input type="checkbox"/> \$85	<input type="checkbox"/> \$85	<input type="checkbox"/> \$85	<input type="checkbox"/> \$85
Early Bird Regular Rate Before April 19th	<input type="checkbox"/> \$151	<input type="checkbox"/> \$151	<input type="checkbox"/> \$151	<input type="checkbox"/> \$151
Member Rate After April 19th	<input type="checkbox"/> \$105	<input type="checkbox"/> \$105	<input type="checkbox"/> \$105	<input type="checkbox"/> \$105
Regular Rate After April 19th	<input type="checkbox"/> \$171	<input type="checkbox"/> \$171	<input type="checkbox"/> \$171	<input type="checkbox"/> \$171

## Method of Payment

- PO Must Be Attached       Check: Payable to CWEA 2010  
Pump Station Optimization
- Discover     American Express     MasterCard     Visa

Credit Card #	Exp. date
Name on Card	
Signature	

If more than one person from your agency will attend, please photocopy and submit one form for each person.

Written cancellation notice is required, and must be received at least 15 days prior to the conference date. A 25% service fee shall be retained on all cancellations. No refunds shall be given for cancellations made less than 15 days prior to any conference.

All fees for conference registration shall be paid in full at the time of pre-registration or on-site registration. Full payment may be made by credit card, personal check or company/agency check. Purchase orders are acceptable and must be attached to the registration form. Registrations received by CWEA without full payment or purchase order will not be processed. The Early Bird deadline is 15 days prior to the event.

REGISTER ONLINE AT [www.cwea.org/conferences](http://www.cwea.org/conferences)  
CREDIT CARD PAYMENTS MAY BE MAILED TO THE CWEA OFFICE  
OR FAXED TO (510) 382-7810