

Attend the power industry's most energizing event...

focused on solving critical industry challenges.

Earn PDHs for your attendance

By attending the 59th Annual ISA Power Industry (POWID) Symposium, you'll get the practical, expert recommendations and insights needed to directly address the crucial challenges that are impacting your business.

You'll come away motivated, informed, and with the strategies necessary to:

- **Capitalize on the latest innovations in instrumentation, controls, and automation technologies**
- **Improve power reliability while managing fluctuating load demands**
- **Protect vital data through advanced cybersecurity**
- **Meet increasingly stringent environmental controls regulation**

Plan now to attend this valuable event, which each year attracts a multitude of power generation experts, innovators, regulators, and other stakeholders from around the globe.

Schedule

Conference Sessions:

27–30 June
Over 50 technical papers

Training Courses*:

1 July
Introduction to Safety Instrumented System (EC50C)

Introduction to Boiler Control Systems (ES15C)

Introduction to Industrial Automation Security and the ISA/IEC 62443 Standards (IC32C)

***Note:** Training registration is separate from conference registration. You can choose just the conference, or one of three courses plus the conference.

Visit www.isa.org/POWID/T2016 for event details and to register.

Reference promo code **16TPWD**.

ISA Training: World-class subject-matter expertise

ISA's technical training courses are known and respected worldwide for their unbiased, practical approach to technology application. For more than 65 years, ISA has met the real-world training needs of automation and control professionals through flexible, customized training solutions. ISA courses, taught by industry and subject matter experts across a wide range of disciplines and fields, enable students to immediately apply their knowledge and skills to the workplace.

Taking an ISA training course will:

- Enhance on-the-job training
- Fill in missing knowledge and skill gaps
- Teach the How's and Why's
- Provide continuing education credits
- Expand professional networks

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International Society of Automation
67 T.W. Alexander Drive
P.O. Box 12277
Research Triangle Park, NC 27709

Maximize your learning experience during the 2016 POWID Symposium.

By attending this year's POWID Symposium and gaining high-value ISA technical training at the event, you'll optimize your time, and improve your knowledge and skills in the field of power generation delivery.

To register or learn more, visit www.isa.org/POWID/T2016 or call **+1 919-549-8411**.



Provider #1001262

ISA is accredited by the International Association for Continuing Education and Training (IACET). ISA complies with the ANSI/IACET Standard, which is recognized internationally as a standard of excellence in instructional practices. As a result of this accreditation, ISA is authorized to issue the IACET CEU.

EP30-6064-0216

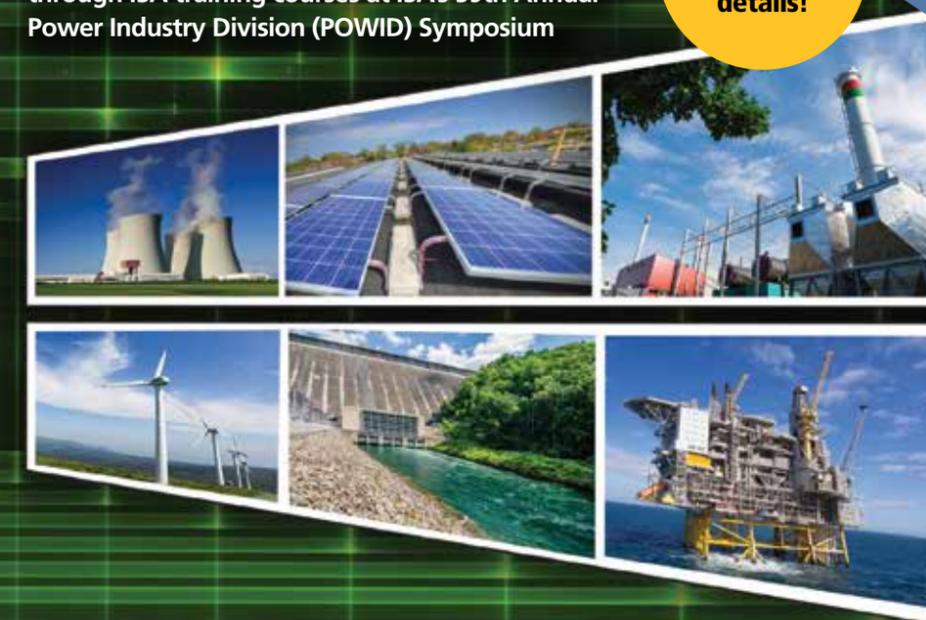


Standards
Certification
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Expand your Instrumentation and Control Power Expertise

through ISA training courses at ISA's 59th Annual Power Industry Division (POWID) Symposium

See inside for course details!



- **An Introduction to Safety Instrumented Systems (EC50C)**
- **Introduction to Boiler Control Systems (ES15C)**
- **Introduction to Industrial Automation Security and the ANSI/ISA-62443 Standards (IC32C)**

59th Annual ISA Power Industry Division (POWID) Symposium

Conference: 27–30 June 2016 • **Training:** 1 July 2016

Electric Power Research Institute (EPRI)
1300 West W.T. Harris Blvd. • Charlotte, North Carolina, USA

www.isa.org/POWID/T2016

Setting the Standard for Automation™

Enhance your know-how and expertise with an ISA training short course!



An Introduction to Safety Instrumented Systems

Course No.: EC50C
Instructor: Paul Gruhn
Date: 1 July 2016

There are many different ways of designing a safety instrumented system (SIS). Questions like these are being asked by users and engineering firms alike:

- Which technology should be used (electric, electronic, or programmable)?
- What level of redundancy is appropriate (single, dual, or triple)?
- How often should systems be tested (monthly, quarterly, yearly, or once per shutdown)?
- What about field devices (technology, level of redundancy, and test intervals)?

You Will Cover:

- **Introduction:** What is a safety system? | Danger of overconfidence and complacency | Lessons learned from past accidents
- **Guidelines and Standards:** ANSI/ISA | IEC
- **General SIS Design Considerations:** Design life cycle | Independent safety layers
- **Hazard and Risk Assessment:** Hazard identification | Risk assessment | Determining SILs | Layer of Protection Analysis (LOPA)
- **Failure Modes:** Safe vs. Dangerous | Redundancy issues
- **System Technologies:** Relay | Microprocessor | Field Devices | Certification vs. Prior Use
- **Operation and Maintenance:** Installation | Testing | Management of Change

Includes ISA Standards:

- ANSI/ISA84.00.01-2004, Part 1: *Framework, Definitions, System Hardware and Software Requirements*
- ANSI/ISA84.00.01-2004, Part 2: *Functional Safety: Safety Instrumented Systems for the Process Industry Sector*
- ANSI/ISA84.00.01-2004, Part 3: *Guidance for the Determination of the Required Safety Integrity Levels-Informative*

▶ To register or learn more, visit www.isa.org/2016/EC50C/POWID or call +1 919-549-8411.

Register early and SAVE!

Early Bird (before 1 June 2016)—each course

Training Course Registration:

ISA Member..... US\$570
Affiliate Member..... US\$646
Community Member/List..... US\$755



Introduction to Boiler Control Systems

Course No.: ES15C
Instructor: Jerry Gilman
Date: 1 July 2016

When working with boilers, regardless of what process control system is used or fuel being burned, you must control five basic functions: furnace draft, drum level, feed water, fuel air, and steam temperature. This short course will teach you what must be controlled and how the control systems operate. More specifically, this course will help process control system engineers, managers, project engineers, operators, and technicians in boiler houses and power plants explain the basics of boiler operation and control.

You Will Be Able To:

- Describe the boiler components and their functions
- Configure furnace draft, drum level, feed water, fuel/air, and steam temperature
- Describe PID control
- Describe how the systems interact and how to set up the controls
- And more...

You Will Cover:

- Boiler Components
- Defining PID control
- Draft Control
- Drum Level Control
- And more...

▶ To register or learn more, visit www.isa.org/2016/ES15C/POWID or call +1 919-549-4411.

Space is limited, so register early!

Standard Registration (after 1 June 2016)—each course

Training Course Registration:

ISA Member..... US\$600
Affiliate Member..... US\$680
Community Member/List..... US\$755

Time: 8:00 a.m. – 4:00 p.m.

CEUs (PDHs): 0.7 (7)



Introduction to Industrial Automation Security and the ISA/IEC 62443 Standards

Course No.: IC32C
Instructor: John Cusimano
Date: 1 July 2016

Understanding how to secure factory automation, process control, and supervisory control and data acquisition (SCADA) networks is critical if you want to protect them from viruses, hackers, spies, and saboteurs. This short course teaches you the basics of the ANSI/ISA-62443-1-1 (99.01.01)-2009, *Security for Industrial Automation and Control Systems (IACS)* standards and how these can be applied in the typical factory or plant.

You Will Be Able To:

- Define the terminology, concepts, and models for electronic security in the IACS environment
- Define elements of the ANSI/ISA-62443 standard for establishing an IACS security program
- Define the core concepts of risk and vulnerability analysis methodologies
- Define the concepts of defense “in depth” and the zone/conduit models of security
- And more...

You Will Cover:

- Understanding the Current Industrial Security Environment
- How IT and the Plant Floor are Different and How They are the Same
- Current Security Standards and Practices
- Creating a Security Program

Includes ISA Standards: ANSI/ISA-62443-1-1 (99.00.01)-2007, ANSI/ISA-62443-2-1 (99.02.01)-2009, and ANSI/ISA-62443-3-3 (99.03.03)-2013 (A \$630 Value!)

▶ To register or learn more, visit www.isa.org/2016/IC32C/POWID or call +1 919-549-8411.

Reference promo code **16TPWD** when you register.