FUNDAMENTALS OF SCADA SYSTEMS FOR THE OIL & GAS INDUSTRY

June 10-11, 2019
EUCI Conference Center
Denver, CO
OVERVIEW

The Fundamentals of SCADA Systems for the Oil & Gas Industry course will explore the history and evolution of SCADA systems, including the differences in the SCADA types and how they have evolved. The course will examine SCADA hardware components and how they work together. Attendees of this course will gain a comprehensive understanding of how SCADA systems work for the oil & gas industry, how and why they were developed, how they are structured, the database and data collection techniques and uses of the dynamic data by the end user.

There will be an explanation of the data flow from field, through RTU, to frontend processor, and to the control room. We will examine how different telemetry points are processed, learn about analogs, status points, accumulators, different ways that they can be collected in field RTU for data exchange, scan rates, and protocols. The course will discuss how data can be processed for the end user, alarm processing, supervisory controls, processing logic in database, and putting it into the dynamic graphic user interface for end to end control and monitoring. We will explore the best data maintenance practices, such as maintaining the data standards, templates, creating the point list and checkout lists, performing point to point testing, maintaining the quality assurance systems independent from productions where jobs are run first.

LEARNING OUTCOMES

- Review the history and evolution of SCADA Systems for oil & gas
- Illustrate the basic hardware and software components of a SCADA systems
- Discuss protocols that are used to transmit, collect, store and manage data
- Discuss the increased need for cyber security for ICS
- Describe different instrumentation measurement technologies
- Review SCADA system architecture
- Discuss the data flow from field to control room
- Identify alarm processing and supervisory control

WHO SHOULD ATTEND

- Oil and Gas Industry Leadership
- Managers
- Marketers
- Engineers
- Accountants
- Technicians
- Volume Processing Analysts
- Legal Professionals
AGENDA

MONDAY, JUNE 10, 2019

8:00 – 8:30 am  Registration and Continental Breakfast

8:30 am – 5:00 pm  Course Timing

11:30 am – 12:30 pm  Group Luncheon

- SCADA Definition
- SCADA History and Evolution
  o By technological evolution
  o Telemetry based SCADA
  o Microprocessors - PLC
- SCADA Types
  o By market evolution
  o Distributed
  o Networked
- SCADA Systems Components
- Common SCADA Abbreviations
- Typical Hardware SCADA Architecture
  o Master administrator - data repository
  o Communicator - data acquisition
  o Front end processor - RTU
  o Historian - data archiving
  o Human Machine Interface - individual users
- Typical System Division
  o Primary system
  o Backup system
  o Training system
- RTUs
  o RTU protocols types
  o RTU scans rates and options
  o Field devices
    - Upstream vs Midstream vs Downstream
- SCADA Data Collection - Point Types and Uses
  o Analog points (measurements)
    - Limits
    - Setpoints
  o Digital points
  o Accumulators (periodic collection)
    - Meter collections
    - Counter values
  o Status points (indication and controls)
    - Alarm processing
    - Supervisory controls
- Data Collection and Q&A Session
- Course Adjourns for Day
AGENDA

TUESDAY, JUNE 11, 2019

8:00 – 8:30 am  Continental Breakfast

8:30 am – 12:00 pm  Course Timing

• Review of Day 1
• Data Management
• Maintaining the Data and Best Practices
  o Construction project
    - Midstream Case Study
  o Engineering points list
  o Data standards
  o Regulations
    - Upstream/Midstream/Downstream Case Studies
  o Point to point testing
  o Checklist and procedures
• SCADA Security and Additional Applications
• Network Processing
• Cyber Security of SCADA
• Course Concludes

INSTRUCTOR

Carin Meyer
Senior SCADA Manager, MarkWest Energy Partners, L.P.

Carin Meyer has been working with Pipeline SCADA for 13 years. Ms. Meyer started with BP Pipelines in Tulsa Oklahoma as a SCADA Engineer and advanced to SCADA Team Lead. Carin has a bachelor’s degree in Business Administration from Regis University, an MBA from Colorado Technical University, and a Masters of Management IT – Project Management from Colorado Technical University. Ms. Meyer sits on several industry steering committees for SCADA Regulation, Leak Detection, and SCADA Cybersecurity. In addition to her current roll, Carin speaks at industry conferences, is a technical SCADA instructor for continuing education, and consults for clients who benefit from her SCADA expertise.
INSTRUCTIONAL METHODS

Instruction, PowerPoint, discussion, Q&A will be used in this event.

REQUIREMENTS FOR SUCCESSFUL COMPLETION

Participants must sign in/out each day and be in attendance for a minimum of four hours to be eligible for any continuing education credit.

IACET CREDITS

EUCI has been accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET). In obtaining this accreditation, EUCI has demonstrated that it complies with the ANSI/IACET Standard which is recognized internationally as a standard of good practice. As a result of their Authorized Provider status, EUCI is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET Standard.

EUCI is authorized by IACET to offer 1.0 CEUs for this course

EVENT LOCATION

EUCI Conference Center
4601 DTC Blvd., B-100
Denver, CO 80237

NEARBY HOTELS

Preferred Hotel
Hyatt Place Denver Tech Center
8300 E. Crescent Parkway, Greenwood Village, CO 80111 (0.9 miles away)
Call Central Reservations at 1-888-492-8847 and ask for the corporate rate of $168 under the Group Code: EUCI.
or visit https://denvertechcenter.place.hyatt.com/en/hotel/home.html?corp_id=102338 for the corporate rate using the Group Code: EUCI. (Hot Breakfast included and Free Shuttle to and from EUCI)

Hyatt Regency Denver Tech Center
7800 E. Tufts Ave
Denver, CO 80237
Phone: 303-779-1234
0.3 miles away

Hilton Garden Inn Denver Tech Center
7675 E. Union Ave
Denver, CO 80237
Phone: 303-770-4200
0.6 miles away

Denver Marriott Tech Center
4900 S. Syracuse St
Denver, CO 80237
Phone: 303-779-1100
0.7 miles away

REGISTER 3, SEND THE 4TH FREE

Any organization wishing to send multiple attendees to this conference may send 1 FREE for every 3 delegates registered. Please note that all registrations must be made at the same time to qualify.
**REGISTRATION INFORMATION**

Mail Directly To:
EUCI
4601 DTC Blvd., Ste. 800, Denver, CO 80237
OR, scan and email to: conferences@euci.com

WWW.EUCI.COM
p: 303-770-8800
f: 303-741-0849

**EVENT LOCATION**

EUCI Conference Center
4601 DTC Blvd., B-100
Denver, CO 80237

See nearby hotels on page 5

---

**PLEASE REGISTER**

- **FUNDAMENTALS OF SCADA SYSTEMS FOR THE OIL & GAS INDUSTRY COURSE**
  - JUNE 10-11, 2019: US $1395
  - EARLY BIRD on or before MAY 24, 2019: US $1195

**How did you hear about this event? (direct e-mail, colleague, speaker(s), etc.)**

<table>
<thead>
<tr>
<th>Print Name</th>
<th>Job Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**What name do you prefer on your name badge?**

<table>
<thead>
<tr>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>City</th>
<th>State/Province</th>
<th>Zip/Postal Code</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phone</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List any dietary or accessibility needs here

**CREDIT CARD INFORMATION**

<table>
<thead>
<tr>
<th>Name on Card</th>
<th>Billing Address</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Account Number</th>
<th>Billing Zip Code/Postal Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exp. Date</th>
<th>Security Code (last 3 digits on the back of Visa and MC or 4 digits on front of AmEx)</th>
<th>Billing Zip Code/Postal Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OR Enclosed is a check for $______ to cover ________ registrations.**

Substitutions & Cancellations
Your registration may be transferred to a member of your organization up to 24 hours in advance of the event. Cancellations must be received on or before May 10, 2019 in order to be refunded and will be subject to a US $195.00 processing fee per registrant. No refunds will be made after this date. Cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI event. This credit will be good for six months from the cancellation date. In the event of non-attendance, all registration fees will be forfeited. In case of course cancellation, EUCI’s liability is limited to refund of the event registration fee only. For more information regarding administrative policies, such as complaints and refunds, please contact our offices at 303-770-8800.

EUCI reserves the right to alter this program without prior notice.

---

EUCI | 4601 DTC Blvd., Suite 800 | Denver, CO 80237