

# NERC COMPLIANCE FUNDAMENTALS

**November 5-6, 2018**  
**The Scottsdale Resort at McCormick Ranch**  
**Phoenix, AZ**

RELATED EVENT:

**NERC CIP: A DEEPER DIVE**  
November 6-7, 2018 | Phoenix, AZ

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*“Great foundational information,  
wonderful place to begin your NERC  
compliance development.”*

Compliance Engineer,  
Yuba County Water Agency



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course



**PROVEN  
COMPLIANCE  
SOLUTIONS**

## OVERVIEW

Bulk electric system entities registered with the North American Electric Reliability Corporation (NERC) continue to wrestle with the complexities of the NERC reliability standards implementation, compliance, and enforcement process. Full audit schedules within each regional entity ensure that the stakes remain high. Critical Infrastructure Protection (CIP) standards add another level of complexity, further demonstrating to the power industry the difficulties of legislating reliability and security.

With the increasing number of new generation and transmission projects being proposed and built, it's important to understand the implications of being a NERC registered entity and the complicated and costly process of compliance. This course is a great place to start for organizations that are a part of the bulk power system in North America. There are a host of important factors to consider that can have a significant impact on operations. One of the key tenets that supports compliance, or can help mitigate a penalty, is a robust culture of compliance. To demonstrate a culture of compliance, a registered entity must show an enterprise-wide commitment to the process.

This course is an in-depth introduction to NERC standards, compliance, and monitoring and is designed to give the necessary background for all staff to understand the concepts and complexities of NERC compliance in order to communicate and build a culture of compliance and reliability and prepare for upcoming audits.

## LEARNING OUTCOMES

- Define the role of FERC, NERC and Regional Entities
- Review the background for the NERC standards and discuss major recent revisions
- Explain how violations are determined and identify which standards are the most violated
- Define a culture of compliance and its importance in the compliance monitoring and enforcement process
- Examine strategies to build an internal compliance program
- Examine the NERC CIP requirements: Current version and upcoming revisions
- Analyze the audit process and demonstrate strategies for success before, during, and after an audit
- Discuss emerging trends in NERC compliance including CIP Version 5, the Reliability Assurance Initiative (RAI), the new and emerging standards on Physical Security, Geomagnetic Disturbances, Distributed Energy Resources, etc.

## WHO SHOULD ATTEND

- NERC registered entity administrative and support staff
- Compliance managers and directors
- Generation owners and operators to include IPPs and renewable energy project developers
- Transmission owners and operators, including merchant transmission projects
- Attorneys and regulators
- Regional entity and RTO/ISO staff



***“Very helpful to understand the history of NERC and why it was developed. Helped me understand how I can continually prepare myself and my organization for an audit, by reviewing the RSAW’s annually.”***

Engineer Senior, Lightstone Generation

# AGENDA

MONDAY, NOVEMBER 5, 2018

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

**8:30 am – 5:00 pm**      **Course Timing**

**12:00 – 1:00 pm**      **Group Luncheon**

## **Overview of NERC Reliability Standards and Requirements**

- NERC as the ERO
- Overview of entity registration
- Standards background and drafting process
- Trajectory of standards
  - o Results based standards
  - o Regional standards
- Compliance and Enforcement
- Analysis of most violated non-CIP standards: Hot spots for current versions as well as status of revisions
  - o CIP
  - o PRC 005
  - o FAC 008/009

## **NERC Compliance in Practice**

- Define “culture of compliance” and strategies to build, communicate and demonstrate a culture of compliance, as mandated by NERC
- The role of a culture of compliance in mitigation
- Preparing for an audit: What to do before, during and after an onsite compliance audit: successful strategies and avoiding common pitfalls
- Discuss the settlement process that occurs after a violation has been found
- Recognize how NERC compliance fits with other enterprise compliance needs and risk management
- Managing documentation and evidence
- Demonstrating a culture of compliance to auditors
- Reliability Assurance Initiative and what it means to you



***“Very good orientation to NERC as an important organization in the electric industry.”***

Compliance Coordinator, NAES Inc.



***“Good introduction and history into the world of NERC compliance.”***

GM-Engineering Services, Duke Energy

# AGENDA

TUESDAY, NOVEMBER 6, 2018

**8:00 – 8:30 am**      **Continental Breakfast**

**8:30 am – 12:00 pm**      **Course Timing**

**NERC Critical Infrastructure Protection (CIP)**

This session will provide an overview of the NERC CIP Reliability Standards and provide insight into what it takes to comply with the same on an ongoing basis.

- Introduction
- History and Background of the NERC CIP reliability standards
- Common Assumptions and Mistakes
- Prevalent NERC CIP Compliance Challenges (Version 3)
- A Word about CIP Version 5
- Overview of the NERC CIP v3 reliability standards
- NERC CIP v5
  - o Overview of Version 5 NERC Cyber Security Standards
  - o Notable Differences Between Version 3 and Version 5 NERC CIP Reliability Standards
- Tools and resources
  - o A few words about “tools” and NERC CIP compliance
  - o Active Vulnerability Assessment Tools
  - o Danger: Active scanning of ICS environments is risky business!
  - o Resources
- Emerging Issues and New Standards



*“Thank you for a pleasant and informative conference experience.”*

Transmission Control Advisor, San Diego Gas & Electric



*“This course is really great for someone who doesn’t have a clue about NERC. It should be mandatory for all new employees because it affects all aspects of the electric utility systems.”*

Program Analyst, SWPA

## OVERVIEW

The electric grid in North America is at the top of the list of critical infrastructures maintained by Presidential Directive by the Department of Homeland Security and it is recognized that the remaining critical infrastructures will not function without a reliable supply of electricity. As a result, cyber and physical security for electric utilities is at the forefront of the legislators and regulators agenda following recent cyber and physical attacks in the US and elsewhere in the world.

To address these risks, the North American Electric Reliability Corporation (NERC) has developed and maintained a set of Critical Infrastructure Protection standards that are mandatory and enforceable. These standards have undergone significant change since they were first adopted in FERC Order 706. These standards have been extended to include all Bulk Electric System Assets and their related Cyber Assets each categorized as High, Medium, and Lower Risk assets thereby extending the program to all registered entities and all bulk electric system assets at some level.

This course will provide a deep fundamental understanding of the NERC CIP standards including a history of their development, an understanding of the present standards, and a view of what is coming in future standard development. The course will also provide a detailed overview of each standard, its fundamental purpose, and the intent of each requirement.

Developing programs to meet the intent of the standard is challenging since compliance with the standards requires disciplines from several key corporate functions including electric system operations, information technology, corporate security, and human resources at a minimum. This course will also review organizational structures for successful implementation and their experiences.

This course will also provide an overview of compliance and monitoring efforts that NERC will conduct for the CIP standards and is designed to give the necessary background for all staff to understand the concepts and complexities of NERC compliance in order to communicate and build a culture of compliance and reliability and prepare for upcoming CIP audits.

## LEARNING OUTCOMES

- Review the background for the NERC Critical Infrastructure Standards and discuss major recent revisions
- Review the scope and purpose of the NERC Critical Infrastructure Protection (CIP) Standards
- Examine the NERC CIP requirements: Current version and upcoming revisions
- Assess the confidentiality provisions of the CIP Standards
- Explain how violations are determined and identify which CIP standards are the most violated and why
- Discuss the challenges faced by utilities in defining a compliance program across the corporate functions necessary for CIP compliance (operations, information technology, corporate security, human resources, etc.)
- Define a culture of compliance and its importance in the compliance monitoring and enforcement process
- Examine strategies to build an internal CIP compliance program in such a diverse environment
- Analyze the audit process for CIP standards and demonstrate strategies for success before, during, and after an audit

## WHO SHOULD ATTEND

- NERC registered entity administrative and support staff
- Compliance managers and directors
- Subject matter experts involved with the CIP standards (Operations, Information Technology, Human Resources, and Corporate/Physical Security)
- Generation owners and operators to include IPPs and renewable energy project developers
- Transmission owners and operators, including merchant transmission projects
- Attorneys and regulators
- Regional entity and RTO/ISO staff

REGISTER TODAY! CALL **303-770-8800** OR VISIT **WWW.EUCI.COM**

# AGENDA

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TUESDAY, NOVEMBER 6, 2018

**12:30 – 1:00 pm**

**Registration**

**1:00 – 5:00 pm**

**Course Timing**

**History and Purpose of NERC Critical Infrastructure Protection Standards and Requirements**

- History of the CIP Standards
  - o Urgent Action Standards
  - o NERC vs. FERC vs. Congress
- 706 Reliability Standards – The first enforceable standards
- CIP Version 5 and Version 6 Reliability Standards
  - o Review of the intent and purpose of each standard
  - o Understanding each of the requirements
  - o Departments involved in meeting the intent
- Meeting the Requirements with outside contractors/vendors
- Confidentiality Provisions
  - o New requirements for managing the information
- Analysis of most violated CIP standards: Hot spots to watch for

WEDNESDAY, NOVEMBER 7, 2018

**8:00 – 8:30 am**

**Continental Breakfast**

**8:30 am – 5:00 pm**

**Course Timing**

**12:00 – 1:00 pm**

**Group Luncheon**

**History and Purpose of NERC Critical Infrastructure Protection Standards and Requirements - continued**

- Physical security and CIP-014
  - o Coordination with other physical security requirements
  - o Common pitfalls
- Audit processes and preparation for CIP Standards
  - o RSAW preparation
  - o RSAW Narratives: What are they used for?
  - o Common pitfalls

**CIP Compliance in Practice**

- Define “culture of compliance” across the responsible areas
  - o Communication of risk and strategies to build, communicate and demonstrate a culture of compliance, as mandated by NERC
- Organizing for compliance
  - o Decentralized vs. centralized corporate security
    - Options for organization
- Confidentiality of the compliance process
- Recognize how NERC compliance fits with other enterprise compliance needs and risk management
- Managing documentation and evidence
- Managing TFEs: When to terminate or submit material changes.
- Demonstrating a culture of compliance to auditors for the CIP standards
- Emerging Issues and New Standards- CIP-010-2 R4 Transient Cyber Assets

# INSTRUCTORS



## Rick Terrill, P.E.

### Director of NERC Consultation Services, Proven Compliance Solutions

Rick's industry experience spans 39 years in the electric power industry, including 37 years with a large utility, where he was the Director of Compliance for 17,000 MW of coal, nuclear, gas and combined cycle generation fleet leading and implementing all aspects of NERC and Regional compliance. Rick completed multiple NERC/Regional compliance audits and spot checks with zero violations identified by auditors. He also served the company as the designated CIP Senior Manager for NERC cyber compliance. Rick participated as a member of multiple NERC and Regional Standard Drafting Teams, was a member of the NERC Compliance and Certification Committee and received NERC Auditor training. Currently Rick is the Director of NERC Consultation Services at PCS. Rick is a Registered Professional Engineer in the State of Texas, and holds a Bachelor of Science degree, Civil Engineering, and an MBA in Management.



## Carl Bench, CISA, PSP

### Senior CIP Consultant, Proven Compliance Solutions

Carl has over 11 years' experience in the electrical industry as an IT Systems Operator, CIP Auditor, and Audit Team Lead. He was most recently a CIP Auditor and Audit Team Lead at Western Electricity Coordinating Council (WECC). While as an Auditor at WECC he gained unique experience in compliance program management and audits. Areas of expertise include: Conducting and leading audits and assessments related to the NERC Critical Infrastructure Protection (CIP) Reliability Standards, NERC & Regional monitoring, NERC CIP V5 implementation/training, and risk-based compliance monitoring and enforcement procedures and implementation. He holds a bachelor's degree in Information Technology Management. Carl is a Certified Information Systems Auditor(CISA), Physical Security Professional (PSP), Certified Business Resilience Manager (CBRM), Certified Business Resilience Auditor (CBRA).



***"Great course to gain foundational knowledge for the NERC compliance field."***

Electric Reliability Compliance Manager, Vectren Energy Delivery



***"Very informative and time well spent."***

Compliance Superintendent, Alameda Municipal Power

## REQUIREMENTS FOR SUCCESSFUL COMPLETION

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Participants must sign in/out each day and be in attendance for the entirety of the course to be eligible for continuing education credit.

## INSTRUCTIONAL METHODS

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This course will use PowerPoint presentations and group discussions will be used in this program.

## IACET CREDITS

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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 1.1 CEUs for the course.**

## EVENT LOCATION

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A room block has been reserved at the The Scottsdale Resort at McCormick Ranch, 7700 E McCormick Pkwy, Scottsdale, AZ 85258, for the nights of November 4-6, 2018. Room rates are US \$159 + \$15 resort fee plus applicable tax. Call **1-480-991-9000** or [click here](#) for reservations and mention the EUCI event to get the group rate. The cutoff date to receive the group rate is October 12, 2018 but as there are a limited number of rooms available at this rate, the room block may close sooner. ***Please make your reservations early.***

## REGISTER 3, SEND THE 4TH FREE

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

# To Register, Click Here , or

## Mail Directly To:

PMA Conference Management  
POB 2303  
Falls Church VA 22042

Tel. 201 871 0474  
Fax 253 663 7224

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## PLEASE REGISTER

**SPECIAL COMBO PRICE NERC COMPLIANCE FUNDAMENTALS AND NERC CIP: A DEEPER DIVE COURSES**

NOVEMBER 5-7, 2018: US \$2195,  
Early bird on or before October 19, 2018: US \$1995

**NERC COMPLIANCE FUNDAMENTALS ONLY**

NOVEMBER 5-6, 2018: US \$1395,  
Early bird on or before October 19, 2018: US \$1195

## ENERGIZE WEEKLY

EUCI's Energize Weekly e-mail newsletter compiles and reports on the latest news and trends in the energy industry. Newsletter recipients also receive a different, complimentary course presentation every week on a relevant industry topic. The presentations are selected from a massive library of more than 1,000 current presentations that EUCI has gathered during its 30 years organizing courses.

Sign me up for Energize Weekly

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

Print Name

Job Title

Company

What name do you prefer on your name badge?

Address

City

State/Province

Zip/Postal Code

Country

Phone

Email

List any dietary or accessibility needs here

### CREDIT CARD INFORMATION

Name on Card

Billing Address

Account Number

Billing City

Billing State

Exp. Date

Security Code (last 3 digits on the back of Visa and MC or 4 digits on front of AmEx)

Billing Zip Code/Postal Code

**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 October 5, 2018 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. EUCI reserves the right to alter this program without prior notice.