



NORTH AMERICAN GENERATOR FORUM 2019 Annual Meeting

Location:
North American Electric Reliability Corporation
3353 Peachtree Road, NE
Suite 600, North Tower
Atlanta, GA 30326

Day 1 – Tuesday, October 15

8:00 NAGF Board of Directors, Officers and Advisory Committee Meeting

Conference starts at 12:00 PM

12:00 LUNCH

12:15 Keynote Speaker – Jason Blake, President & CEO, SERC

12:45 Welcome, Introduction and Anti-trust – Al Schriver, NextEra Energy

12:50 Primary Frequency Response – David Deerman, Southern Company

1:20 GO survey of generator performance to frequency disturbance events – David Deerman, Southern Company

1:40 PRC-019 and PRC-024-2 for Inverter Based Resources - Maysam Radvar, Ready Technologies

2:10 BREAK

2:25 Regulatory relief for generating units planning on shutdown – Alison MacKellar, Exelon Nuclear

2:55 PER-006-1 – Jason Counts, DTE

3:25 PRC-027 – Karen Poole, Dominion

3:55 Q&A with RE personnel - prepared questions followed by open Q&A -
Jeff Norman, MRO; Scott Nied, NPCC; Brian Hallett, RF; Todd Curl, SERC; Curtis Crews
& Derrick Davis, TRE; Deb McEndaffer, WECC; Moderator – Mike Gabriel

5:30 Cocktail Reception – Maggiano's Little Italy, Open Bar

Day 2 – Wednesday, October 16th

- 7:15 BREAKFAST
- 8:00 Internal Controls for Generator Owners/Operators – Ben Eng, NPCC
- 8:45 Plant Modeling and Validation - NERC Compliance- Dr. Ahmed Saber, ETAP
- 9:30 Battery Integration Issues and Successes - Leo Bernier & Mark Robinson, AES
- 10:00 Inverter-Based Resource Performance Task Force (IRPTF) – Al Schriver, NextEra
- 10:15 BREAK
- 10:30 Cold Weather update – Blake Huddleston, Engie NA; Mike Gabriel, EthosEnergy Group; Wayne Sipperly, NAGF
- 10:50 Working Groups update – NAGF Working Group leads
- 11:00 EMP update – Soo Jin Kim, NERC
- 11:30 LUNCH with sponsor presentations
- 12:30 MOD-026/027 R4 Implementation Date – Bill Shultz, Southern Company
- 1:30 ISO/RTO Panel Discussion - prepared questions followed by open Q&A – James Helton – ISO-NE; Kim Sperry – MISO; John Baranowski – PJM; Neil Millar – CAISO; Moderator – Mike Gabriel, EthosEnergy Group
- 2:15 BREAK
- 2:30 Reviewing CIP firewall rulesets: challenges and best practices – Frank Lyter, Talen Energy; Robin Berthier, Network Perception
- 3:00 CIP-003-7: TCAs & RM – Frank Lyter, Talen Energy
- 3:45 BREAK
- 4:00 NAGF Business Hour: announcements, voting, dues discussion – Dave McCammon, NAGF Chairman of the Board; NAGF Officers
- 5:00 Adjourn for the day

Day 3 – Thursday, October 17th

- 7:15 BREAKFAST
- 8:00 CIP low impact implementation - how's it going (CIP-003-7) – Chad Cowan, Duke
- 8:30 Supply Chain CIP-013 - Michiko Sell, NAES
- 9:00 DHS/Cybersecurity and Infrastructure Security Agency (CISA) update - Don Robinson, CISA
- 9:45 Perspective from both a thermal and renewable audit - Rhonda Jones, Invenergy
- 10:15 BREAK
- 10:30 Recent Audit Experience Panel - Michiko Sell, NAES; Shannon Ferdinand, Capital Power; Dan Goynes, Dominion Energy; Rhonda Jones, Invenergy LLC
Moderator – Heather Morgan, EDPR
- 11:00 Project 2016-02 CIP Modifications SDT – Heather Morgan, EDP Renewables; Matthew Hyatt, TVA
- 12:00 Adjourn – safe travels!

Thanks to our Sponsors!



Speaker Bios

Jason Blake – President and CEO - SERC

Mr. Blake is President and CEO for SERC and is passionate about SERC's mission, which is to reduce risks and ensure a reliable, resilient, and secure electric grid across 16 central and southeastern states. He leads with a commitment to operational excellence, innovation, continuous improvement, and deploying resources in an effective and efficient manner that adds value. Prior to joining SERC, Mr. Blake spent almost nine years serving as the Vice President and General Counsel for SERC's northern neighbor and sister region, ReliabilityFirst. During that time, he helped lead RF through its start-up phase and into a sustainable risk-based organization focused on ensuring a reliable, resilient, and secure electric grid across the Mid-Atlantic and Great Lakes regions of the U.S. Prior to this, Mr. Blake developed broad business and regulatory experience through his private practice with large, corporate law firms located in Pittsburgh, Pennsylvania and then in Cleveland, Ohio. Mr. Blake is a graduate of the Ohio State University and the University of Pittsburgh School of Law. He also served on the Board of Directors for the American Heart Association for the Cleveland Metropolitan Area and enjoys volunteering to coach his children's sports teams.

Allen D. Schriver – Chief Operating Officer - NAGF

Allen joined NextEra Energy, Inc. in 2008 and is currently the Senior Manager – NERC Reliability Compliance in the Compliance and Responsibility Organization. With over 30 years of experience in the industry, he has held positions of operations superintendent and plant manager at various large hydroelectric plants where he was accountable for the operation and maintenance of both plant generation and bulk power transmission facilities. Allen is a member of the NERC Operating Committee, Event Analysis Subcommittee, the NERC Inverter-based Resource Performance Task Force (IRPTF) and various Regional Entity Committees. He holds a Bachelor of Science in Electrical Engineering from The Pennsylvania State University and a Master of Science in Electrical and Computer Engineering from the University of Massachusetts. Allen is also a licensed Professional Engineer and a Six Sigma Green Belt.

Maysam Radvar, M.Eng., P.Eng, P.E. – Power System Engineer – Ready Technologies

After acquiring a Bachelor's and a Master's degree in Electrical Engineering at University of Alberta, he has established his career in the field of Power system and Protection System. Maysam has interest in performing NERC Compliance Studies, Generator Baseline Testing, NERC MOD-026 and MOD-027 Testing, Transient Stability Analysis, Substation Protection Design, Relay Upgrades, and Renewable Energies. He has been an Engineering Manager for Ready Technologies Inc. since 2010. He is a member of the IEEE Power and Energy Society, NAGF and WICF. He is a Professional Engineer in the State of Washington and a Professional Engineer in Alberta, British Columbia, and Ontario.

Alison Mackellar – Advisory Committee - NAGF

Alison is the NERC Compliance Manager for the nuclear units in the Exelon Generation fleet (21 nuclear units). She has managed the compliance program for Exelon Nuclear since 2008. Prior to joining Exelon, she held Engineering and Operations positions at Dominion where she was a NRC Licensed Reactor Operator and Shift Technical Advisor for Surry Power Station. Alison has a Bachelor's degree in Mechanical Engineering and a Master's degree in Business Administration; both completed while working full time. She currently lives in the suburbs of Chicago where she also teaches yoga.

Jason Counts – Performance Improvement Consultant – NERC Training Organization – DTE Energy

Jason has over 15 years' experience in power generation. He has experience in both the fossil and nuclear generation. Assignments have included supervising operator, electrical maintenance superintendent, and maintenance and technical training general supervisor. He joined DTE's NERC Training Organization in 2017 where he has responsibility for creating and maintaining DTE's NERC related training materials

Karen Poole - Mechanical Engineer – Dominion Energy.

20 years with Dominion Energy

First 15 years at a coal / oil-fired power plant

Last 5 years in Generation Regulatory Compliance

Previously worked across other industries such as Hughes Aircraft, Newport News Shipbuilding and Formica Corp.

Key areas of responsibility in compliance are the Facilities, Modeling and Protective Relay Standards.

My hobbies include Beekeeping, gardening and reading.

Wayne Sipperly - Executive Coordinator - NAGF

Wayne has more than 30 years of corporate, field, and consulting experience in the electric industry. His diverse experience spans engineering, operations, maintenance, marketing, and risk management. In his current role as the NAGF Executive Coordinator, Mr. Sipperly functions as the Chief Administrator responsible for the day-to-day administration of the NAGF and strategic activities that support the NAGF Business Plan. Prior to joining the NAGF, Mr. Sipperly worked for the New York Power Authority and held various leadership roles involving NERC Reliability Standards Compliance, Enterprise Risk Management, Energy Marketing, and Generator Control Systems. Mr. Sipperly received his MBA from Long Island University and a Bachelor of Science in Electrical Engineering Technology from Northeastern University.

Mike Gabriel – Deputy Chief Operating Officer – NAGF

Mike's 29 years in power generation began as a nuclear submarine officer. After serving on active duty for 11 years, he joined General Electric, holding various technical and managerial roles relating to heavy duty gas turbines and control systems. Mike joined Gas Turbine Efficiency in 2008, (now a subsidiary of EthosEnergy) and stood up their Monitoring & Diagnostic Center. He held various technical and managerial roles, again focused on gas turbines modifications and fuel system conversions, as well as NERC compliance. Mike currently provides both CIP and O&P compliance at 30+ gas turbine power stations. In addition to serving as NAGF's Deputy Chief Operating Officer, Mike chairs the NAGF's Peer Review Working Group. Previously, he was the NAGF Secretary, served on the NAGF Advisory Committee, chaired the Cold Weather Preparations Working Group and co-chaired the Security Practices Working Group. He earned his Bachelor of Science in Computer Science from the United States Naval Academy and an MBA from Kennesaw State University.

William D. (Bill) Shultz has 38 years experience working for Southern Company in various capacities including electric generating plant technical services field engineer, protective relaying design and calculations, standby generation integration and remote control. His areas of expertise include motors, generators, transformers, switchgear, protective relaying, generator digital excitation systems, and variable speed drives. In recent years, he contributes to the NERC compliance efforts within Southern Company on requirements for the Generator Owner and Generator Operator. He has served on the PRC-005, MOD-025, MOD-026, MOD-027, PRC-019, and PRC-024 standard drafting teams, and currently serves on the BAL-003 standard drafting team and on the NERC Resource Subcommittee to the Operating Committee. Mr. Shultz holds a B.S.E.E. from The University of Tennessee and a M.S.E.E. from Auburn University and is a registered Professional Engineer in the State of Alabama.

Heather Morgan –Director of Regulatory Compliance – EDP Renewables

Heather oversees the compliance program for EDP Renewables' North American fleet in the United States, Canada, and Mexico. In addition to this role, Heather serves as the Secretary of the NAGF, chair of the NAGF Standards Review Team, a member of the SPP Reliability Compliance Working Group, and is a standard drafting team member Project 2016-02 – Modifications to CIP Standards. Prior to this, Heather served on the Advisory Committee for the NAGF and as a member of the standard drafting teams for Project 2017-02 and Project 2016-EPR-01. Heather received her bachelor's degree from Texas A&M University and her Master of Business Administration from Rice University. Heather is a board member for the H.E.A.R.T. Program, a non-profit that promotes structured independence for individuals with developmental disabilities by providing innovative education, training, housing and employment programs.

Leo Bernier– Reliability Compliance Manager for AES

Leo is responsible for the implementation and maintenance of the AES US Generation NERC and FERC compliance program within North America. Duties include promoting the reliability of the bulk electric system and fostering a culture of compliance.

Mr. Bernier also represents AES US Generation in the development and revisions to existing or new NERC reliability standards through monitoring and participation in committees and discussion boards as well as advising businesses on the commenting and voting process.

Mr. Bernier has over 28 years of broad experience in all aspects of the electric utility industry, including generation, transmission and regulatory businesses. He has an extensive back ground in maintenance and operations in the power generation and chemical industry.

Mark Robinson - NERC Senior Compliance Analyst – AES

Mark Robinson is responsible for the implementation and maintenance of the NERC operations and planning compliance programs for AES Alamitos, Huntington Beach, and Redondo Beach, within WECC. Duties include leading the current NERC commissioning efforts for two combined-cycle units at Alamitos and Huntington Beach, and the 100 MW/400 MWh Battery Energy Storage System (BESS) at Alamitos.

Mr. Robinson has a strong background and expertise within the electric utility industry in electric systems operation and planning, including a decade as the Lead NERC Compliance Analyst for a Regional Transmission Organization, and as the President and Principal Consultant for MERConsulting LLC.

Mr. Robinson has 20 years experience in all aspects of the electric utility industry, including generation, transmission, and regulatory businesses. He has audit experience demonstrating compliance of each of the NERC Functional Registrations, and holds degrees in Accounting/Auditing, and Law, from the University of Arkansas.

Venona Greaff – Advisory Committee – NAGF

Venona oversees the NERC compliance program for Occidental Energy's cogeneration fleet. She has more than 30 years experience in the Energy sector with more than 15 years in power generation. Venona previously served on the Project 2010-1 PER-005-2 and Project 2007-06.2 PER-006-1 Standard Drafting Teams. In addition to her role on the NAGF Advisory Committee, Venona currently serves as the LSE/Marketing Sector Representative on the TexasRE MRC and represents the generation segment on the SERC Board Executive Committee. Venona received her BS in CyberSecurity Management and Policy from the University of Maryland University College.

Katherine Legates – Treasurer – NAGF

Katie is an engineer within AEP Generation's New Technology Development organization where she focuses her time on inverter based resources and microgrids. Prior to her current position, Katie spent 15 years in the Electrical Engineering Services organization supporting a variety of areas including AEP Generation's protective relaying and NERC PRC standards compliance. Katie has a bachelor's degree from Youngstown State University and a master's degree from The Ohio State University.

Rhonda Jones, JD, MBA - Director, Reliability Compliance - Invenergy LLC

Rhonda Jones is the Director of Reliability Compliance at Invenergy LLC, a Chicago based developer, owner, and operator of large-scale clean energy generation and storage facilities in the Americas, Europe, and Asia. #22,695MW. As a 10-year NERC Regulatory Compliance professional and post-secondary Business Ethics educator, she administers Invenergy's Operations/Planning and CIP NERC Compliance Programs. Her teams are responsible for ensuring 39 power generation companies, across North America and Canada, are positioned to demonstrate how its standard operational practices adhere with the regulations. Additionally, she is sought after to provide specialized technical assistance and third-party compliance co-management structuring and coordination. Rhonda specializes in technical communications, investigative reporting, and tactical resource alignment. Prior to joining Invenergy, Rhonda served as an Enforcement Professional at Texas RE and SW Power Pool. When this change agent takes a break from promoting grid resiliency, she is teaching indoor cycling, refining her healthy recipes, and empowering underrepresented communities.

John Baranowski, PJM

John R. Baranowski, P.E. is a Senior Consultant for EMS and Model Management in the PJM Operations Support division with over 30 years of power system experience. He received BSEE and MSEE degrees from Drexel University in Philadelphia, PA. He also received a Master's certificate in Cyber Security from Worcester Polytechnic Institute in Worcester, MA.

His experience at PJM includes SCADA, AGC (generation), and transmission network analysis and modeling support. He assisted in the design, development, and testing of the PJM EMS, including development at the vendor site. Prior to joining PJM, Mr. Baranowski was employed by PECO Energy for 17 years in a variety of assignments including System Planning, Transmission System Operations (including time as a transmission system operator), and Information Technology.

He is a registered Professional Engineer in the Commonwealth of Pennsylvania.

Soo Jin Kim – Senior Manager of Standards Development - NERC

Soo Jin is currently the Senior Manager of Standards Development, and prior to this role, she served as the Manager of Reliability Operations reporting directly to the Chief Reliability Officer and Senior Vice President, Mark Lauby. Soo Jin began at NERC in December 2012 in our Atlanta, Georgia office as a Standards Developer. Before joining NERC, Soo Jin was an Associate at Troutman Sanders LLP in Washington, DC in their Federal Energy Group. At Troutman Sanders, Soo Jin worked on a variety of federal energy regulatory matters. Prior to attending law school, Soo Jin was a consultant/business analyst with various consulting firms focused on energy and commodity trading. Soo Jin has a BA in Economics and English from the University of Georgia, and she received her Juris Doctorate from American University.

Frank Lyter – CIP Manager – Talen Energy

Frank is a registered P.E and has over 30 years experience in power generation. He earned a Mechanical Engineering degree at Penn State and the first 10 years of his career were in nuclear plant control system design for PPL's Susquehanna plant. This was followed by design responsibilities for roll-out of Distributed Control Systems for PPL's coal generation fleet. Assignments included supervision of Instrumentation and Controls, Mechanical Design groups and management of a fleet remote monitoring program. PPL's non-regulated generation fleet separated the company and merged with Riverstone generation assets to form Talen Energy in 2015. Frank joined Talen Energy's NERC Compliance Group in 2016 assuming responsibilities for CIP compliance.

David Deerman - Project Manager, Energy Marketing - Southern Company Services

David has over 25 years with Southern Company. He has a Master's in Mechanical Engineering and is a registered Professional Engineer.

He has over 11 years of Coal-Fired Electric Generating Plant Experience. The remainder of his tenure has been in engineering and the past two years have been in Energy Marketing where he is responsible for the Commercial Availability measurement.

Ahmed Y Saber - Principal Power Engineer (R&D Optimization) – ETAP USA

Dr. Ahmed Saber received the Ph.D. degree from University of the Ryukyus, Japan, in 2007. He develops power systems simulation tools in ETAP using both deterministic and intelligent methods. His timely researches have been funded nationally and internationally including DOE. He won the IEEE Outstanding Engineer Award in Southern California, USA among more than 12,000 engineers for his contributions on smart-grid in 2012. He has published over 75 technical papers and holds 2 patents on power system. His research interests include simulation-modeling, system identification, parameter estimation, smart-grid, renewables, micro-grid, intelligent systems and operations research.

Dan Goyne - NERC CIP Program Manager for Power Generation – Dominion Energy

Dan Goyne has been with Dominion Energy for 38 years. For the first 17 years, Dan served at several fossil plants in Instrumentation and Control. The following 13 years were served as a Manager in Dominion's IT organization. In 2010, he supported the implementation of NERC CIP Version 3 for Dominion Energy. Beginning in 2014, Dan has been the Program Manager for NERC CIP. His key areas of responsibility is in compliance with the creation of policies and procedures and oversight of the compliance evidence. During his spare time, Dan enjoys fantasy novels, gardening, and computer gaming.

Chad Cowan – Managing Director of NERC CIP Program Management – Duke Energy

As Managing Director of NERC CIP Program Management for Duke Energy, Chad Cowan is responsible for leading the creation and communication of Duke Energy's enterprise NERC CIP policies, standards and controls. His team also provides business area implementation and operational support of compliance activities through guidance, enterprise tools, and coordination with numerous regulatory and industry forums. In addition, his organization is responsible for oversight of the implementation of internal NERC CIP standards through hands-on assessments and evidence reviews. Duke Energy's NERC CIP Program scope involves assets in 5 of the 6 NERC regions and encompasses thousands of facilities, people, and devices. Chad has over 20 years of background in technology, including Consulting, Solution Delivery and Support, Technology Strategy and Performance Management, Enterprise Asset Management, and Security and Compliance. He is a North Carolina native who earned a Bachelor of Science in Management Information Systems from the University of North Carolina at Charlotte and an MBA from Queens University in Charlotte. He is also a graduate of the Duke Energy Strategic Leadership Program at the University of North Carolina at Chapel Hill and the Arts & Science Council Cultural Leadership Training Program. He and his wife, Ashley, live in Charlotte, NC with their two teenage daughters.

Matthew G. Hyatt – Manager, Control Center Design and Special Projects – Tennessee Valley Authority

Matt is an experienced technologist with a focus on datacenter virtualization technologies. At Tennessee Valley Authority he serves as the manager of the Control Center Design & Special Projects group. He also serves as a co-chair for the NERC 2016-02 Standards Drafting Team which presently has a focus on clarifying the use of virtualization technologies with the standards.

Curtis Crews– Director, Compliance Assessments– Texas Reliability Entity, Inc.

Curtis started with Texas RE in 2010 and is currently responsible for directing all NERC compliance activities at Texas RE for the Texas Interconnection. Curtis has supervised or managed engineering groups for ERCOT ISO, Austin Energy, and the Lower Colorado River Authority and has over 20 years of experience with emphasis in Real-Time environments. Curtis holds a Bachelor of Science degree in Electrical Engineering from Texas A&M University and is a registered Professional Engineer in the state of Texas.

Alan Randolph – Fossil Generation NERC Compliance Manager – DTE

Alan has over 30 years in power generation. Alan served eight years in the United States Navy as a Machinist Mate. From there Alan spent 11 years operating a Municipality in Southern California. Alan and his wife then moved back to Michigan and joined DTE. While at DTE he has had several positions, a Shift Supervisor for several coal units. From there he moved to the Peaking Group and was responsible for the overall maintenance of the fleet. Since 2013 Alan has served as Fossil Generations Compliance SME. Alan is currently a member of the NAGF Advisory Committee. Alan lives in Marysville, Michigan with his wife and Mini-Aussie. He also enjoys gardening.

Michiko Sell, Senior NERC CIP Specialist – NAES

Ms. Sell joined the NAES NERC Services department as a Senior NERC CIP Specialist in March of 2017. Ms. Sell has over 17 years of public utility experience, seven of which were focused on compliance with NERC Critical Infrastructure Protection and Operations and Planning Standards. She was the Manager of Reliability Policy and Compliance for a large hydro utility in the Pacific Northwest that was registered as a BA, DP, GO, GOP, PA/PC, TO, TOP & TP. She has developed, maintained and implemented Internal Compliance Programs which included the creation of risk assessment tools, audit plans, compliance training, development of automated solutions, and procedure writing. She actively managed a CIPv5 transition and assisted in the development of detective, preventative and corrective measures, internal controls and risk assessments. Mrs. Sell's expertise in project management combined with her knowledge of both Cyber Security and Ops and Planning standard requirements has contributed to the evolution of the NAES way of achieving and sustaining compliance with NERC and regional reliability standards. Ms. Sell is a graduate of Washington State University, and holds a Bachelor's degree in Business Administration.

Deborah McEndaffer – Director of Compliance Monitoring – WECC

Deb McEndaffer is the Director of Compliance Monitoring for the Western Electricity Coordinating Council (WECC). WECC is a not-for-profit organization that exists to assure a reliable and secure bulk power system in the geographic area known as the Western Interconnection.

As the Regional Entity responsible for assuring the reliability of the Western Interconnection, WECC operates under a Federal Regulatory Commission (FERC) approved delegation agreement with the North American Electric Reliability Corporation (NERC) and in accordance with WECC's Bylaws.

Ms. McEndaffer manages WECC's Compliance Monitoring Program, which monitors compliance with mandatory reliability standards approved by FERC and by authorities in Alberta and British Columbia, Canada, and in Baja California, Mexico. To execute these functions, Ms. McEndaffer works with the Cyber Security Audits and Operation and Planning (O&P) Audits managers who oversee a staff of 25 Critical Infrastructure Protection (CIP) and O&P Auditors.

Prior to joining WECC, Ms. McEndaffer served for 17 years at Platte River Power Authority where she held several positions including Senior Accountant, Power System Operator, and Chief Compliance Officer. Ms. McEndaffer also served for one year at Midwest Energy, Inc. as the Director of Reliability Compliance.

Ms. McEndaffer was born and raised in Fort Collins, Colorado. She earned a Bachelor of Science degree in Accounting and Auditing from the University of Northern Colorado. Since 2016, Ms. McEndaffer has been the chairman of Alexa's Hugs, a non-profit organization in Colorado and New Mexico that focuses on safe driving for teens.

Dr Robin Berthier is the co-founder and CEO of Network Perception

He has over 15 years experience in the design and development of network security technologies. He was part of the University of Illinois research team that originally developed the technology that drives the Network Perception Platform. He received his PhD in the field of cybersecurity from the University of Maryland College Park before joining the Information Trust Institute (ITI) at the University of Illinois at Urbana-Champaign (UIUC) as a Research Scientist.

Todd Curl – Senior Manager of Compliance Monitoring – SERC Reliability Corporation

Todd is currently responsible for managing all areas of Compliance Monitoring in both Operations & Planning and Critical Infrastructure Protection areas, and all Compliance Monitoring methods including Audits, Spot Checks, Self-Certifications, Compliance Investigations, and Complaints. The Compliance Monitoring area of SERC include 1 manager, 1 supervisor, and 24 auditors. Previously Todd was Manager of Compliance Programs which included Registration & Certification, Compliance Investigations, and Compliance Outreach. Todd joined SERC as an O&P Compliance Auditor in 2010, with about 29 years in the electric utility industry.

Before joining SERC, Todd was a Senior System Operator at Southern Company's Power Coordination Center in Birmingham, Alabama. Primary responsibilities included providing real-time monitoring and control decisions and direction for the 24/7 operation of the Southern Company bulk power system balancing area. He also was responsible for various aspects of reliably operating the bulk power system in a coordinated manner with the four Operating Company transmission control centers, generation operations, and neighboring utilities. He worked with a team of NERC certified operators balancing generation with load, keeping the transmission system reliable, and ensuring correct interchange power flows with neighbors. Todd also spent 10 years on Southern Company's energy trading floor as an Energy Coordinator, providing economic evaluation and negotiation of next-hour power sales and purchases, and arranged for scheduling of transactions in a real time 24/7 operation.

Todd also spent 17 years with Georgia Power Company as a Transmission Operator in Atlanta, and a Substation Maintenance electrician.

Todd has a Bachelor of Science degree in Business Administration from Amridge University, and an Executive Certificate in Organizational Leadership from the University of Notre Dame. Todd is also a NERC Certified System Operator with the Reliability Coordinator certification since 1999. Todd has also completed NERC Audit/Certification Team Leader and Compliance Investigation training.

Shannon Ferdinand – Senior Specialist, Compliance – Capital Power

Shannon Ferdinand manages the Reliability Standards and Regulatory Reporting programs for Capital Power. Shannon and her team are kept busy with Capital Power's 16 NERC applicable generation sites (4,000+ MW) which exist in 6 different regulatory regions across Canada and the United States (WECC, SERC, MRO, IESO, AESO, BCUC). Shannon has 15 years' experience in the energy industry and holds a Bachelor of Management degree (Accounting), a Bachelor of Arts degree (History), a Chartered Professional Accounting designation (CPA, CGA) and a Certified Compliance and Ethics Professional designation (CCEP).

Capital Power is a wholesale power generator that produces competitive, future-focused energy. Capital Power currently owns 25 Operating Facilities for a total of 5,948 MW. Capital Power is headquartered out of Edmonton, Alberta, Canada.

Blake E. Huddleston – NERC Compliance Representative Senior, ENGIE North America; Advisory Committee – NAGF

Blake is responsible for the management and oversight of ENGIE North America's NERC compliance program. He also works closely with ENGIE North America's Corporate Health & Safety group and leads the company's Root Cause Analysis program. Blake leads the Variable Resources Working Group and the Cold Weather Preparedness Working Group for the NAGF.

He has 10 years of experience in the energy and power generation sectors and holds a B.A. from The Ohio State University and a J.D. from South Texas College of Law Houston.

Neil Miller – Executive Director of Infrastructure Development – California ISO

Neil Millar, Executive Director of Infrastructure Development at the California ISO, is a professional engineer registered in Alberta, Canada.

Prior to joining the ISO in November of 2010, he was the Executive Director of Regulatory Affairs for Alberta's Utilities Consumer Advocate. Previously he was with TransAlta Utilities, a vertically-integrated utility, for almost 19 years. He also spent seven years with the Alberta Electric System Operator, including five of those years as Vice President of Transmission. Mr. Millar obtained his engineering degree at the University of Saskatchewan.

About Cooper Compliance

Cooper Compliance provides Global Audit-Ready, a powerful software that will transform your existing SharePoint repository into an organized Governance Risk & Compliance package that will liberate your time and control your compliance program.

This complete affordable solution is loaded with internal controls and user friendly workflows. Global Audit-Ready only takes 15 minutes to install and that will leave you reassured that it won't be sitting on the shelf collecting dust.

- **While designed specifically for NERC Regulations, you can use Global Audit-Ready to maintain compliance with other regulations** as well, including NERC, Gas, CPUC, Environmental, state legislative, Sarbanes-Oxley, contractual obligations, and other obligations then produce your compliance reports, such as RSAWs with a click of a button.
- **Retire your pigeon carrier when you need documents approved.** This reminder-based tracking system, that integrates with the Global Audit-Ready dashboards and reports, cycles documents through the updating, reviewing, approving, and finalizing stages of a document update, while obtaining electronic signatures throughout the process. Use this tool for your change management controls.
- **Break the silo and get the information you need quickly.** The Global Audit-Ready interactive survey tool allows you to automatically query your staff on a preset schedule to determine if certain activities occurred. A positive response will result in either a collection of information or creating a task to complete work. For example, use this when you need to gather data on a recurring basis. The interactive survey can respond based on initial answers given, such as assigning a task to upload evidence, or asking for more detailed information.
- **Relax knowing even your new operators know what to do when events occur.** The **Operator Instruction Log** is an event and facility driven logging system that provides a checklist to ensure your operators have the confidence to know what to do and when.
- **Don't worry about losing knowledge as your experts retire.** Global Audit-Ready preserves subject matter experts institutional memory and provides compliance management and executives real-time status.

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About EY

EY Cyber's mission is to build a more secure and trusted working world.

Cybersecurity is not just a technology or risk issue. It's a strategic business imperative. That's why we bring a cross-functional team of cybersecurity professionals, business advisors, investigators, and technical and IT risk practitioners to help you tackle your biggest challenges.

With digital and geopolitical threats increasing, businesses need more than an off-the-shelf security solution or basic risk mitigation to protect critical assets. These threats expose the real reputational and financial risks your organization faces.

Ernst & Young LLP has invested heavily in infrastructure, technology and talent to help you operate your business, and capitalize on opportunities while under attack and manage your risk profile. Our Cyber practice unites talents from both the public and private sector, including the National Security Agency (NSA), the Central Intelligence Agency (CIA), the US Air Force, the US Marines, the Federal Bureau of Investigation (FBI) and leading technology companies all over the world.

To thrive, you need the ability to adapt. That means embedding cybersecurity resilience everywhere — at every level of your organization. It's the intersection of business strategy, risk management, digital evolution, real-time operations, technology innovation and predictive analytics that allows you to prioritize the right decisions, faster! Having experience in your industry allows us to understand the specific challenges you face in protecting your business. Our global ecosystem of talent, strategic alliances, intellectual property, managed services and technologies means we bring the right insight at the right time. While complexity increases every day, we continue to collaborate with you to give your organization real-time agility and resilience against cybersecurity threats while enabling growth and opportunity.



About SOS Intl

SOS Intl, a leading provider of training and compliance services to the power industry, rigorously tracks and interprets NERC Reliability Standards. We expertly translate the Standards into customized training and compliance services, helping entities manage risk and ensure reliability for the North American power grid. **SOS** offers classroom and online courses, accompanied by sophisticated computer simulation. All are designed using the latest systematic approach to training, as required by NERC. Headquartered in Charlotte, NC since 2002, **SOS** has provided NERC-approved continuing education and compliance services to thousands of employees operating the Bulk Electric System across the United States and Canada.

Our advisors are experts in NERC training and compliance and hold strong industry reputations as consistently customer-focused and professional. We offer organizations the best training and compliance assistance with minimal disruption to day-to-day business operations. In addition, **SOS** also provides clients with a strong administrative support group comprised of project management, account management, and student service support.

SOS is owned by Rocky Sease, former Director of System Operations at GridSouth and Manager of System Control at South Carolina Electric & Gas (SCE&G)



Our Training Program:

- Has a NERC Certification Exam Preparation program for operators and helps maintain credentials by offering continuing education hours (CEHs)
- Uses a tested and verified systematic approach
- Develops custom training modules and courses specific to company needs
- Combines online and traditional learning methods that are developed and delivered using current research-based adult learning and retention techniques

10715 Sikes Place, Charlotte NC

28277 **877.767.4685**

Melanie Payne : 704.815.7906
melanie.payne@sosintl.com

Our Compliance Program:

- Assists and guides entities in achieving and managing regulatory compliance
- Provides advisors with extensive education and experience in the bulk electric industry
- Has performed numerous mock audits, compliance gap analyses, documentation development, mitigation plans, compliance registration, subject matter expert witness preparation, and compliance training engagements
- Has advisors who have worked in the control room, managed both day-to-day and emergency operations, participated in Regional Compliance Audits, participated in NERC Readiness Audits, and held key compliance management roles
- Has real-world experience, augmented by an intimate knowledge of the regulatory environment and specific understanding of the roles NERC and Registered Entities play.

Lori Burk : 704.815.7907
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About Towerline Software, LLC

Our Company was founded two plus decades ago as Epoch Technical Solutions - an engineering and consulting firm for the utility industry. In addition to our early work, we managed compliance for our client's in the time prior to NERC being mandatorily enforced. When this change came about our founder knew there had to be a more efficient way of not only understanding how the changing compliance landscape affects the industry, but also efficiently managing those new responsibilities. It was then that Towerline was born.

Towerline Software delivers world-class NERC Compliance Solutions. We provide a dedicated focus upon NERC 693 & CIP Standards and Requirements, program implementation and usability, compliance sustainability and service quality.

The knowledge cultivated through decades of engineering and consultative industry service is incorporated throughout our NERC Compliance Software Solution; iComply. This same expertise powers the services proudly offered by Epoch Technical Solutions, our sister Company. Collectively we are a dedicated and integrated NERC Compliance solutions provider.

At Towerline Software we embrace our leadership position as NERC Compliance resource experts by maintaining a singular focus on our mission-critical platform and. We provide comprehensive knowledge and robust solutions to NERC registered entities through optimization of our compliance software and expert execution of our managed services offerings.

What makes our organization unique is very simple; it is not only our focus on what we do, and how we do it – but who we do it for. We are not a software provider; we are a provider of software to the electric utility industry. We are not a consulting organization; we are an electric utility consulting firm. At Towerline we know how you work and the challenges you face and we build software solutions and provide services that meet those challenges and exceed your expectations.

- 693 Software Solutions
- CIP Software Solutions
- Configurable Compliance Packages: 693 Only, CIP Only, Asset Management
- SaaS Solutions
- Specialized Consultant Program Offerings
- Expert NERC Consulting Services



About ETAP

ETAP® is the global market and technology leader in electrical power system modeling, design, analysis, optimization, and real-time solutions. ETAP technologies ensure that power systems are designed for optimal reliability, safety, and energy efficiency; they enable organizations to manage energy as a strategic asset, maximize system utilization, lower costs, and achieve higher levels of financial stability. To date, more than 100,000 licenses of ETAP products have been used in generation, transmission, distribution, and industrial power system projects. The company has been powering success for over 30 years and is headquartered in Irvine, California, USA, with offices around the world.

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About Utility Services, Inc.

Utility Services is a service organization specializing in NERC Compliance, Reliability, and Security Programs. Whether it is registration, compliance documents, audits, corrective action plans, NERC Alerts, periodic data submittals/self-Certifications, or understanding standards, you can Rely on US!


Your compliance success is our objective. Our staff works within your organization to maximize the opportunities for achieving a satisfactory result.

Utility Services actively monitors all aspects of the NERC programs and requirements to ensure that you have the complete coverage you need.



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Certrec Corporation

Certrec is a regulatory services and advanced, state-of-art, web-based-solution provider to the NERC regulatory compliance industry.

Certrec has significant expertise. With more than 10 years' experience in the realm of NERC regulatory compliance, we can provide expert assistance in all facets of the regulatory process. Certrec's Office of NERC Compliance staff have helped more than 120 different generating facilities establish and maintain NERC Compliance Programs. Certrec's clients are located in the US and Canada, operating in all NERC Regional Entities.

Certrec has proven experience with clients like Shell WindEnergy, NextEra, LS Power, Leeward Renewable Energy, Exelon, and Entergy, who have trusted our ability to decrease their regulatory, operational, financial, and public opinion risk.

For some of our clients, we design and implement their comprehensive NERC compliance program. For our NERC clients that already have well-established NERC support staff and programs, Certrec services and online applications greatly increase their efficiency and effectiveness. In addition to our staff augmentation and regulatory services, Certrec's advanced, on-line applications include, but are not limited to:

- integrated reference library and information portal (RegSource/Recall® GRC).
- automated RSAW's.
- Certrec Action Tracking with Automated Workflow (CATSWFM).

Certrec is an ISO/IEC 27001:2013 certified provider whose Information Security Management System (ISMS) has received independent, third-party (Schellman) accreditation from the International Standards Organization.

At Certrec, we empower those that power the world!

