

Agenda 2017 Standards and Compliance Workshop

July 11–12, 2017 | Central Time Zone

JW Marriott New Orleans
614 Canal Street
New Orleans, Louisiana

*Note: NERC Staff will try to stay on schedule with each topic; however, if a presentation ends early we will need to move to the next topic.

** TurningPoint: Interactive technology where workshop attendees can participate by answering poll questions through an iPhone or computer

Tuesday, July 11, 2017	Presentation	Speaker(s)
9:00 a.m.–Noon	NERC Standards and Compliance 101	Mat Bunch , NERC Standards Developer Latrice Harkness , NERC Senior Standards Developer Shamai Elstein , NERC Senior Counsel Ryan Mauldin , NERC Compliance Assurance Advisor
Noon–1:00 p.m.	Lunch	
1:00–1:10 p.m.	Welcome and Introductions	Laura Anderson , NERC Standards Developer Ryan Mauldin , NERC Compliance Assurance Advisor
1:10–1:20 p.m.	Keynote Remarks	Howard Gugel , NERC Senior Director of Standards and Education Andrea Koch , NERC Senior Director of Reliability Assurance
1:20–1:30 p.m.	Interactive Demonstration	Laura Anderson , NERC Standards Developer Ryan Stewart , NERC Manager of Registration Services
1:30–2:00 p.m.	Cost Effectiveness and Guidelines and Technical Basis	Steven Noess , NERC Director of Standards Development Soo Jin Kim , NERC Manager of Standards Development
2:00–2:15 p.m.	SBS Enhancements	Chris Larson , NERC Manager of Standards Information
2:15–3:15 p.m.	Break	

Tuesday, July 11, 2017	Presentation	Speaker(s)
3:15–3:45 p.m.	NERC Registration Initiatives	Ryan Stewart , NERC Manager of Registration Services
3:45–4:00 p.m.	Project 2016-03 – Cyber Security Supply Chain Management	Soo Jin Kim , NERC Manager of Standards Development
4:00–4:45 p.m.	Compliance Monitoring update <ul style="list-style-type: none"> • Coordinated Oversight of MRREs • IRAs • Compliance Guidance 	Kim Israelsson , Manager, WECC Compliance Program Coordination and Process Integration Kiel Lyons , NERC Manager, Grid Planning and Operations Assurance
4:45–5:00 p.m.	General Q&A Closing Announcements	Laura Anderson /NERC Standards Developer Latrice Harkness /NERC Senior Standards Developer
5:30-6:30 p.m.	Reception	

Wednesday, July 12, 2017	Presentation	Speaker(s)
7:00–8:00 a.m.	Breakfast	
8:00–8:10 a.m.	Opening Announcements	Laura Anderson , NERC Standards Developer
8:10–8:40 a.m.	CIP v5 <ul style="list-style-type: none"> • Remote Access • Implementation Observations 	Felek Abbas , NERC Senior CIP Compliance Advisor
8:40–9:00 a.m.	CIP-014 Physical Security Update	Felek Abbas , NERC Senior CIP Compliance Advisor
9:00-9:30 a.m.	CIP Modifications Standards Development Update	Sean Cavote , NERC Manager of Standards Development Katherine Street , NERC Senior Standards Developer Mat Bunch , NERC Standards Developer
9:30-9:45 a.m.	Internal Controls <ul style="list-style-type: none"> • Recent Changes to the Guide • Current Expectations 	Ryan Mauldin , NERC Compliance Assurance Advisor
9:45–10:15 a.m.	Break	
10:15–Noon	Panel-Operationalizing Compliance: Internal Controls <ul style="list-style-type: none"> • ERO Enterprise update • Registered Entity lessons learned and experiences 	Ryan Mauldin , NERC Compliance Assurance Advisor Joseph Suich , GE Chief Compliance Officer Kelly Montanaro , GE Energy Financial Services Senior Compliance Officer & Energy Regulatory Leader Terry Bilke , MISO Consulting Advisor and Certification and Compliance Committee member Nicole Mosher , Nova Scotia Power, Inc. Compliance Coordinator Kim Moulton , VTransco Chief Compliance Officer
Noon-1:00 p.m.	Lunch	
1:00–2:30 p.m.	Compliance Exception Discussion Making the Enforcement Process Work for you	Ed Kichline , NERC Senior Counsel and Director of Enforcement Oversight Leigh Faugust , NERC Counsel Patrick O’Connor , ReliabilityFirst Counsel
2:30–2:45 p.m.	Break	

Wednesday, July 12, 2017	Presentation	Speaker(s)
2:45–4:15 p.m.	<p>NERC Standards Development Update</p> <ul style="list-style-type: none"> • RSDP <p>Periodic Reviews</p> <ul style="list-style-type: none"> • Process • Standards Grading • FAC-008-3 • INT-004-3.1, INT-006-4, INT-009-2.1, and INT-010-2.1 • NUC-001-3 <p>IRO-002-5 and TOP-001-4 Implementation</p>	<p>Steven Noess, NERC Director of Standards Development Sean Cavote, NERC Manager of Standards Development Soo Jin Kim, NERC Manager of Standards Development</p>
4:15–4:45 p.m.	<p>NERC Legal Update</p> <ul style="list-style-type: none"> • Rules of Procedure 	<p>Shamai Elstein, NERC Senior Counsel</p>
4:45–5:00 p.m.	<p>General Q&A Closing Announcements</p>	<p>Laura Anderson/NERC Standards Developer Latrice Harkness/NERC Senior Standards Developer</p>

Speaker Bios

NERC Standards and Compliance Workshop
July 11-12, 2017

Felek Abbas (felek.abbas@nerc.net)

Felek joined NERC's CIP Compliance group in Washington, DC in May of 2012. As Senior CIP Compliance Advisor, he provides expert advice on cybersecurity, the electric industry, and the CIP Standards.

Felek has worked in the electric industry for over 20 years in various capacities. Most recently, he managed the energy management system (EMS) (which included SCADA, ICCP, AGC, DTS, State Estimator, Contingency Analysis etc.) for Progress Energy. As part of his role in the management of the EMS, he also worked to adhere to the CIP standards, prepare for audits and function as a subject matter expert during the audits. He was also part of the entity's team working to shape upcoming CIP standards.

Prior to that, Felek worked for Mirant Corporation, an independent power producer. In this capacity, Felek worked across continental United States to aggregate information from newly acquired power plants in support of Mirant's power trading floor.

In addition to this, Felek has worked for Southern Company in various roles including power plant support and EMS/SCADA engineering.

Felek has worked with IT systems supporting domains and their associated infrastructure. He also has experience working with SCADA protocols, RTUs, data archiving, mapboards, video walls and dispatcher training simulators.

Laura Anderson (laura.anderson@nerc.net)

Laura Anderson began her career with NERC in January 2012 in our Atlanta office as a Standards Developer reporting to Laura Hussey; and in 2014 began reporting to Sean Cavote. Since joining NERC, Laura has been the lead Staff Developer for the EOP Five-Year Review Team and for the EOP Standard Drafting Team of Project 2009-03 Emergency Operations, as well as support developer on various drafting and periodic review efforts. Prior to joining NERC, Laura coordinated post-graduate medical education events for the Department of Surgery at Duke University in Durham, North Carolina. The post-graduate medical education events, consisting primarily of bariatric and thoracoscopy surgical techniques, took place in various national venues for world-class surgeons in the field of laparoscopic surgery. Her experience prior to Duke University was in the legal field, where she produced official records for state and federal courts for twelve years.

Terry Bilke (TBilke@misoenergy.org)

Terry Bilke is a Consulting Advisor at Midcontinent Independent System Operator (MISO). His primary job is to support MISO staff on issues related to NERC standards and compliance. Terry is a member and former chair of the NERC Compliance and Certification Committee (CCC). He has over 40 years of power system operations and maintenance experience, 16 years of this as a transmission and balancing authority operator.

Mat Bunch (mat.bunch@nerc.net)

Prior to joining NERC in 2015, Mat worked as a contractor for Midcontinent Independent System Operator (MISO) where he was responsible for developing internal controls and implementing stronger fiscal oversight procedures for the Legal and Compliance Services Division. He has seven years of experience at law firms and entities specializing in governmental and regulatory litigation and holds a bachelor's of science degree in public policy from the Indiana University School for Public and Environmental Affairs.

Sean Cavote (sean.cavote@nerc.net)

Sean Cavote joined NERC on January 28, 2013. Prior to NERC, Mr. Cavote was with NiSource in Indianapolis, Indiana where he was a senior FERC attorney. His prior experience was with Van Ness Feldman in Washington, D.C. as an associate energy attorney, and with United Dynamics in Louisville, Kentucky as a power generation consultant.

Mr. Cavote graduated from the University of Louisville with a BA in Political Science and later earned a Juris Doctor from the George Washington University Law School.

Shamai Elstein (shamai.elstein@nerc.net)

Shamai Elstein is a Senior Counsel at NERC. Prior to joining NERC, Shamai was an associate attorney with the law firms of Bracewell & Giuliani LLP and Dewey & LeBoeuf LLP in Washington, DC. He graduated from the Georgetown University Law Center in 2006 and has a Bachelor of Arts from Rutgers University.

Howard Gugel (howard.gugel@nerc.net)

Howard Gugel is the director of Standards for the North American Electric Reliability Corporation (NERC). In this role he is responsible for directing all aspects of NERC's continent-wide standards development process by providing oversight, guidance, and coordination of the timely development of technically excellent reliability standards to ensure an adequate level of reliability of the bulk power system. Prior to this he was the director of Performance Analysis for NERC. His primary responsibility in that role was the development, maintenance, and analysis of reliability performance metrics, including those in NERC's annual State of Reliability Report. This includes analysis of various databases of transmission and generations outages to look for statistically significant trends. Prior to joining NERC, he was with Progress Energy Florida in the roles of transmission area maintenance manager and

transmission planning manager. His background also includes management experience in transmission operations and energy marketing.

Howard received his BSEE and MSEE from the University of Missouri – Rolla, and is a licensed Professional Engineer in the state of Missouri.

Latrice Harkness (latrice.harkness@nerc.net)

Latrice Harkness joined the North American Electric Reliability Corporation in 2014. Latrice has over 15 years of experience working in the electric utility industry. At NERC she has worked as an Engineer of Registration and Certification and is currently working as a Senior Standards Developer.

Prior to joining NERC, Latrice worked as a Transmission Analyst in Project Management at Georgia Power. She also has experience as a Security Engineer conducting short-term and long-term load flow studies for the bulk power system in Georgia and distribution engineering. In addition, she has experience working on GE Harris/XA21 and Siemens Energy Management Systems maintaining displays and databases.

Latrice has a Bachelor's degree in Civil Engineering from the Georgia Institute of Technology and a Master of Science in Management in Leadership and Organizational Effectiveness from Troy State University.

Kim Israelsson (kisraelsson@wecc.biz)

Kim Israelsson joined the Western Electricity Coordinating Council (WECC) in January 2009. She has 20+ years of professional experience and has held several roles within WECC, specifically, as a Lead Data Analyst in Business Services. She helped design and implement policies and procedures to meet requirements of the Compliance Monitoring and Enforcement Program (CMEP). Prior to joining WECC, she worked in various management roles and was responsible for data analysis, and dispute resolution.

Ed Kichline (ed.kichline@nerc.net)

Ed Kichline is Senior Counsel and Director of Enforcement Oversight in NERC's Washington, DC office. Ed's team focuses on implementation of the risk-based Compliance Monitoring and Enforcement Program through the review of noncompliance and oversight of the Regional Entities' enforcement activities. Prior to joining NERC in November of 2010, Ed was Senior Counsel at National Grid in the Federal Regulatory group, focusing on federal policy and reliability matters. Ed graduated from Georgetown University Law Center in 1996 and started in the energy field in 1999 while at Hunton & Williams.

Soo Jin Kim (soo.jin.kim@nerc.net)

Soo Jin Kim began at NERC on December 19, 2012. Prior to joining NERC, Soo Jin was an Associate at Troutman Sanders LLP in Washington, DC in their Federal Regulation of Electricity and Gas Practice Group. At Troutman Sanders, Soo Jin worked on a variety of Federal Energy Regulatory Commission

compliance 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.

Andrea Koch (andrea.koch@nerc.net)

Andrea Koch is the Senior Director of Reliability Assurance at the North American Electric Reliability Corporation. Joining NERC in January 2015, Ms. Koch is responsible for leading the ERO Enterprise Compliance Oversight and Monitoring program, including implementation of an effective risk-based model, identifying risks associated with bulk power system planning, operations, and cyber and physical security as well as risk mitigation support. Ms. Koch was also the Senior Director of ERO Enterprise Operations and Strategic Planning where she was responsible for providing strategic vision, planning, leadership and direction for the development of the electric reliability organization's collaboration and oversight model, developing the enterprise's metrics, as well as managing a team responsible for NERC's Member Representative Committee and Reliability Issues Steering Committee.

Prior to joining NERC, Ms. Koch was the director of Compliance and Analytics at SERC Reliability Corporation. She was a member of the senior management team and was responsible for the development and implementation of SERC's strategic vision and business plan. In addition, Ms. Koch led and directed the implementation of SERC's compliance monitoring program, registration and certification, entity risk assessments, internal controls evaluations and compliance assessments. She also served as the liaison to the SERC Board Compliance Committee, charged with achieving high performance and developing future state processes impacting SERC's compliance responsibilities and resources.

Ms. Koch was also the director of Enforcement at SERC, where she led the implementation of SERC's Compliance Monitoring and Enforcement Program, including the disposition of violations of NERC Standards, settlement negotiations, and the review, approval, and closure of mitigation plans.

Ms. Koch began her career at Duke Energy in the Nuclear Generation Office, where she performed reviews on engineering calculations to support plant operations for three nuclear plants.

Ms. Koch earned a Bachelor of Science degree in Electrical and Computer Engineering from the University of South Carolina and an Executive Leadership Certificate from Duke University's Fuqua School of Business.

Chris Larson (chris.larson@nerc.net)

Chris Larson is the Manager of Standards Information at NERC, and joined NERC in July 2015 as the Manager of Compliance Risk Analysis. Chris also serves as the Standards Committee Secretary. Previously, Chris worked as a Project Manager for Target Corporation implementing automated distribution systems. Chris served in the US Navy for eight years as a submarine officer. In his spare time, Chris enjoys volunteering as Executive Director of Free Bikes 4 Kidz in Atlanta. He holds a

Bachelor of Science in Systems Engineering from the US Naval Academy, and a Master of Science in Nuclear Engineering from Massachusetts Institute of Technology.

Kiel Lyons (kiel.lyons@nerc.net)

Kiel previously worked for the Federal Energy Regulatory Commission (FERC) in Hagerstown, MD as an Electrical Engineer working in the Division of Compliance for six years. Kiel has his Bachelors of Science in Electrical Engineering from Geneva College.

Ryan Mauldin (ryan.mauldin@nerc.net)

Ryan Mauldin is a Compliance Assurance Advisor with the NERC Compliance Assurance group. In this position, Ryan is responsible for performing Regional Entity reviews to obtain assurance that the Regional Entity is effectively implementing risk-based CMEP activities and is in compliance with the NERC Rules of Procedure (RoP).

Ryan returned to NERC as a Compliance Assurance Advisor in June 2015. The previous year Ryan had been a senior project manager at GDS Associates, Inc. where he assisted registered entities by performing mock audits and by assisting in development and improvement of their procedures. Prior to joining GDS, he served as a senior registration and certification engineer at NERC and also served as a NERC Compliance Auditor. Before joining NERC, Ryan was a protection and control engineer at MEAG Power. Ryan is NERC Certified as a Reliability Coordinator Operator, holds a Master of Science in Electrical Engineering from the University of Nevada, Las Vegas and a Bachelor of Science in Electrical Engineering from the University of Oklahoma.

Kelly Montanaro (kelly.montanaro@ge.com)

In her current role as Senior Compliance Officer & Energy Regulatory Leader at GE Energy Financial Services (EFS) Kelly is responsible for conducting Compliance Due Diligence for commercial energy finance transactions throughout each phase of the deal life-cycle. She provides strategic input for EFS Compliance projects supporting an effective and risk-based compliance program and manages the EFS energy regulatory compliance program meeting the standards and requirements of FERC, NERC and their international counterparts.

Prior to her current role Kelly was the GE Capital Regional Anti-Bribery & Anti-Corruption (ABAC) Compliance Leader for the Americas, where she co-led the development of the ABAC risk management framework to ensure it met US and UK legislative and regulatory requirements. She implemented the GE Capital ABAC policy, framework and controls. She also developed and implemented a centralized ABAC monitoring program. Kelly has also held positions at GE Capital International Working Capital Solutions (WCS) and GE Capital Aviation Services (GECAS). While at WCS she was the Deputy Head of Compliance & Business Compliance Leader and at GECAS she was the Compliance & Supervisory Relations Manager. In these positions, she was responsible for managing the Compliance oversight of a number of key Compliance initiatives.

Kelly holds an undergraduate degree in Business Management from Quinnipiac University and an Executive MBA from the University of Connecticut.

Nicole Mosher (nicole.mosher@nspower.ca)

Nicole Mosher, Compliance Coordinator with Nova Scotia Power. Nicole has been employed with Nova Scotia Power since 1999 and has been in her current role as Compliance Coordinator since 2015. Nicole oversees the Operations and Planning (Non-CIP) NERC Compliance, including Internal Control Evaluations, chair of NSPI Document Control, conducting Internal Quality Assurance Audits and continues to lead subject matter experts with our positive track record to maintaining our Culture of Compliance.

Nicole's past experience within Nova Scotia Power includes a position within the Information Technology Department in which she led a number of projects including; preparation for Year 2000 in conjunction with IBM; Network Replacement Project; Troubleshooting and training of Lotus Notes and rollout to entire company; Nicole held a position within Customer Service working with Government Relations, Acting Customer Service Manager for Central Region (Distribution), Customer Service Analyst included reporting on Customer Experience, and Quality Assurance working in conjunction with Halifax Municipality on graffiti Task Force, Utility and Review Board, and Dispute Resolution Officer. In 2014 I moved onto the Field Services project, working with Powerline Technicians across the province on Advanced Distribution Management System (ADMS) and Field Mobility Tablets. This position included training of powerline technicians, creating assessment forms and work orders within the Field Mobility Tablets. In 2015 Nicole accepted a position within Control Centre Operations as the Training Coordinator for System Operators.

Nicole holds certificates in Project Management, Leadership for Managers, and Systematic Approach to Training. Nicole has been on a number of Boards, and in 2014 has been nominated for the NSPI award for merit for her performance in Outstanding Safety Team, Customer Service Excellence in Residential and Commercial, and Community Involvement. Nicole also achieved the Board of Directors Customer Service Excellence Award in 2014. In 2015 Nicole was awarded with the Customer Service Excellence in Residential and in 2016 was nominated for an Innovation award.

Kim Moulton (KMoulton@velco.com)

Kim Moulton is the Chief Compliance Officer at Vermont Electric Power Company located in Rutland, Vermont. Kim is responsible for the oversight of the corporate compliance program, provides leadership in shaping the vision and direction of the program, its structure, and its continued cultural evolution. Through her leadership and innovative thinking Kim has worked to create an approach to compliance that encourages transparency, collaboration, efficiency, and inclusion.

With a passion for transforming the industry's approach and perception of compliance Kim is currently focused on moving the beliefs many companies have around compliance being a chore to one that embraces it as an opportunity, a challenge to be better, and a source for continuous improvement.

Kim's approach cultivates a culture that consists of transparent communications, is strategically aligned with corporate goals, is agile and innovative in meeting obligations, and is driven through cross-functional coordination and communications in an effort to align the company's compliance obligations with its primary responsibilities of providing a safe, secure and reliable electric grid. With a goal of making compliance part of the company's day-to-day work Kim's approach emphasizes offering leadership opportunities at all levels, minimizing resource impacts, streamlining work through the enhancement of controls and processes, sharing the work across multiple functional areas, and through challenging the status quo. Kim fosters an approach of asking "How will our company benefit from this obligation? What are the opportunities and/or best practices that should be embraced in an effort to continuously evolve and improve our company?"

Kim has over thirty years of experience in the electric industry, holds a Master's Degree in Administration, Bachelor's Degree in Electrical Engineering, Associate's Degree in Electronic Engineering, and is a graduate of the Vermont Leadership Institute.

Steven Noess (steven.noess@nerc.net)

Director of Standards Development, North American Electric Reliability Corporation (NERC)

Steven Noess is Director of Standards Development at the North American Electric Reliability Corporation (NERC) in Atlanta, GA. Previously, he was Director of Compliance Assurance and Associate Director of Standards Development. Prior to NERC, Steven was an attorney at the Minnesota Legislature, where he advised legislative members and coordinated rulemaking with executive branch agencies. Before becoming an attorney, Steven was an officer in the United States Army, serving in Germany and Iraq in communications and intelligence units. From 2003 to 2004, he deployed to Iraq and was awarded the Bronze Star Medal during combat operations. Steven has a bachelor's of science degree in International Relations and Systems Engineering from the U.S. Military Academy, West Point, NY. He received his law degree from the University of Minnesota Law School, and he is licensed to practice law in Minnesota.

Ryan Stewart (ryan.stewart@nerc.net)

Ryan Stewart currently serves as Manager of Registration Services. Ryan joined the North American Electric Reliability Corporation in July 2010. Ryan served as a standards developer on the CIP Version 5 Revisions and the MOD A project covering available transfer capability, total transfer capability, capacity benefit margin, and transmission reliability margin. Prior to joining Standards, Ryan supported NERC's Organization Registration, Certification, and Compliance Monitoring in the Compliance Operations group as an engineer. Ryan was directly responsible for developing Compliance Analysis Reports (CARs) as well as various industry compliance and non-compliance metrics.

In addition, Ryan was actively involved in the development and presentation of ERO Auditor Training Workshops and Webinars, and Compliance Workshops for the industry. He also provided direct NERC staff support to the NERC Board of Trustees standing Compliance and Certification Committee (CCC) and

Standards Committee (SC). Ryan initiated and implemented NERC's first Internship Program during the summer of 2011.

Ryan was a student intern at NERC while attending the George Washington University, where he majored in Systems Engineering and minored in Computer Science and Economics.

Katherine Street (katherine.street@nerc.net)

Katherine Street is a Senior Standards Developer at the North American Electric Reliability Corporation (NERC) in Atlanta, GA. Prior to NERC, Katherine attended, and graduated from, the University of North Carolina (UNC) School of Law. While a student at UNC, she worked as a Legal Extern in the Criminal Division of the U.S. Attorney's Office for the Eastern District of North Carolina and as a Summer Associate for Kilpatrick Townsend & Stockton LLP, Thomas|Horstemeyer LLP, and Withrow & Terranova PLLC. Before pursuing her Juris Doctor degree, Katherine worked as the Operations Manager of the North Carolina Eastern Municipal Power Agency for Electricities of North Carolina, and as a Distribution Design Engineer for the Reliability and Power Quality Department of Memphis Light, Gas and Water Division in Memphis, Tennessee. Katherine earned her Bachelor of Science degree in Electrical Engineering from the University of Memphis while working in the Facilities Engineering and Security departments with UPS in Memphis, Tennessee after serving in the US Marine Corps for several years as an Avionics Instructor and Technician.

Joseph Suich (joseph.suich@ge.com)

Joseph Suich serves as global Chief Compliance Officer & Counsel for GE Power, General Electric's largest industrial division with over 55,000 employees in more than 100 countries. He leads a GE Power compliance team of 30 people that facilitates compliance and integrity for Power's operations, serving over 2000 private, state-owned and government customers.

Prior to his current role, Joseph served as Chief Compliance Officer & Counsel for GE Power & Water (Prague, CZ), General Counsel & Chief Compliance Officer for GE Power & Water in Eastern Europe, Russia and CIS (Moscow, RF), Chief Compliance Officer for GE Energy in Central & Eastern Europe, Russia and CIS (Moscow, RF) and Senior Counsel at GE's CEP group (CT, USA). Prior to GE, Joseph worked as the law firm of LeBoeuf Lamb in New York, USA.

He holds bachelor and graduate degrees from the University of Connecticut (USA) and a law degree from Vermont Law School (USA).

Acronyms and Initialisms

NERC Standards and Compliance Workshop

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Acronym	Stands for:
AC	Alternating Current
ACE	Area Control Error
ADI	ACE Diversity Interchange
AFC	Available Flowgate Capability
AFN	Abnormal Frequency Notification
ATC	Available Transfer Capability
ATF	After the Fact
AGC	Automatic Generation Control
AIE	Area Interchange Error
ALM	Active Load Management
ALR	Adequate Level of Reliability
AML	Actively Monitored List
AMR	Automatic Meter Reading
ANSI	American National Standards Institute
APX	Automatic Power Exchange
ARS	Automatic Reserve Sharing
ATC	Available Transmission Capacity
ATEC	Automatic Time Error Correction
AVR	Automatic Voltage Regulator
BA	Balancing Authority
BAL	Resource and Demand Balancing (Standards Family)
BAAL	Balancing Authority ACE Limit
BES	Bulk Electric System
BOT	Board of Trustees
BOTCC	Board of Trustees Compliance Committee
BPS	Bulk Power System
CA	Control Area or Critical Asset
CAN	Compliance Application Notice
CAP	Corrective Action Process
CB	Circuit Breaker
CBM	Capacity Benefits Margin
CCA	Critical Cyber Asset
CCC	Compliance and Certification Committee
CCP	Critical Constrained Path

CCVT	Capacitor-coupled voltage transducer
CEAP	Cost Effective Analysis Process
CEH	Continuing Education Hour
CEI	Compliance Enforcement Initiative
CETL	Capacity Emergency Transfer Limit
CF	Coordinated Flowgates
CIP	Critical Infrastructure Protection (Standards Family)
CIPC	Critical Infrastructure Protection Committee
CM	Congestion Management
CMEP	Compliance Monitoring and Enforcement Program
COM	Communications (Standards Family)
COO	Continuity of Operations
CPS	Control Performance Standard
CT	Current Transformer
CUG	Compliance User(s) Group
CVI	Compliance Violation Investigation
CVT	Capacitive Voltage Transformer
DADS	Future Demand Availability Data System
DAM	Day Ahead Market
DB	Data Base
DCA	Designated Congestion Areas
DCLM	Direct Control Load Management
DCS	Disturbance Control Standard
DF	Distribution Factor
DFR	Digital Fault Recorder
DHS	Department of Homeland Security
DME	Disturbance Monitoring Equipment
DP	Distribution Provider
DSM	Demand Side Management
DTS	Dispatcher Training Simulator
EA	Event Analysis
EAIE	Event Analysis and Information Exchange
EDT	Eastern Daylight Time
EI	Edison Electric Institute
EHV	Extra High Voltage
EMP	Electromagnetic Pulse
EMS	Energy Management System
EOP	Emergency Preparedness and Operations (Standards Family)
EPRI	Electric Power Research Institute
ERO	Electric Reliability Organization

ES-ISAC	Electricity Sector Information Sharing and Analysis Center
ESP	Electronic Security Perimeter
ETC	Existing Transmission Commitments
ETIN	Electronic Transmission Information Network
FAC	Facilities Design, Connections, and Maintenance (Standards Family)
FAT	Factory Acceptance Test
FBA	Flow-Based Analysis
FCITC	First Contingency Incremental Transfer Capability
FCL	Fault Current Limiter
FCTTC	First Contingency Total Transfer Capability
FDR	Frequency Data Recorder
FEMA	Federal Emergency Management Administration
FERC	Federal Energy Regulatory Commission
FFT	Find, Fix and Track (sometimes FFTR for Find, Fix, Track and Report)
FM	Functional Model
FOH	Forced Outage Hours
FOIA	Freedom of Information Act
FPA	Federal Power Act
FRCC	Florida Reliability Coordinating Council (Regional Entity)
GADS	Generation Availability Data System
GCIR	Generation Capability Import Requirement
GLDF	Generator-to-Load Distribution Factor
GMD	Geomagnetic Disturbance
GMD	Geometric Mean Distance
GO	Generator Owner
GOL	Generator Operator Limit
GOP	Generator Operator
GSF	Generator Shift Factor
GSU	Generator Step-up Transformer
GTDF	Generation Transfer Distribution Factor
GUI	Graphical User Interface
GWh	Gigawatt Hours
HCA	Host Control Area
HEMP	High-Altitude Electromagnetic Pulse
HI	Hourly Interruptible
HILF	High-Impact, Low-Frequency
HVDC	High Voltage Direct Current
Hz	Hertz

IA	Interchange Authority
IAIP	Information Analysis and Infrastructure Protection
IBM	International Business Machines
ICCP	Inter-Control Center Protocol
ICP	Internal Compliance Program
IDC	Interchange Distribution Calculator
IDF	Interchange Distribution Factor
IEEE	Institute of Electrical and Electronics Engineers
IESO	Independent Electricity System Operator
IMM	Independent Market Monitor
INPO	Institute of Nuclear Power Operations
INT	Interchange Scheduling and Coordination (Standards Family)
IOS	Interconnection Operations Services
IOU	Investor Owned Utility
IP	Internet Protocol
IPP	Independent Power Producer
IPX	Independent Power Exchange
IRL	Interconnection Reliability Limit
IRO	Interconnection Reliability Operations and Coordination (Standards Family)
IROL	Interconnection Reliability Operating Limit
IRP	Integrated Resource Plan
ISAC	Information Sharing and Advisory Center
ISC	Independent Security Center
ISO	Independent System Operator
JOA	Joint Operating Agreement
JTSIN	Joint Transmission System Information Network
KRSSC	Key Reliability Standards Spot Check
kV	kilovolts
LCO	Limited Condition of Operation
LDC	Local Distribution Company
LIFO	Last In – First Out
LMP	Local Marginal Pricing
LOOP	Loss of Off-site Power
LOP	Loss of Potential
LSE	Load-Serving Entity
LSF	Load Shift Factor
LTC	Load Tap Changer
LTRA	Long Term Reliability Assessment

MM	Market Monitor
MOD	Modeling, Data, and Analysis (Standards Family)
MP	Market Participants
MRC	Member Representatives Committee
MRO	Midwest Reliability Organization (Regional Entity)
MTU	Master Terminal Unit
MUST	Maximizing Utility System Transfer
MVA	MegaVoltAmperes
MVAR	Megavar
MW	Megawatts
MWh	Megawatt hours
MVCD	Minimum Vegetation Clearance Distances
NAESB	North American Energy Standards Board
NCF	Net Capacity Factor
NCR	NERC Compliance Registry
NCSD	National Cyber Security Division
NDA	Non-Disclosure Agreement
NEAT	NERC Event Analysis Tool
NEB	National Energy Board (Canada)
NEM	National Electricity Market
NEPA	National Energy Policy Act of 1992
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NHC	National Hurricane Center
NIAC	National Infrastructure Advisory Council
NIPC	National Infrastructure Protection Center
NIPP	National Infrastructure Protection Plan
NNL	Native and Network Load
NOP	Notice of Penalty
NOPR	Notice of Proposed Rulemaking
Nox	Nitrous Oxides
NPCC	Northeast Power Coordinating Council (Regional Entity)
NPIR	Nuclear Plant Interface Requirements
NRC	Nuclear Regulatory Commission
NRECA	National Rural Electric Cooperative Association
NREL	National Renewable Energy Laboratory
NUC	Nuclear (Standards Family)
NUG	Non-Utility Generator
OAG	Open Access Gateway
OASIS	Open Access Same Time Information System

OATT	Open Access Transmission Tariff
OC	Operating Committee
OL	Operating Limit
OP	Operating Procedures
OPF	Optimal Power Flow
OSL	Operating Security Limit
OTC	Operating Transfer Capability
OTDF	Outage Transfer Distribution Factor
PA	Planning Authority
PC	Planning Committee or Planning Coordinator
PCB	Power Circuit Breaker
PER	Personnel Performance, Training, and Qualifications (Standards Family)
PLC	Programmable Logic Controller
POD	Point of Delivery
POR	Point of Receipt
POTT	Permissive Overreach Transfer Trip
PRC	Protection and Control (Standards Family)
PSC	Public Service Commission
PSDR	Power System Data Recorder
PSE	Purchasing-Selling Entity
PSM	Power System Measurements
PSP	Physical Security Perimeter
PSS	Power System Stabilizer
PSS/E	Power System Simulator/Electric
PT	Potential Transformer
PTDF	Power Transfer Distribution Factor
PTP	Point to Point Transmission Service
PU	Per Unit
PUC	Public Utilities Commission
PUHCA	Public Utilities Holding Company Act
PURPA	Public Utilities Regulator Policy Act
PV	Potential Violation
PX	Power Exchange
QF	Qualified Facility
RA	Reliability Authority
RAI	Reliability Assurance Initiative
RAPA	Reliability Assessment and Performance Analysis
RAS	Remedial Action Scheme
RBAM	Risk-Based Assessment Methodology

RBB	Registered Ballot Body
RBS	Results-Based Standards
RC	Reliability Coordinator
RCIS	Reliability Coordinator Information System
RE	Regional Entity
RFC	Reliability <i>First</i> Organization (Regional Entity)
RFI	Request for Interchange
RFP	Request for Proposal
RISC	Reliability Issues Steering Committee
RMS	Root Mean Square
ROP	Rules of Procedure
ROW	Right-of-Way
RP	Resource Planner
RPM	Revolutions per Minute
RSAW	Reliability Standards Audit Worksheets
RSDP	Reliability Standards Development Plan
RSG	Reserve Sharing Group
RTCA	Real-Time Contingency Analysis
RTU	Remote Terminal Unit
SAFFNR	Situational Awareness for FERC, NERC, and the Regions
SAR	Standard Authorization Request
SC	Standards Committee
SCADA	Supervisory Control and Data Acquisition
SDT	Standard Drafting Team
SDX	System Data Exchange
SE	State Estimator
SERC	SERC Reliability Corporation (Regional Entity)
SMD	Solar Magnetic Disturbance
SME	Subject Matter Expert
SOL	System Operating Limits
SOTC	Standards Oversight and Technology Committee
SPIG	Standards Process Input Group
SPM	Standard Processes Manual
SPOC	Single Point of Contact
SPP	Southwest Power Pool RE (Regional Entity)
SPS	Special Protection Systems / Schemes
SRI	System Risk Index
SSVT	Station Services voltage transformer
STDB	Spare Transformer Database
SVC	Static Var Compensator

TA	Transmission Administrator
TADS	Transmission Availability Data System
TFC	Total Flowgate Capability
TDF	Transfer Distribution Factor
TFE	Technical Feasibility Exception
TLR	Transmission Loading Relief
TO	Transmission Owner
TOP	Transmission Operator or Transmission Operations (Standards Family)
TP	Transmission Planner or Transmission Provider
TPF	Transaction Participation Factor
TPL	Transmission Planning (Standards Family)
TRE	Texas Reliability Entity (Regional Entity)
TRM	Transmission Reliability Margin
TSIN	Transmission System Information Network
TSP	Transmission Service Provider
TSR	Transmission Service Reservation
TTC	Total Transfer Capability
TWh	Terawatt hour (trillion watts hours)
UFLS	Under-Frequency Load Shedding
URC	Utilities Regulatory Commission
UVLS	Under Voltage Load Shedding
VAR	Voltage and Reactive (Standards Family)
VPN	Virtual Private Network
VRF	Violation Risk Factor
VSA	Voltage and Stability Analysis
VSL	Violation Severity Level
WACS	Wide-Area Control System
WECC	Western Electricity Coordinating Council (Regional Entity)

****If you think of an acronym or initialism that should be added to this list, email laura.anderson@nerc.net****



SUMMARY

Updated: 6/13/2017

Nom-SAR/DT
QR
Posting-SAR or PR
Posting-Comment Only
Posting Comment & Ballot
Final Ballot
Present to BOT
Filing / Post Approval Train

[Tutorial Video \(11 min\)](#)

[Click here to report technical issues](#)

[Baseline/](#)

DO NOT SORT (Filtering Ok)

Early/(Late)

[Current](#)

[HOME](#)

Project (Filter)

Deliverables (Filter)

Days (Filter)

(Filter)

				2017												2018			
				May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun		
2013-03 - Geomagnetic Disturbance Mitigation	TPL-007-2	Current																	
2015-09 - Establish and Communicate System C	FAC-010-3, FAC-011-3, and FAC	(330) Current																	
2015-10 - Single Points of Failure TPL-001	TPL-001	(31) Current																	
2016-02 - Modifications to CIP Standards	Directives, Control Center Com	(77) Current																	
2016-02 - Modifications to CIP Standards	V5TAG issues: Cyber Asset and	(107) Current																	
2016-EPR-01 - Enhanced Periodic Review of Pe	PER-003-1 and PER-004-2	Current																	
2016-EPR-02 - Enhanced Periodic Review of Vo	VAR-001-4.1 & VAR-002-4	Current																	
2016-03 - Cyber Security Supply Chain Manage	New and revised Standard(s)	(16) Current																	
2016-04 - Modifications to PRC-025-1	PRC-025-2	Proposed																	

Projected Posting Schedule

Below is a schedule of upcoming postings so you have the opportunity to schedule time with appropriate subject matter experts in your organizations to review these standards and ensure that balloters will be available during the ballot windows or have assigned proxies. The projected schedule is subject to change. For a high-level view of the planned schedule for all active projects, including information regarding the number of paragraph 81 requirements, directives, and guidances, please see the Project Tracking Spreadsheet on the [Standards page](#).

Week of July 3:

- 10-day final ballot
 - Project 2016-03 Cyber Security Supply Chain Risk Management (CIP-013-1, CIP-005-6, and CIP-010-3)

Week of July 10: None

Week of July 17: (**Pending SC Authorization July 19*)

- 45-day comment period and initial ballot*
 - Project 2016-04 Modifications to PRC-025-1

Week of July 24: None

Week of July 31: None

Week of August 7: None

**Please note that the dates in the chart below are estimates and are subject to change.

	7/3	7/10	7/17	7/24	7/31	8/7	Closing Date
Cost Effectiveness Pilot							
2017 Periodic Review Standing Review Team – Standards Grading					8/2		
2013-03 Geomagnetic Disturbance Mitigation TPL-007-2						8/11	
2015-09 System Operating Limits FAC-010							
2015-09 System Operating Limits FAC-011							
2015-09 System Operating Limits FAC-014							
2015-10 Single Points of Failure TPL-001							
2016-02 Modifications to CIP Standards							
2016-03 Cyber Security Supply Chain Risk Management CIP-005-6							
2016-03 Cyber Security Supply Chain Risk Management CIP-010-3							
2016-03 Cyber Security Supply Chain Risk Management CIP-013-1							
2016-04 Modifications to PRC-025-1							
2016-EPR-02 – Enhanced Periodic Review of Voltage and Reactive Standards VAR-001 and VAR-002							
2017-01 Modifications to BAL-003-1.1	7/3						
2017-01 Modifications to BAL-003-1.1			7/18				
2017-02 – Modifications to Personnel Performance, Training, and Qualifications Standards PER-003-1				7/24			
2017-02 – Modifications to Personnel Performance, Training, and Qualifications Standards PER-004-2				7/24			
Project 2017-03 FAC-008 Periodic Review							
Project 2017-04 Periodic Review of Interchange Scheduling and Coordination Standards INT-004, INT-006, INT-009, and INT-010 Periodic Review							
Project 2017-05 NUC-001-3 Periodic Review							
Project 2017-06 Modifications to BAL-002-2			7/20				
Project 2017-06 Modifications to BAL-002-2	7/3						
Reliability Standards Development Plan				7/26			
Revisions to the NERC Standard Processes Manual							

	Informal comment period
	Formal comment period
	Nomination solicitation
	30-day comment period
	45-day comment period and ballot/additional ballot
	Final ballot

Weekly Standards & Compliance Bulletin

July 3–9, 2017

ACTIVE STANDARDS POSTINGS

Current and Upcoming Ballots (ballot periods close at 8:00 p.m. Eastern)

Project	Action	Start Date	End Date
NEW Project 2013-03 – Geomagnetic Disturbance Mitigation TPL-007-2	Initial Ballot and Non-binding Poll	08/02/17	08/11/17

Join Ballot Pools (ballot pool windows close at 8:00 p.m. Eastern)

Project	Action	Start Date	End Date
NEW Project 2013-03 – Geomagnetic Disturbance Mitigation TPL-007-2	Join Ballot Pools	06/28/17	07/27/17

Posted for Comment (comment periods close at 8:00 p.m. Eastern)

Project	Action	Start Date	End Date
Project 2017-01 – Modifications to BAL-003-1.1 Standard Authorization Request	Comment Period	06/19/17	07/18/17
Project 2017-06 – Modifications to BAL-002-2 Standard Authorization Request	Comment Period	06/20/17	07/20/17
Project 2017-02 – Modifications to PER Standards Standard Authorization Request	Comment Period	06/21/17	07/24/17
2017 Periodic Review Standing Review Team Standards Grading	Comment Period	06/19/17	08/02/17
NEW Project 2013-03 – Geomagnetic Disturbance Mitigation TPL-007-2	Comment Period	06/28/17	08/11/17

OTHER ACTIVE COMMENT PERIODS

Posted for Comment			
Posting	Action	Start Date	End Date
<p>Request for Comments on Developing Load Model Composition Data Draft Reliability Guideline: The draft Reliability Guideline on Developing Load Model Composition Data is intended to provide Transmission Planners and Transmission Owners with technical guidelines and reference material for developing reasonable and suitable load composition data for dynamic load models used in stability simulations. This guideline focuses primarily on the load composition aspect of dynamic load modeling, and also describes some aspects of dynamic load modeling such as motor performance, protection modeling, and performing sensitivity studies. The guideline provides insights and examples of how to develop load model composition data from various data sources, classify that data, and convert that information into load model parameter values.</p>	<p>Submit comments to reliabilityguidelinecomments@nerc.net using the comment matrix.</p>	05/22/17	07/07/17
<p>Request for Comments on Forced Oscillation Monitoring and Mitigation Draft Reliability Guideline: The draft Reliability Guideline on Forced Oscillation Monitoring and Mitigation is intended to provide guidance and awareness for identifying and mitigating forced oscillations on the bulk power system. The guideline describes the fundamental behavior of forced oscillations and how they differ from natural system oscillations such as local, inter-area, intra-plant, or torsional oscillations. It also highlights the use of synchronized measurement data from phasor measurement units and other dynamic disturbance recorders for oscillation monitoring and analysis. A framework for identifying and characterizing forced oscillations as</p>	<p>Submit comments to reliabilityguidelinecomments@nerc.net using the comment matrix.</p>	05/22/17	07/07/17

<p>well as determining the source of these oscillations is provided. Recommended practices and mitigation strategies are included to provide system operators and operations engineers with useful and actionable information for dealing with forced oscillation that could have an adverse impact on reliable operation of the BPS. The appendices provide a list of currently operational forced oscillation applications as well as a library of actual forced oscillation events that have occurred across the North American interconnections.</p>			
<p>Comment Period Open for Regional Reliability Standard PRC-006-SERC-02: The SERC Reliability Corporation has requested NERC post Regional Reliability Standard PRC-006-SERC-02 – Automatic Underfrequency Load Shedding Requirements for industry review and comment as permitted by the NERC Rules of Procedure.</p> <p>The SERC Dynamics Review Subcommittee members drafted PRC-006-SERC-02 for the standard’s periodic five-year review, which passed final SERC Regional ballot on May 10, 2017 with a 100 percent affirmative vote. The five-year review resulted in the following modifications to the Regional Reliability Standard:</p> <ul style="list-style-type: none"> • Removal of the term ‘distribution’ from Requirements R4.1 and R5.1 to prevent the misinterpretation that only distribution load can be used for a UFLS scheme; • Addition of Requirements 2.1, 4.1 and 5.1, which add flexibility for the Planning Coordinator to choose the peak season (summer or winter) on which to base the UFLS plan. PRC-006-SERC-01 specifies using the previous year actual peak demand. The revision allows the Planning Coordinator to consider 	<p>Submit comments using the electronic form.</p>	<p>06/09/17</p>	<p>07/24/17</p>

<p>seasonal reliability concerns when specifying the peak on which to base the UFLS plan;</p> <ul style="list-style-type: none"> • Additional changes to the peak season selected in R2.1 to the list of items that are mentioned in R6 that allow an 18 month implementation. Changing the peak season that the UFLS plan is based on may require additional UFLS relays to be installed, thus may require more time to implement the plan. <p>Although the technical aspects of this Regional Reliability Standard have been vetted through SERC’s Regional Standards development process, the final approval process for a Regional Reliability Standard requires NERC publicly to notice and request comment on the criteria outlined in the comment form. Documents and information about this project are available on the SERC’s Standards Under Development page.</p>			
<p>NEW Comment Period Open for Draft 2018–2020 Reliability Standards Development Plan: A 30-day comment period for the draft 2018–2020 Reliability Standards Development Plan (RSDP) is now open. NERC will consider all industry comments received during this posting in developing the next version of the RSDP. The revised RSDP draft will be presented to the Standards Committee for endorsement. For more information on the Standards Development Process, refer to the Standard Processes Manual.</p>	<p>Submit comments using the electronic form.</p>	<p>06/26/18</p>	<p>07/25/17</p>
<p>Comment Period Open for Distributed Energy Resource Modeling Draft Reliability Guideline: The draft Reliability Guideline on Distributed Energy Resource Modeling was developed as a result of the penetration of distributed energy resources (DER), which continues to increase across the North American</p>	<p>Submit comments to reliabilityguidelinecomments@nerc.net using the comment matrix.</p>	<p>06/13/17</p>	<p>07/28/17</p>

<p>footprint. Transmission Planners (TPs) and Planning Coordinators (PCs) are faced with the challenge of representing these resources connected at the distribution system with relatively newer and evolving models. With a framework established for modeling DER, the purpose of this guideline is to provide information relevant for developing models and model parameters to represent different types of U-DER and R-DER in the stability analysis of the BPS. This guideline brings together many different reference materials into a consolidated guidance document for industry's use when modeling DER for interconnection-wide powerflow cases and dynamic simulations. More detailed, localized studies may require additional or more advanced modeling, as deemed necessary or appropriate. The modeling practices described here may also be modified to meet the needs of particular systems or utilities, and are intended as a reference point for interconnection-wide modeling practices.</p>			
<p>NEW Comment Period Begins for Proposed Revisions to the NERC Rules of Procedure: NERC is proposing revisions to currently effective Appendix 3D (Registered Ballot Body Criteria) of its Rules of Procedure. The Registered Ballot Body is the aggregation of all entities or individuals that qualify for one of the Segments approved by the Board of Trustees and are registered with NERC as potential ballot participants in the voting on proposed Reliability Standards. At the request of stakeholders, the purpose of these revisions is to help ensure that the votes of the Independent System Operators and Regional Transmission Organizations in Segment 2 are appropriately represented in the Registered Ballot Body voting structure.</p>	<p>Submit comments to ROPcomments@nerc.net.</p>	<p>06/26/17</p>	<p>08/10/17</p>

<p>A redlined version of Appendix 3D showing the proposed revisions as well as a summary of the proposed revisions are now available on the NERC Rules of Procedure web page. NERC intends to submit these changes to the NERC Board of Trustees for consideration at its November 2017 meeting.</p>			
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STANDARDS NEWS

Nomination Period Open for Project 2017-06 – Modifications to BAL-002-2

Nominations are being sought for Standards Authorization Request drafting team members through **July 3, 2017**.

Use the [electronic form](#) to submit a nomination. If you experience any difficulties in using the electronic form, contact [Wendy Muller](#). An unofficial Word version of the nomination form is posted on the [Drafting Team Vacancies](#) page and the [project page](#).

Previous drafting or periodic review team experience is beneficial, but not required. See the project page and unofficial nomination form (both linked above) for additional information. The Standards Committee is expected to appoint members to the team July 2017. Nominees will be notified shortly after they have been selected.

QUICK LINKS

[Register in the SBS](#)

[Projected Standards Posting Schedule](#)

[Project Tracking Spreadsheet](#)

[Standards Related Questions – Single Portal](#)

[2017–2019 Reliability Standards Development Plan](#)

GENERAL COMPLIANCE AND ENFORCEMENT NEWS**NEW NERC Releases New Reliability Standard Audit Worksheet**

A new Reliability Standard Audit Worksheet (RSAW) for Reliability Coordination – Monitoring Analysis (IRO-002-5) has been posted to the [RSAW homepage](#) under the heading “Current RSAWs for Use.” IRO-002-5 becomes effective on October 1, 2017.

QUICK LINKS

[Risk-Based CMEP \(RAI Page\)](#)

[Regional Consistency Reporting Tool](#)

[CIP V5 Transition Program](#)

[Risk-Based Registration Initiative](#)

[Reliability Standard Audit Worksheets](#)

[Enforcement & Mitigation: Enforcement Actions](#)

Navigating Enforcement Data: [Webinar](#) & [Presentation](#)

OTHER NEWS**NEW Key Takeaways and Material from the 2017 NERC-NATF Technical Workshop on Power System Modeling Now Available**

On June 2–21, 2017, NERC and the North American Transmission Forum (NATF) hosted a Technical Workshop on Power System Modeling. Key takeaways and presentation materials from the workshop have been posted to the [NERC System Analysis and Modeling Subcommittee \(SAMS\) webpage](#).

NEW NERC News Posted

NERC News, NERC’s monthly newsletter, is now available for the month of [June](#). Highlights in this edition include:

- NERC Leaders Participate in FERC Technical Conference
- FERC, NERC Issue Report on Grid Restoration, Recovery Plans Absent SCADA, EMS
- Grid Resilience to Severe Weather and Protection System Performance Improved; Risks from Cyber and Physical Security Increased
- Executive Management Spotlight Features Marc Sachs, senior vice president and chief security officer

NEW Webinar Resources Posted

NERC has posted the [streaming webinar](#) and [slide presentation](#) from the June 27, 2017 Photovoltaic Resource Interruption Disturbance Report and Alert webinar.

STANDARDS SUBJECT TO FUTURE ENFORCEMENT

The following standards are subject to future enforcement. Please refer to the [U.S. Effective Dates page](#) for more detail:

U.S. Effective Date	Standard(s)
October 1, 2017	COM-001-3 – Communications
	IRO-002-5 – Reliability Coordination – Monitoring and Analysis
January 1, 2018	BAL-002-2 – Disturbance Control Standard – Contingency Reserve for Recovery from a Balancing Contingency Event
	PRC-026-1 – Relay Performance During Stable Power Swings (Requirement 1);
April 1, 2018	IRO-018-1 – Reliability Coordinator Real-time Reliability Monitoring and Analysis Capabilities
	TOP-010-1 – Real-time Reliability Monitoring and Analysis Capabilities
July 1, 2018	CIP-009-6 – Cyber Security – Recovery Plans for BES Cyber Systems (Requirement 2.3);
	CIP-010-2 – Cyber Security – Configuration Change Management and Vulnerability Assessments (Requirements 3.2, 3.2.1, 3.2.2);
	MOD-026-1 – Verification of Models and Data for Generator Excitation Control System or Plant Volt/Var Control Functions (Requirements 2, 2.1–2.1.6);
	MOD-027-1 – Verification of Models and Data for Turbine/Governor and Load Control or Active Power/Frequency Control Functions (Requirements 2, 2.1–2.1.5);
	TOP-001-4 – Transmission Operations
	TPL-007-1 – Transmission System Planned Performance for Geomagnetic Disturbance Events (Requirement 2)
September 1, 2018	CIP-003-6 – Cyber Security – Security Management Controls (Requirement 2, Att. 1, Sec. 2 and 3);
January 1, 2019	TPL-007-1 – Transmission System Planned Performance for Geomagnetic Disturbance Events (Requirement 5)
January 1, 2020	PRC-026-1 – Relay Performance During Stable Power Swings (Requirements 2–4)
July 1, 2020	PRC-002-2 – Disturbance Monitoring and Reporting Requirements (50% compliance for Requirements 2–4, 6–11)
January 1, 2021	TPL-007-1 – Transmission System Planned Performance for Geomagnetic Disturbance Events (Requirements 6, 6.1–6.4)
January 1, 2022	TPL-007-1 – Transmission System Planned Performance for Geomagnetic Disturbance Events (Requirements 3,4,7)

July 1, 2022	PRC-002-2 – Disturbance Monitoring and Reporting Requirements (100% compliance for Requirements 2–4, 6–11)
	VAR-501-WECC-3 – Power System Stabilizer (Requirement 3 has an effective date of July 1, 2022 for units placed in service prior to final regulatory approval.)

BOARD OF TRUSTEES AND FERC ACTION

NEW NERC Filings

On June 26, 2017, NERC filed with FERC a [petition](#) for approval of proposed Rules of Procedure revisions.

On June 30, 2017, NERC submitted to FERC an [informational filing](#) regarding the Light-Load Case Study of the Eastern Interconnection.

On June 30, 2017, NERC also submitted to FERC a [report](#) that provides the results of a study of the remote access protections required by NERC’s Critical Infrastructure Protection (CIP) Reliability Standards. NERC completed the study consistent with the FERC directive in Order No. 822 to perform a study to assess: (1) the effectiveness of the controls in the CIP Reliability Standards to mitigate known remote access vulnerabilities; (2) the risks posed by remote access-related threats and vulnerabilities; and (3) appropriate mitigating controls for any identified risks.

NERC submitted a public and non-public version of the report. NERC redacted sensitive data regarding critical electric infrastructure in the public version of the report. NERC requested that FERC designate the redacted portions of the report as Critical Energy/Electric Infrastructure Information (“CEII”), consistent with Section 388.113 of FERC’s regulations. Please contact [Shamai Elstein](#) with any questions regarding the report, including requests for information on the process for obtaining CEII.

NERC’s 2017 filings to FERC are available [here](#).

UPCOMING EVENTS

For information about other NERC events, such as meetings and conference calls for standard drafting teams, other standing committees, subcommittees, task forces, and working groups, please refer to the [NERC calendar](#).

Workshops and Conferences

- 2017 Standards and Compliance Workshop – July 11–12, 2017, New Orleans, LA | [In-person Workshop Registration](#) | [Webinar Workshop Registration](#) | [Hotel Registration](#) | [Draft Agenda](#)
- Variable Energy Resource Modeling and Verification Technical Workshop – August 1–2, 2017, Atlanta | **SOLD OUT**
- Fifth Annual Monitoring and Situational Awareness Technical Conference – October 3–4, 2017, Atlanta | **Registration Information Coming Soon**
- GridSecCon – October 17–20, 2017, St. Paul, MN | [Conference Details](#) | **Registration Information Coming Soon**

Webinars

- **NEW** Compliance Monitoring and Enforcement Process Technology Program Stakeholder Webinar – 3:30–4:30 p.m. Eastern, July 17, 2017 | [Register](#)

Standing Committee Meetings and Conference Calls

- Member Representatives Committee Pre-Meeting Conference Call and Informational Webinar – 11:00 a.m.–12:30 p.m. Eastern, July 12, 2017 | [Register](#)
- Board Committees, Member Representatives Committee, and Board of Trustees Meetings – August 9–10, 2017, Ottawa, Ontario | [Register](#)
- Operating Committee, Planning Committee, and Critical Infrastructure Protection Committee Meetings – September 12–13, 201, Quebec City, Quebec | [Register for OC](#) | [Register for PC](#) | [Register for CIPC](#) | [Hotel Registration](#)

Standard Drafting Team Meetings

The [Standards calendar](#) provides dial-in information for the in-person meetings below. The calendar also provides information about conference calls that drafting teams may hold in addition to in-person meetings.

There are no standard drafting team meetings currently scheduled.

ABOUT THE WEEKLY STANDARDS & COMPLIANCE BULLETIN

This weekly bulletin compiles a list of standards and compliance projects with actionable deadlines, as well as upcoming events, recently posted resources, other NERC documents posted for comment, and other relevant news and information. Please email [Amy Desselle](#) with feedback on this bulletin. The current bulletin and old bulletins are available under “Program News” on both the [Standards home page](#) and the [Compliance & Enforcement home page](#).

If you would like to receive this bulletin or be added to the distribution list for a particular standards project, please register through our [ERO portal](#). For more information about any of the compliance news listed in the bulletin, please contact [Tiffany Whaley](#).

NERC News

June 2017

Inside This Issue

Compliance

[Newly Enforceable Standards](#)
[NERC to Host Stakeholder Webinar on CMEP Technology Program Update Made to Compliance Guidance Content](#)
[NERC Releases New RSAW Compliance Webinar Resources Posted](#)

E-ISAC

[Statement on Ukraine Malware Discovery](#)
[E-ISAC Holds CrashOverride Webinar E-ISAC, DOE to Host Security Workshop](#)
[NERC Opens Early Registration for GridSecCon](#)

Reliability Risk Management

[NERC Publishes New Lesson Learned](#)
[NERC Seeks Industry Participation in Inverter –based Resources Performance Task Force](#)

Standards

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[Upcoming Events](#)

Upcoming Regional Entity Events

[Filings](#) | [Careers](#)

Executive Management Spotlight – Marc Sachs

Communicating Threat Information Effectively

NERC and the E-ISAC learned about the most serious cyber security grid threat to date, malware known as CrashOverride, three days before media reports hit public news wires. Researchers believe the malware was used to manipulate supervisory control and data acquisition systems and circuit breakers in Ukraine on December 30, 2016. The resulting power outages were less significant than those that occurred in a similar attack in Ukraine on December 23, 2015, but still demonstrated that unauthorized remote access to utility control systems remains a major concern.



Before the reports became public, NERC and the E-ISAC used their long-standing grid security partnerships to communicate the new malware threat to senior industry and government officials. By the time the reports hit the media, NERC was well on the way to issuing a public Level 1 alert to industry. Media coverage of the malware reflected NERC's sharing of information with industry by its [public statement](#) and [alert](#). The effectiveness of malware communications is a testament to collective efforts of NERC and the E-ISAC team to create a positive outcome for stakeholders. *Marc Sachs is senior vice president and chief security officer.* ■■■

Headlines

[NERC Leaders Participate in FERC Technical Conference](#)

[Sena Speaks at CEA Energy Forum](#)

[Grid Resilience to Severe Weather and Protection System Performance Improved; Risks from Cyber and Physical Security Increased](#)

[FERC, NERC Issue Report on Grid Restoration, Recovery Plans Absent SCADA, EMS](#)

[Solar Loss Disturbance Report Uncovers Reliability Gap in Frequency Measurement Errors](#)

Headlines

NERC Leaders Participate in FERC Technical Conference

The Federal Energy Regulatory Commission hosted a technical conference on policy issues related to the reliability of the bulk power system on June 22. The daylong conference was organized into four panels: Overview of the State of Reliability; International Perspectives; the Potential for Long-Term and Large-Scale Disruptions; and Grid Security.

NERC panelists included:

- Gerry Cauley, president and chief executive officer – Panel 1
- Mark Lauby, senior vice president and chief reliability officer – Panel 3
- Marc Sachs, senior vice president and chief security officer – Panel 4

Sena Speaks at CEA Energy Forum

Janet Sena, senior vice president and director of Policy and External Affairs, spoke at Fortis and the Canadian Electricity Association's Energy Exchange Leadership Forum on June 21 in St. John's, Newfoundland and Labrador. The forum brought together senior leaders from both the government and private sectors throughout North America to discuss issues important to industry. Focus was on clean energy, technology and security and integrated resource management, among other topics.

Keynote address was delivered by the Honorable Dwight Ball, premier of Newfoundland and Labrador. In addition to Sena, speakers included:

- Honorable Sergio Marchi, president and chief executive officer, CEA
- Lawrence Johns, vice president of International Programs, Edison Electric Institute
- Kelvin Shepherd, president and CEO, Manitoba Hydro

Grid Resilience to Severe Weather and Protection System Performance Improved; Risks from Cyber and Physical Security Increased

The North American Electric Reliability Corporation's [State of Reliability 2017](#) report reviews past performance of the bulk power system, examines the state of system design, planning and operations, and the ongoing efforts by NERC and industry to continually improve system reliability and resiliency.

This independent review of bulk power system is based on analysis of data and metrics, which enables NERC to examine trends, identify potential risks to reliability, establish priorities and develop effective mitigation strategies.

"This year's report found that the bulk power system provided an adequate level of reliability during 2016," said James Merlo, vice president and director of Reliability Risk Management at NERC. "This analysis helps NERC and industry determine the effectiveness of mitigation efforts and provides recommendations to maintain a reliable and secure grid."

In 2016, protection system misoperations continued a four-year decline, decreasing to 8.7 percent — down from 9.5 percent in 2015 and 10.4 in 2014. However, the three largest causes of misoperations remains the same — incorrect settings/logic/design errors, relay failure/malfunctions, and communication failures. This shows that continued focus on regional education, outreach and training efforts with stakeholders is needed.

Other findings include:

- **No Category 4 or 5 events.** For the second consecutive year, there were no Category 4 or 5 events consecutive year and only two Category 3 events.
- **Frequency response shows improvement, but requires continued focus.** Three of the four interconnections trended "improving" while the

Québec Interconnection frequency trend moved from “declining” to “stable.”

- **Cyber and physical security risk increases.** While there were no reported cyber or physical security incidents that resulted in a loss of load in 2016, cyber and physical security threats are increasing and becoming more serious over time.
- **Transmission outages caused by human error shows slight increase.** While no increase in outage severity was discovered, human error remains a major contributor to transmission outage severity.
- **BPS resiliency to severe weather continues to improve.** For the second consecutive year, there were no days that the daily severity risk index was part of the top-10 most severe list of days between 2008 and 2015, despite days with extreme weather conditions across North America.

NERC’s *State of Reliability 2017* also highlights key recommendations, including enhancing measurement of frequency response and voltage to quantify effects of changing resource mix, including vendors and manufacturer in analyses where possible, and redefining reportable cyber and physical security incidents to be more granular.

FERC, NERC Issue Report on Grid Restoration, Recovery Plans Absent SCADA, EMS

In September 2014, NERC and the Federal Energy Regulatory Commission assessed entities’ plans for restoration and recovery of the bulk power system following a widespread outage or blackout. An initial report was released in January 2016, the FERC-NERC-Regional Entity Joint Review of Restoration and Recovery Plans.

Based on those recommendations, FERC and NERC initiated another study – Planning Restoration Absent SCADA or EMS (PRASE) – that focused on the potential impact of the loss of SCADA, Energy Management System or Intercontrol Center Communications Protocol functionality on system restoration, and the manner in which such impact could be mitigated.

The objective of the study was to assess entities’ system restoration plan steps in the absence of SCADA, ICCP data, and/or EMS, and identify viable resources, methods or practices that would expedite system restoration despite the loss of such systems. [June 2017 Report](#) | [January 2016 Report](#)

Solar Loss Disturbance Report Uncovers Reliability Gap in Frequency Measurement Errors

An August 16, 2016 occurrence in the Western Interconnection resulted in the loss of approximately 1,200 MW of photovoltaic (solar) generation. A joint NERC and Western Electricity Coordinating Council task force investigated this event and found the loss of inverter power injection was due to a perceived low-frequency condition and low-voltage blocking of the inverters.

The task force produced the [1,200 MW Fault-Induced Solar Photovoltaic Resource Interruption Disturbance Report](#), which found that inverters are susceptible to tripping during transients generated by faults on the power system. The report found many of the resources tripped as they used near-instantaneous frequency measurements, which erroneously calculated the frequency.

The task force recommends a minimum delay for frequency tripping is needed to ensure an accurate system frequency measurement has been captured. Additionally, during voltage excursions inverters may cease to supply power. The report recommends that these resources need to quickly return to support bulk power system reliability. The task force report also includes several key recommendations for industry going forward.

“The growth of inverter-based technologies that operate in micro-seconds is rapidly changing the characteristics of the bulk power system and can present new challenges,” said James Merlo, vice president and director of Reliability Risk Management at NERC. “It is important that generator owners and operators work with the inverter manufacturers to ensure that resources

have sufficient ‘ride-through’ capability to support reliability.”

The loss of significant amounts of asynchronous generation with inverter technology highlights a previously unknown risk to reliability. NERC and industry will begin taking steps to mitigate the risk, while conducting additional studies and reviewing existing NERC Reliability Standards.

Grid reliability remains a key priority for the Electric Reliability Organization. NERC and industry will continue to work with inverter manufacturers to better understand capabilities and requirements for reliable integration and employment of inverter technologies on the bulk power system. ■■■

Compliance

Newly Enforceable Standards

The following standards and requirements become enforceable on July 1, 2017:

CIP-004-6 minimizes the risk against compromise that could lead to misoperation or instability in the Bulk Electric System from individuals accessing BES Cyber Systems by requiring an appropriate level of personnel risk assessment, training and security awareness in support of protecting BES Cyber Systems. [CIP-004-6 – Cyber Security – Personnel & Training \(Requirements R2.3, R4.3, R4.4\)](#)

CIP 006-6 manages physical access to Bulk Electric System Cyber Systems by specifying a physical security plan in support of protecting BES Cyber Systems against compromise that could lead to misoperation or instability in the Bulk Electric System. [CIP-006-6 – Cyber Security – Physical Security of BES Cyber Systems \(Requirement R3.1\)](#)

CIP-008-5 mitigates the risk to the reliable operation of the Bulk Electric System as the result of a cyber security incident by specifying incident response requirements. [CIP-008-5 – Cyber Security – Incident Reporting and Response Planning \(Requirement R2.1\)](#)

CIP-009-6 recovers reliability functions performed by Bulk Electric System Cyber Systems by specifying recovery plan requirements in support of the continued stability, operability, and reliability of the Bulk Electric System. [CIP-009-6 – Cyber Security – Recovery Plans for BES Cyber Systems \(Requirement R2.1–R2.2\)](#)

CIP-010-2 prevents and detects unauthorized changes to Bulk Electric System Cyber Systems by specifying configuration change management and vulnerability assessment requirements in support of protecting Bulk Electric System Cyber Systems from compromise that could lead to misoperation or instability in the Bulk Electric System. [CIP-010-2 – Cyber Security – Configuration Change Management and Vulnerability Assessments \(Requirement R3.1\)](#)

MOD-033-1 establishes consistent validation requirements to facilitate the collection of accurate data and building of planning models to analyze the reliability of the interconnected transmission system. [MOD-033-1 – Steady-State and Dynamic System Model Validation](#)

TPL-007-1 establishes requirements for transmission system planned performance during geomagnetic disturbance (GMD) events. [TPL-007-1 – Transmission System Planned Performance for Geomagnetic Disturbance Events](#)

VAR-501-WECC-3 ensures the Western Interconnection is operated in a coordinated manner under normal and abnormal conditions by establishing the performance criteria for WECC power system stabilizers. [VAR-501-WECC-3 – Power System Stabilizer \(Requirement R1, R2, R4, and R5; Requirement R3 has an effective date of July 1, 2017 for first-time service after regulatory approval\).](#)

NERC to Host Stakeholder Webinar on CMEP Technology Program

NERC will host a stakeholder webinar focusing on the high-level benefits to the ERO Enterprise that are expected from the Compliance Monitoring and Enforcement Process (CMEP) Technology Program on July 17. This program will provide the ERO Enterprise with a singular tool and interface from which to conduct CMEP activities with the Regions and registered entities.

Once implemented, the new technology and common process solution will give NERC and the Regional Entities an increased level of visibility into reliability risk. The solution will also provide broad views of reliability across the ERO Enterprise, leading to data-informed reliability risk management insights. [Register](#)

Update Made to Compliance Guidance Content

A new ERO Enterprise-endorsed Implementation Guidance document ([CIP-013-1-R1 Implementation Guidance](#)) was posted on the [Compliance Guidance web page](#). Endorsement for this implementation guidance is based on the language of [Draft 2](#) of the CIP-013-1 reliability standard dated April 2017. Any changes to the standard prior to the final ballot will require a reevaluation of the implementation guidance for continued endorsement.

NERC Releases New RSAW

A new Reliability Standard Audit Worksheet (RSAW) is posted to the [RSAW homepage](#) under the heading "Current RSAWs for Use." [COM-001-3 – Communications](#) establishes interpersonal communication capabilities necessary to maintain reliability and becomes effective on October 1.

RSAWs are guides provided by the ERO that describe types of evidence registered entities may use to demonstrate compliance with a reliability standard. The worksheets include information regarding how the ERO may assess evidence and are drafted during the development of their corresponding reliability standards, which allows for enhanced transparency around compliance expectations.

Compliance Webinar Resources Posted

NERC posted the [streaming webinar](#) and [slide presentation](#) for the compliance guidance lessons learned webinar. ■■■

E-ISAC

Statement on Ukraine Malware Discovery

NERC is aware of the vulnerability discovered in Ukraine that has the potential to impact industrial control

systems. To date, there are no reported instances of the malware in North America.

The Electricity Information Sharing and Analysis Center (E-ISAC) has shared information with industry via the E-ISAC secure portal. A public Level 1 NERC alert is being developed and will be shared as soon as possible. The previously shared [Ukraine Defense Use Case](#) report will be updated accordingly. The E-ISAC routinely monitors all threats to the grid and provides alerts to industry as needed when new or continuing threats emerge.

Cyber threats are constantly emerging and changing, therefore our efforts must also allow for flexibility and quick response. NERC's mandatory and enforceable security standards, including security management controls and authorized personnel and training controls; network segmentation; and the use of licensed anti-virus software, among other things, work to protect against the dynamic cyber threat environment.

Information sharing continues to be a key tool and NERC's E-ISAC has long been at the forefront of cyber intelligence sharing. There is no question that cyber threats like the one in Ukraine are real and that constant vigilance is needed to protect the reliability of the North American grid. NERC and industry remain committed to the security and reliability of the North American bulk power system. Alert - [Modular Malware Targeting Electric Industry Assets in Ukraine](#)

E-ISAC Holds CrashOverride Webinar

The E-ISAC hosted a webinar for electricity asset owners and operators on the malware CrashOverride on June 16. Cyber security vendor Dragos presented its findings on the malware, which was first disclosed by Dragos in a public report. More information is available for E-ISAC members on the secure [E-ISAC portal](#).

E-ISAC, DOE to Host Security Workshop

The E-ISAC and DOE's Office of Electricity Delivery and Energy Reliability is inviting asset owners and operators to attend the July 27 Energy Sector Security Workshop. Hosted by the National Rural Electric Cooperative Association in Arlington, Va., this workshop is designed to enhance utilities' preparedness for a cyber incident

through a simulated exercise similar to recent events in Ukraine. [Register](#)

NERC Opens Early Registration for GridSecCon

If you are planning to attend this year's grid security conference, take advantage of early-bird registration rates. The conference is planned for Oct. 17-20 at the InterContinental Saint Paul Riverfront in St. Paul, Minn. The early-bird rate is \$300 until July 21. [Register](#)

GridSecCon brings together cyber and physical security experts from industry and government to share emerging security trends, policy advancements, and lessons learned. The conference also includes training, utility tours, and threat briefings at the classified and for official use only levels. For more information, contact eisacevents@eisac.com. ■■■

Reliability Risk Management

NERC Publishes New Lesson Learned

NERC published a new lesson learned under the [Event Analysis – Lessons Learned](#) tab on NERC.com.

The [Generator Trip While Performing Frequency Response](#) lesson learned addresses an incident in which two generating units were responding to a large frequency excursion when they tripped off-line on low boiler furnace pressure.

A successful lesson learned document clearly identifies the lesson, contains sufficient information to understand the issues, visibly identifies the difference between the actual outcome and the desired outcome and includes an accurate sequence of events, when it provides clarity.

NERC Seeks Industry Participation in Inverter-based Resource Performance Task Force

To address the actions and recommendations from the recent [1,200 MW Fault-Induced Solar Photovoltaic Resource Interruption Disturbance Report](#), NERC is forming the Inverter-Based Resource Performance Task Force, which will report to the NERC Planning and Operating Committees. The purpose of the joint task

force is to explore the performance characteristics of utility-scale, inverter-based resources directly connected to the bulk power system.

This task force will build off of the experience and lessons learned from the NERC–WECC task force created to investigate the loss of solar PV resources during the August 16, 2016 event and other fault-induced solar PV resource loss events. The task force will also address many of the recommendations from the disturbance report, including additional system analysis, modeling and review of inverter behavior under abnormal system conditions. Recommended performance characteristics will be developed along with other recommendations related to inverter-based resource performance, analysis and modeling.

Technical experts in the following areas are encouraged to participate in the task force:

- Inverter design, controls and manufacturing for inverter-based resources.
- Plant-level controls and the relationship between these controls and individual inverter controls.
- Inverter-based resource performance characteristics, particularly performance under abnormal voltage and frequency conditions, phase angles changes, phase lock loop dynamics and other performance characteristics.
- Performing transient stability simulations and modeling of inverter-based resources, including modeling and model parameters for these resources.
- Performing model verification testing for inverter-based resources.
- Bulk power system angular, frequency and voltage stability, particularly under high penetration of inverter-based resources.

If you are interested in participating, contact [Ryan Quint](#).



Standards

Standards Webinar Resources Posted

NERC posted the [streaming webinar](#) and [slide presentation](#) from the June 7 Project 2016-04 – Modifications to PRC-025-1 webinar.

Nomination Period Open for Project 2017-06 – Modifications to BAL-002-2

Nominations are being sought for standards authorization request drafting team members through July 3. Previous drafting or periodic review team experience is beneficial, but not required. The standards committee is expected to appoint members to the team in July. Nominees will be notified shortly after they have been selected.

Use the [electronic form](#) to submit a nomination. If you experience any difficulties in using the electronic form, contact [Wendy Muller](#). An unofficial Word version of the nomination form is posted on the [Drafting Team Vacancies](#) page and the [project page](#).

Upcoming Events

- **2017 Standards and Compliance Workshop** – July 11–12, New Orleans, La. | [In-person Workshop Registration](#) | [Webinar Workshop Registration](#) | [Hotel Registration](#) | [Draft Agenda](#)
- **CMEP Technology Program Stakeholder Webinar** – 3:30–4:30 p.m. Eastern, July 17 | [Register](#)
- **Fifth Annual Monitoring and Situational Awareness Technical Conference** – Oct. 3–4, Atlanta | [Registration Coming Soon](#)

Upcoming Regional Entity Events

[SERC Reliability Corporation \(SERC\)](#)

- **Open Forum Webinar** – July 31
- 2-4 p.m. | [Event Details](#)

[Texas RE](#)

- **Compliance 101 Workshop** – July 19
9 a.m. – 4 p.m. | Austin, Texas | [Event Details](#)



Filings

NERC Filings to FERC

(Click on the link for full filing)

June 8, 2017

[Petition of NERC for Approval of Amendments to WECC Regional RSDP](#) | NERC submits a petition for approval of amendments to the Western Electricity Coordinating Council ("WECC") Regional Reliability Standards Development Procedures ("RSDP").

June 9, 2017

[Informational Filing of NERC Regarding Updates to WECC Website Locations of Linked Tables in Regional Reliability Standards FAC-501-WECC-1 and PRC-004-WECC-2](#) | NERC submits an informational filing regarding updates to the Western Electricity Coordinating Council web locations of certain Tables referenced in the Applicability Section of two mandatory and enforceable Regional Reliability Standards, FAC-501-WECC-1 (Transmission Maintenance) and PRC-004-WECC-2 (Protection System and Remedial Action Scheme Misoperation).

June 26, 2017

[Petition of NERC for Approval of Proposed ROP Revisions](#) | NERC submits a petition requesting approval to Sections 600 (Personnel Certification) and 900 (Training and Education).

NERC Filings in Canada

June 5, 2017

[Informational Filing of NERC Regarding the Geomagnetic Disturbance Research Work Plan \(Alberta\)](#)

June 14, 2017

[Informational Filing of NERC Regarding Updates to WECC Website Locations of Linked Tables in Regional Reliability Standards FAC-501-WECC-1 and PRC-004-WECC-2 \(Alberta\)](#)

[Notice of Filing of NERC of Amendments to WECC Regional Reliability Standards \(Alberta\)](#) ■ ■ ■

Careers at NERC

Executive Assistant

Location: Washington, D.C.

[Details](#)

Cyber Analyst-Network Analyst

Location: Washington, D.C.

[Details](#)

Senior Engineer of System Analysis

Location: Atlanta

[Details](#)

CIP Assurance Advisor

Location: Atlanta

[Details](#)

Engineer, Registration

Location: Atlanta

[Details](#)

Accounts Payable Administrator

Location: Atlanta

[Details](#) ■■■