

# Meeting Notes

## Project 2016-02 Modifications to CIP Standards Drafting Team

May 24 -26, 2016

North American Electric Reliability Corporation  
Atlanta, GA 30326

### Administrative

#### 1. Introductions

The meeting was brought to order by S. Crutchfield at 9:00 a.m. Eastern, Tuesday, May 24, 2016. M. Lauby (NERC) provided the welcome and opening remarks and R. Stewart provided the building and safety information/logistics. The CIP Standard Drafting Team (SDT or team) Chair M. Powell welcomed the team and observers and reviewed the agenda. Participants were introduced and those in attendance were:

Name	Entity
Margaret Powell	Exelon
Christine Hasha	Electric Reliability Council of Texas
David Revill	Georgia Transmission Corporation
Steven Brain	Dominion
Jay Cribb	Southern Company
Jennifer Flandermeyer	Kansas City Power and Light
Tom Foster	PJM Interconnection
Richard Kinas	Orlando Utilities Commission
Forrest Krigbaum	Bonneville Power Administration
Philippe Labrosse	Hydro-Quebec TransEnergie
Mark Riley	Associated Electric Cooperative, Inc.
Zach Trublood	Sacramento Municipal Utility District

Name	Entity
Stephen Crutchfield	NERC
Al McMeekin	NERC
Scott Mix	NERC
Ryan Stewart	NERC
Sean Cavote	NERC
Felek Abbas	NERC
Steven Noess	NERC
Tobias Whitney	NERC
Katherine Street	NERC
Mike Keane	FERC
Simon Slobodnik	FERC
Ruida Shu	NPCC
Barry Lawson	NRECA
Tommy Clark	SMEPA
Chuck Abell	Ameren
Morgan King	WECC
James Fletcher	AEP
Christopher Keane	NextEra Energy
William Vesely	Consolidated Edison
Russ Noble	Cowlitz County PUD
Melanie Seader	Edison Electric Institute
Kevin Bunch	EDF Energy Services

Name	Entity
Matthew Hyatt	TVA
Scott Miller	MEAG

**2. Determination of Quorum**

The rule for NERC SDTs states that a quorum requires two-thirds of the voting members of the SDT. Quorum was achieved as all 12 team members were present.

**3. NERC Antitrust Compliance Guidelines and Public Announcement**

NERC Antitrust Compliance Guidelines and public announcement were reviewed by S. Crutchfield. There were no questions raised.

**4. Roster Updates**

The team reviewed the roster and confirmed that it was accurate and up to date.

**Agenda**

**1. Discuss summary of comments received on SAR**

M. Powell introduced the topic and D. Revill and C. Hasha reviewed the documents provided to the team regarding the categorization of SAR comments. The SDT and observers discuss the comments and a suggestion was made to revise the SAR and add to the scope of work. The SDT was instructed to review the scope items categorized as “new” and be prepared to make a final recommendation on any revisions to the SAR at the meeting on Wednesday morning. The topic was again discussed on Wednesday and a recommendation was made to only add “CIP Exceptional Circumstances” to the scope. The final determination was to:

- revise the Virtualization issue to include all V5 CIP Standards and definitions;
- add a review of CIP Exceptional Circumstances for all V5 standards;
- add a statement regarding correcting errata; and
- remove the Transmission Service Provider and add Distribution Provider under “Functional Entities”.

**2. Preliminary work plan and schedule**

M. Powell reviewed the draft work plan including preliminary meeting and posting dates. The SC process of authorizing postings and Quality Review of posting documents was discussed. There were no revisions suggested or made. M. Powell will provide an update on the work plan to the SC in June 2016.

**3. Development of sub-teams and weekly conference call schedules**

M. Powell led a discussion of the proposed sub-teams which include the following:

- Definitions and concepts (CA, BCA, EACMS, ERC, ESP, IRA)

- Virtualization
- Transient Cyber Assets at Low Impact
- Transmission Owner (TO) Control Centers / Communication Networks
- LERC Definition

There was concern about the potential overlap between “Virtualization” and the “Definitions” sub-teams. A suggestion was made to do the majority of the work on the sub-teams and then determine how to address the “Definitions and Concepts” topic because of potential overlap of topics. The decision was made to retain the sub-teams as proposed and to re-evaluate them based on the upcoming conference calls.

#### **4. Definition of LERC – preliminary work**

J. Cribb and S. Brain led a discussion of work done to date regarding the definition of LERC and the FERC Order 822 directive to revise the definition. The team broke down the existing definition into parts to help analyze how the definition is constructed and to help with potential revisions to address the directive. The LERC sub-team will continue to develop a proposed solution for full team review during the first SDT conference call scheduled for June 3, 2016.

#### **5. Sub-team breakouts and reports**

M. Powell discussed and provided instructions on the use of the “MODIFICATION TO CIP STANDARDS REVISION WORKSHEET – WORKING PAPER”. The sub-teams had breakout sessions to begin completing the worksheet and preparing a draft presentation for the full team. A PowerPoint presentation and the worksheet template are included with these notes.

- Definitions and concepts (CA, BCA, EACMS, ERC, ESP, IRA)
- Virtualization
- Transient Cyber Assets at Low Impact
- Transmission Owner (TO) Control Centers / Communication Networks

#### **6. Request for Interpretation (RFI) – EnergySec**

M. Powell introduced the RFI (included with these notes) and discussed it at a high level. She will work with SDT Leadership to prepare a draft response to the RFI for discussion during the conference call scheduled for June 3, 2016.

#### **7. Future meeting(s)**

- June 28-30, 2016 – Exelon, Chicago, IL
- July 26-28, 2016 – Midwest Reliability Organization, St. Paul, MN
- August 16-18, 2016 – Southern California Edison, Los Angeles, CA
- September 27-29, 2016 – Hydro-Quebec TransEnergie, Montreal
- October 25-27, 2016 – Electric Reliability Council of Texas, Taylor, TX

- November 15-17, 2016 – Bonneville Power Administration, Portland, OR
- December 6-8, 2016 – Orlando Utilities Commission, Orlando, FL

**8. Adjourn**

The meeting adjourned at 9:30 a.m. Eastern, Thursday, May 26, 2016.

# MODIFICATION TO CIP STANDARDS

## DRAFT REVISION WORKSHEET – SDT INTERNAL WORKING PAPER ONLY

### WORKSHEET INSTRUCTIONS

**IMPORTANT NOTICE**

These documents contain concepts, ideas, or discussion points that are still under development and intended solely for use by the standard drafting team (SDT) for Project 2016-02: Modifications to CIP Standards. Please remember the working nature of these documents, which will be subject to change over the course of the project. If this document is shared beyond the immediate SDT membership, it is not to be relied upon as an official standard posting document, used as guidance, or relied on in any manner for compliance with the standards.

**Worksheet Purpose**

The purpose of this Revision Worksheet is to assist the SDT in setting the scope and direction for revision issues. This does not replace the SAR, which sets the official project scope. The worksheet is a tool to compile the information relevant to the revision work of a specific issue that will cut across multiple resources. For the V5TAG issues, the SDT does not intend to change the original applicability scope of the CIPV5/6 language. The SDT is to provide clarification of the original scope and intent on the issues transferred to the SDT as a result of the Transition Study.

**Risk Environment**

The Energy Policy Act of 2005 established in Section 215 that “‘**reliable operation**’ means operating the elements of the bulk-power system within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance, including a cybersecurity incident, or unanticipated failure of system elements.”

### REVISION SUMMARY

Date		Issue Lead	[Team or individual name]
Issue Title			
Description of the Problem			
Source of request for revision (FERC Order, VTAG, etc.)			
Risks to the BES			
Compliance Challenges (i.e. demonstration of compliance; assessment of burden relative to risk; administrative obligation with little benefit to reliability; etc.)			

### SUPPORTING INFORMATION

Relevant FERC Order Language or V5TAG Issue Language (Note: relevant language on the V5TAG issues may come from FERC Orders like Order 706)			
Existing Mitigating Factors			
Applicable Systems Scope			
Considerations for Requirement Structure			
Additional research/analysis requested			
Does proposed revision change the intent of the original language?			

### PROGRESS & DECISIONS

Record Monthly progress including reasoning and			
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DRAFT

When completed, email this form to: sarcomm@nerc.com

**Note: an Interpretation cannot be used to change a standard.**

Interpretation 2010-xx: Request for an Interpretation of [Insert Standard Number], Requirement Rx, for [Insert Name of Company]	
Date submitted: March 3, 2015 (amended May 8, 2015)	
<b>Contact information for person requesting the interpretation:</b>	
Name:	Steven Parker
Organization:	Energy Sector Security Consortium, Inc (EnergySec)
Telephone:	503.621.8179
Email:	steve@energysec.org
<b>Identify the standard that needs clarification:</b>	
Standard Number (include version number):	CIP-002-5.1 (example: PRC-001-1)
Standard Title:	Cyber Security — BES Cyber System Categorization
<b>Identify specifically what requirement needs clarification:</b>	
<u>Requirement Number and Text of Requirement:</u> R1	
For brevity, only relevant parts of the Requirement and Attachment 1 (incorporated by reference) are quoted here.	
Requirement 1, subpart 1.2 states, "Identify each of the medium impact BES Cyber Systems according to Attachment 1, Section 2 ..." Attachment 1 is incorporated into the requirement by reference.	
Attachment 1, Section 2, Criterion 2.1 states, "Commissioned generation, by each group of generating units at a single plant location, with an aggregate highest rated net Real Power capability of the preceding 12 calendar months equal to or exceeding 1500 MW in a single Interconnection. For each group of generating units, the only BES Cyber Systems that meet this criterion are those shared BES Cyber Systems that could, within 15 minutes, adversely impact the reliable operation of any combination of units that in aggregate equal or exceed 1500 MW in a single Interconnection."	
<u>Clarification needed:</u> With respect to the exclusion clause of Criterion 2.1 limiting applicability, should the evaluation be performed <u>individually</u> for each discrete BES Cyber System at a single plant location, or <u>collectively</u> for groups of BES Cyber Systems? Stated differently, does the phrase "shared BES Cyber Systems" refer to discrete BES Cyber	



Systems that are shared by multiple units, or groups of BES Cyber Systems that could collectively impact multiple units?

If the phrase applies collectively to groups of BES Cyber Systems, what criteria should be used to determine which BES Cyber Systems should be grouped for collective evaluation?

### Discussion

Criterion 2.1 introduces the concept of “shared BES Cyber Systems”, but it is not clear what is meant by “shared”. Additionally, Criterion 2.1 refers to such shared systems in the plural, making it unclear whether the intent was to apply the Criterion to groups of BES Cyber Systems, or simply to indicate that a single generating plant location could have multiple BES Cyber Systems that meet the Criterion.

Further adding to the uncertainty with this requirement are statements made within a NERC Lessons Learned document, “Impact Rating of Generation Resources”, dated September 2, 2014. For example, the Lessons Learned document states:

“If, for instance, the generation units and BES Cyber Systems are connected in a manner that could result in the loss of 1500 MW or more if **one or more** BES Cyber Systems at the plant were compromised or misused, then those shared BES Cyber Systems at the plant (i.e., those that can, within 15 minutes, adversely impact the reliable operation of any combination of units that in aggregate equal or exceed 1500 MW) must be categorized as medium impact BES Cyber systems.” (emphasis added)

In particular, the use of the phrase “one or more” suggests that a collective evaluation is required.

The aforementioned Lessons Learned document also states:

“If a Responsible Entity adopts the segmentation approach, consistent with criterion 2.1, entities must provide evidence that BES Cyber Systems associated with any group of generating units at generating plants greater than 1500 MW are segmented effectively such that there are no **common mode vulnerabilities** that could result in the loss of 1500 MW or more of generation at a single plant.” (emphasis added)

The reference to “common mode vulnerabilities” suggests that BES Cyber Systems should be evaluated as a group in some circumstances, but is unclear as “common mode vulnerabilities” is not a defined term.

The Lessons Learned document also states:

“For example, Responsible Entities should consider physical locations that could present a single point of failure (e.g., common control rooms for multiple generating units) to determine what physical protections are appropriate.”

Again, this language suggests that BES Cyber Systems may need to be evaluated in groups, for example, when multiple BES Cyber Systems are physically co-located.

The Lessons Learned document also contains a flow chart outlining a suggested process for evaluating BES Cyber Systems for impact ratings. That flow chart does not contain a process for grouping BES Cyber Systems for a collective evaluation, therefore suggesting that the impact assessment occurs individually for each discrete BES Cyber System.

A final Lessons Learned document was posted on January 29, 2015. Some of the language referred to above was removed in the final version, but the questions still remain. The final Lessons Learned document maintains the reference to the Guidelines section of the standard that refers to “BES Cyber Systems with common mode vulnerabilities”. This

suggests that common mode vulnerabilities are evaluated in the context of groups of BES Cyber Systems.

In addition, the final Lessons Learned provides only two options, protecting all BES Cyber Systems at the medium level, or segmenting the units. The suggested evidence includes references to network segmentation and firewall rules. This suggests that for collections of BES Cyber Systems on a common network, the collective impact would be evaluated rather than their individual impact. Network isolation would be required to avoid this collective analysis.

On the other hand, FAQ 49, released for comment on April 1, 2015, states that a shared BES Cyber System is one that “affects two or more BES Facilities, such as multiple generation units.” Likewise, FAQ 50 refers to common mode vulnerabilities as “Any systems that can affect two or more BES Facilities, such as multiple generation units. ... Protection systems, fuel-handling systems, cooling water, and air systems are also examples that should be evaluated as common mode vulnerabilities.” These responses support an assertion that BES Cyber Systems need only be evaluated individually.

**Identify the material impact associated with this interpretation:**

Identify the material impact to your organization or others caused by the lack of clarity or an incorrect interpretation of this standard.

The evaluation of BES Cyber Systems and assignment of impact ratings is a foundational requirement in version 5 of the CIP standards. A clear understanding of the Criteria, and their proper application is essential to ensure BES Cyber Systems are correctly rated so that the appropriate controls can be applied. Furthermore, in this case, confusion regarding a potential collective assessment, and the criteria and process for such an assessment, can lead not only to under or over rating of systems, but also significant expense in re-engineering plant systems and/or security controls.

A proper understanding of this Criterion is critical to ensure entities can comply with CIP-002-5 R1 without undue risk or expense.

**Version History**

Version	Date	Owner	Change Tracking
1	April 22, 2011		
1	May 27, 2014	Standards Information Staff	Updated template and email address for submittal.

# Project 2016-02

# CIP Modifications

May 2016 Standard Drafting Team (SDT) Meeting  
Summary  
June 8, 2016

**RELIABILITY | ACCOUNTABILITY**



- Covered the administrative details – anti-trust guidelines, participant conduct policy, email listserv policy, standards process manual – and confirmed quorum
- Introduced the SDT members and set up a sub-team structure to help work progress in between the in-person meetings
- Scheduled in-person meetings through December 2016
- Discussed work plan for three groups of issue activities
- Considered SAR comments and decided on a final SAR
- Introduced the Request for Interpretation

- Revisions will cover eight issue areas:
  - Transient devices used at low-impact BES Cyber Systems (Order 822)
  - Communication network components between BES Control Centers (Order 822)
  - LERC definition (Order 822) – deadline of March 31, 2017
  - Cyber Asset and BES Cyber Asset Definitions (V5TAG)
  - Network and Externally Accessible Devices (V5TAG)
  - Transmission Owner (TO) Control Centers Performing Transmission Operator (TOP) Obligations (V5TAG)
  - Virtualization (V5TAG)
  - CIP Exceptional Circumstances
- In addition, the SDT will consider one Request for Interpretation concerning shared BES Cyber Systems

- The sub-team work in between in-person meetings is essential for development to progress in a timely manner
- Engagement by observers is encouraged
- SDT members are encouraged to provide outreach

	Name	Entity
<b>Chair</b>	Margaret Powell	Exelon
<b>Vice Chair</b>	Christine Hasha	Electric Reliability Council of Texas
<b>Vice Chair</b>	David Revill	Georgia Transmission Corporation
<b>Members</b>	Steven Brain	Dominion
	Jay Cribb	Southern Company
	Jennifer Flandermeyer	Kansas City Power and Light
	Tom Foster	PJM Interconnection
	Richard Kinas	Orlando Utilities Commission
	Forrest Krigbaum	Bonneville Power Administration
	Philippe Labrosse	Hydro-Quebec TransEnergie
	Mark Riley	Associated Electric Cooperative, Inc.
	Zach Trublood	Sacramento Municipal Utility District

- The SDT reviewed and considered the comments submitted during the informal comment period and identified six issues to potentially include in the current scope of work:
  1. Revise SAR language on Virtualization so not to limit aspects for consideration to CIP-005
  2. Review the requirements to include additional exceptions for CIP Exceptional Circumstances as necessary
  3. Address in the implementation plan treatment of historical patches for assets newly in scope
  4. Consider revisions to the CIP standards to accommodate third party (cloud) services
  5. Address treatment of multi-site “asset classes” in the application of the LERC Definition
  6. Account for shared facility ownership in the CIP standards and consider requirements for third party notification



- Based on a number of factors including the current level of issue vetting, the continuing V5 learning, the project scope of work and the development timeframe, the SDT added two issue revisions to the SAR:
  1. Revise SAR language on Virtualization so not to limit aspects for consideration to CIP-005
  2. Review the requirements to include additional exceptions for CIP Exceptional Circumstances as necessary
- The revised SAR is posted for another 30 day comment period (June 1-30) for stakeholder input on the revisions to the SAR scope

- SDT sub-team assignments and times:

Definitions and Concepts

Leads: Jay Cribb, Zach Trublood  
Support: Maggy Powell, Dave Revill,  
Stephen Crutchfield  
Tuesday 12-2 pm (Eastern)

Virtualization

Leads: Philippe Labrosse, Forrest Krigbaum  
Support: Dave Revill, Christine Hasha, Al  
McMeekin  
Tuesday 2-4 pm (Eastern)

Transient Devices at Lows

Leads: Steve Brain, Rich Kinas  
Support: Christine Hasha, Dave Revill,  
Stephen Crutchfield  
Thursday 12-2 pm (Eastern)

TO Control Centers and Comm Networks

Leads: Mark Riley, Jennifer Flandermeyer,  
Tom Foster  
Support: Maggy Powell, Christine Hasha, Al  
McMeekin  
Thursday 2-4 pm (Eastern)

LERC Definition

Leads: Jay Cribb, Steve Brain  
Support: Maggy Powell, Stephen Crutchfield, Al McMeekin  
Friday 11-1 pm (Eastern) as part of the weekly full team call

- Times above are reserved as the regularly scheduled call time; however, conflicts may arise that warrant schedule adjustments

- Sub-team calls are for dialogue, language drafting and proposal development.
- Sub-team leads will present proposals to the full team at in-person meetings for discussion and/or decision-making.
- Conference calls are open to observers and participation is encouraged.
- The meeting and conference call schedule is posted on the Related Files page:

<http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx>

- Respond to Order 822 Directive “to provide the needed clarity, ... to modify the Low Impact External Routable Connectivity definition consistent with the commentary in the Guidelines and Technical Basis section of CIP-003-6.”
- Use of “direct” is to be clarified in the definition
- Consider whether the definition includes security controls that would be better represented in the CIP-003 requirements
- Compare with ERC definition
- Uphold the diagrams within the definition language

- Respond to Order 822 Directive “to develop modifications to address the protection of transient electronic devices used at Low Impact BES Cyber Systems”
- Ensure that controls identified are appropriately tailored to the risk associated with low impact
- Respect the asset level controls that currently exist for low impact BES Cyber Systems
- Consider the large volume of facilities and systems at low impact
- Consider consistency from a human factors standpoint between controls selected for low impact and those that currently exist at high and medium

- Respond to Order 822 Directive to “develop modifications to require responsible entities to implement controls to protect communication links and sensitive bulk electric system data communicated between bulk electric system Control Centers”
- Ensure that controls do not negatively impact reliability
- Consider variety of options used within the industry such as data agent agreements and ownership of infrastructure
- Clarify the scope of relevant control centers
- Determine need to define sensitive bulk electric system data
- Consider a risk-based approach

- Maintain the intent of the CIP V5 language
- Recognize the conflict resulted in differing impact classification
- Research issue to better understand what lacked clarity in the language, whether practice differed than the intent of the standard language and if a reliability concern is apparent, among other questions. Resources for investigation include:
  - Previous NERC study
  - Trade Association contacts
  - NERC impact rating determination letters
  - NERC and Regional statistics, background information, etc.
- Consider whether information from the transition resolution would provide clarify if incorporated into the standard

- Maintain the intent of the CIP V5 language
- Address V5TAG concerns encountered by industry
- Recognize that definitions are foundation of the entire body of standards
  - Asset based Definitions - Cyber Asset and BES Cyber Asset
  - Network based Definitions – ESP, EAP, ERC, IRA
- Utilize Guidelines and Technical Basis
- Incorporate feedback from other teams to avoid conflict in use of terms



- Maintain the intent of the CIP V5 language
- Review existing security and compliance frameworks that already address virtualization such as NIST-800-125 and PCI
- Consider the issue of mixed-trust and evaluate whether high watermarking is appropriate
- Be cognizant of the speed of innovation in this area
  - How can we ensure our compliance environment does not negatively impact the adoption of emerging technology that could benefit the reliability and security of the BES?
- Evaluate each type of virtualization scenario (server, desktop, network, storage, etc.)
  - Identify subjects where additional clarity is needed
  - Analyze the impact of the current CIP standards and definitions on virtualization

- Decided to add to the scope of work a review of the CIP V5 requirements for exceptions under CIP Exceptional Circumstances
- The work would provide beneficial improvements to the standards
- Incorporate the work into the current work plan

- Reviewed the Request:
  - **...does the phrase “shared BES Cyber Systems” refer to discrete BES Cyber Systems that are shared by multiple units, or groups of BES Cyber Systems that could collectively impact multiple units?**
- Develop draft interpretation response for full team review and discussion

- Team and sub-team conference calls began on Friday, June 3

June							July							August							September						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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5	6	7	8	9	10	11	3	4	5	6	7	8	9	7	8	9	10	11	12	13	4	5	6	7	8	9	10
12	13	14	15	16	17	18	10	11	12	13	14	15	16	14	15	16	17	18	19	20	11	12	13	14	15	16	17
19	20	21	22	23	24	25	17	18	19	20	21	22	23	21	22	23	24	25	26	27	18	19	20	21	22	23	24
26	27	28	29	30			24	25	26	27	28	29	30	28	29	30	31				25	26	27	28	29	30	
							31																				

SDT Face-to-Face Meetings*	SDT Full-Team Conference Calls	Sub-team Conference Calls	Sub-team Conference Calls
June 28-30 (9-5 9-5 8:30-12 CT) Chicago - Exelon July 26-28 (9-5 9-5 9-12 CT) St. Paul - MRO August 16-18 (9-5 9-5 9-12 PT) Rosemead, CA - SCE September 27-29 (9-5 9-5 9-12 PT) TBD	Every Friday 11:00 AM - 1:00 PM Eastern time 866-740-1260; Access: 5301963; Sec: 0005	<b>Definitions and Concepts 12:00-2:00 ET</b> 866-740-1260; Access: 6519455; Sec: 0001 <b>Virtualization 2:00-4:00 PM ET</b> 866-740-1260; Access: 5301963; Sec: 0002	<b>Transient Cyber Assets at Low Impact 12:00-2:00 PM</b> 866-740-1260; Access: 6519455; Sec: 0003 <b>TO CC / Comm Networks 2:00-4:00 PM ET</b> 866-740-1260; Access: 5301963; Sec: 0004

DRAFT Proposed Timeline for the Project 2016-02 Standard Drafting Team	
Anticipated or Actual Date	Event
March 9, 2106	SC Authorizes SAR
March 10-March 23, 2016	30-day Informal Comment Period – SAR
April 20, 2016	SC Appoints SDT
June 1-June 30, 2106	30-day Informal Comment Period – Revised SAR
July 25- September 7, 2016	45-day Comment Period and Ballot (LERC)
October 17-December 1, 2016	45-day Second Comment Period and Ballot (LERC)
December 1, 2016 – January 16, 2017	45-day Comment Period and Ballot Opens (All other)
January 5-16, 2017	Final Ballot (LERC)

DRAFT Proposed Timeline for the Project 2016-02 Standard Drafting Team	
Anticipated or Actual Date	Event
February 2017	Presentation to NERC Board of Trustees for Adoption (LERC)
February/March 2017 (regulatory deadline of March 31, 2017)	NERC Files Petition with the Applicable Governmental Authorities (LERC)
March 31-May 15, 2017	45-day Second Comment Period and Ballot Opens (All other)
August 15-September 29, 2017	45-day Third Comment Period and Ballot Opens (All other)
October 17-27, 2017	Final Ballot (All other issues/directives)
November 2017	Presentation to NERC Board of Trustees for Adoption
November/December 2017	NERC Files Petition with the Applicable Governmental Authorities

- Next in-person meeting is June 28-30 in Chicago

- This slide deck and other information relative to the CIP Modifications SDT may be found on the Project 2016-02 Project Page under Related Files:

<http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx>



# Questions