

Meeting Notes

Project 2016-02 Modifications to CIP Standards Drafting Team

June 28-30, 2016

Exelon
Chicago, IL

Administrative

1. Introductions / Chair's Remarks

The meeting was brought to order by S. Crutchfield at 9:00 a.m. Eastern on Tuesday, June 28, 2016. Chair M. Powell welcomed the team and observers and provided an overview of the facilities. She then reviewed the agenda. Participants 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
Philippe Labrosse	Hydro-Quebec TransEnergie
Mark Riley	Associated Electric Cooperative, Inc.

Name	Entity
Zach Trublood	Sacramento Municipal Utility District
Stephen Crutchfield	NERC
Al McMeekin	NERC
Scott Mix	NERC
Ryan Stewart	NERC
Felek Abbas	NERC
Simon Slobodnik	FERC
Margaret Scott	FERC

2. Determination of Quorum

The rule for NERC Standard Drafting Team (SDT) states that a quorum requires two-thirds of the voting members of the SDT to be physically present. Quorum was achieved as 11 of 12 SDT members were present.

3. Antitrust Compliance Guidelines and Public Announcement

NERC Antitrust Compliance Guidelines and Public Announcement were reviewed by S. Crutchfield. There were no questions raised.

4. Review Current Team Roster

There were no revisions to the roster.

5. Review Meeting Agenda and Objectives

Agenda

1. **Definition of LERC** – J. Cribb / S. Brain led a discussion of the proposed revisions to the defined term as well as the Standard and Guidelines and Technical Basis section. The proposed solution was finalized and NERC staff will develop final documents for SC authorization to post.
2. **Discuss comments received to-date on the revised SAR** – M. Powell led a review of the SAR comments received to date. There were no comments that indicated a revision to the SAR was necessary. The team will review the final comments and determine if the SAR is final once the posting ends.
3. **Additional details are available in the PowerPoint slides accompanying the meeting notes**
4. **Future meetings**
 - a. July 26-28, 2016 – Midwest Reliability Organization, St. Paul, MN
 - b. August 16-18, 2016 – Southern California Edison, Los Angeles, CA
 - c. September 27-29, 2016 – Manitoba Hydro, Winnipeg, Canada
 - d. October 25-27, 2016 – Electric Reliability Council of Texas, Taylor, TX
 - e. November 15-17, 2016 – Bonneville Power Administration, Portland, OR
 - f. December 6-8, 2016 – Orlando Utilities Commission, Orlando, FL
 - g. January 17-19, 2017 – To be determined
 - h. February 21-23, 2017 – To be determined
 - i. March 21-23, 2017 – To be determined
5. **Adjourn**

M. Powell adjourned the meeting at 12:00 p.m., Eastern, Thursday, June 28, 2016.

Project 2016-02

CIP Modifications

June 2016 Standard Drafting Team (SDT) Meeting
Summary
July 19, 2016

RELIABILITY | ACCOUNTABILITY



- Covered the administrative details and confirmed quorum
- Focused efforts on revisions in response to the LERC directive
- Confirmed SDT approval of a proposed interpretation in response to the CIP-002-5.1 EnergySec Request for Interpretation
- Review SAR comments (comment period closed on June 30, 2016) and finalized SAR (note: the final SAR discussion took place the week following the SDT meeting)

- In response to the FERC Order 822 directive to clarify the Low Impact External Routable Connectivity (LERC) definition, the Standard Drafting Team (SDT) opted to revise the definition, requirement language, and guidelines and technical basis.
- The following components proceeded to Quality Review (QR) and will continue to the Standards Committee to authorize for posting:
 - Revised LERC Definition
 - Revised Standard (requirements)
 - Revised Measures
 - Proposed Implementation Plan
 - VSLs and their justification

- Work on the CIP-003 Guidelines and Technical Basis continues and will be posted with the other components during comment/ballot period.
- CIP-002-5.1 Interpretation (EnergySec RFI) will also proceed to the Standards Committee for authorization to post for comment and ballot.

- The SDT considered two approaches to address the directive to clarify 'direct'.
 - Option 1 – Revise the LERC definition to enable a security control external to the BES Cyber Asset (such as an application break) to indicate the absence of LERC
 - Option 2 – Revise the LERC definition to identify all routable protocol communications crossing the asset boundary without regard to 'direct vs. indirect' access. Also, revise the CIP-003 requirements to implement electronic access controls and update and expand the Guidelines and Technical Basis.
- Both options meet the same security objective.
- The SDT selected Option 2 - to revise the definition, requirement language, and guidelines and technical basis.

- Changed Low Impact External Routable Connectivity to Low Impact External Routable **Communication** (LERC) to focus on the communication that occurs crossing the boundary of the asset containing the low impact BES Cyber Systems to more cleanly align with the output of CIP-002-5.1 R1, Part 1.3.
- Removed from the definition the word 'direct' thus expanding the LERC definition to be inclusive of both direct and indirect connections.
- Simplified LERC as an attribute of a BES asset concerning whether there is routable protocol communications across the asset boundary.
- Removed the dependency between the electronic access controls that may be in place and having those controls determine whether LERC exists or not.

- **Revised Definition: Low Impact External Routable Communication (LERC):** Routable protocol communication that crosses the boundary of an asset containing one or more low impact BES Cyber System(s), excluding communications between intelligent electronic devices used for time-sensitive protection or control functions between non-Control Center BES assets containing low impact BES Cyber Systems including, but not limited to, IEC 61850 GOOSE or vendor proprietary protocols.
- **Current Definition: Low Impact External Routable Connectivity (LERC):** Direct user-initiated interactive access or a direct device-to-device connection to a low impact BES Cyber System(s) from a Cyber Asset outside the asset containing those low impact BES Cyber System(s) via a bi-directional routable protocol connection. Point-to-point communications between intelligent electronic devices that use routable communication protocols for time-sensitive protection or control functions between Transmission station or substation assets containing low impact BES Cyber Systems are excluded from this definition (examples of this communication include, but are not limited to, IEC 61850 GOOSE or vendor proprietary protocols).

- The changes to LERC changed the focus of the CIP-003 requirements and no longer emphasized the “interface” that controlled the connectivity.
Current Term: Low Impact BES Cyber System Electronic Access Point” (LEAP): A Cyber Asset interface that controls Low Impact External Routable Connectivity. The Cyber Asset containing the LEAP may reside at a location external to the asset or assets containing low impact BES Cyber Systems.
- As a result, the SDT removed use of the term “LEAP” and proposed its retirement.

- For those BES assets that have LERC, the SDT changed the requirement to requiring electronic access controls to “permit only necessary electronic access to low impact BES Cyber Systems.”
- The SDT also revised CIP-003-6, Attachment 1, Section 2 to accommodate the retirement of LEAP in the physical security section and to provide for the physical security of the Cyber Assets performing the electronic access controls required in Section 3.

Section 2. Physical Security Controls: Each Responsible Entity shall control physical access, based on need as determined by the Responsible Entity, to (1) the asset or the locations of the low impact BES Cyber Systems within the asset, and (2) the Cyber Asset(s), as specified by the Responsible Entity, that provide electronic access control(s) implemented for Section 3.1, if any.

Section 3. Electronic Access Controls: Each Responsible Entity shall:

- 3.1** Implement electronic access control(s) for LERC, if any, to permit only necessary electronic access to low impact BES Cyber System(s).
- 3.2** Implement authentication for all Dial-up Connectivity, if any, that provides access to low impact BES Cyber Systems, per Cyber Asset capability.

- The SDT revised CIP-003-6, Attachment 2, Sections 2 and 3 to make the Measures consistent with the revised requirement language.

Section 2. Physical Security Controls : Examples of evidence for Section 2 may include, but are not limited to:

- Documentation of the selected access control(s) (e.g., card key, locks, perimeter controls), monitoring controls (e.g., alarm systems, human observation), or other operational, procedural, or technical physical security controls that control physical access to both:
 - The asset, if any, or the locations of the low impact BES Cyber Systems within the asset; and
 - The Cyber Asset specified by the Responsible Entity that provides electronic access controls implemented for Section 3.1, if any.

Section 3. Electronic Access Controls : Examples of evidence for Section 3 may include, but are not limited to:

1. Documentation, such as representative diagrams or lists of implemented electronic access controls (e.g., restricting IP addresses, ports, or services; authenticating users; air-gapping networks; terminating routable protocol sessions on a non-BES Cyber Asset; implementing unidirectional gateways) showing that for LERC at each asset or group of assets containing low impact BES Cyber Systems, is confined only to that access the Responsible Entity deems necessary; and
2. Documentation of authentication for Dial-up Connectivity (e.g., dial out only to a preprogrammed number to deliver data, dial-back modems, modems that must be remotely controlled by the control center or control room, or access control on the BES Cyber System).

- The SDT revised the High VSLs for Attachment 2, Sections 2 and 3 to make them consistent with the revised requirement language.
- No changes made to VRFs.
- Non-substantive errata changes were also made within the standard, including changing “ES-ISAC” to “E-ISAC.”

- The Implementation Plan does not modify the effective date for CIP-003-6 or any of the phased-in compliance dates in the CIP-003-6 Implementation Plan.
- Provides a single compliance date for the newly revised sections (Sections 2 and 3) in CIP-003-7, Attachment 1.
- The enforcement deadline will be the later of September 1, 2018 or the first day of the first calendar quarter that is nine (9) calendar months after the effective date of the order providing applicable regulatory approval.
- Carries forward by reference the provisions for planned or unplanned changes.

Standard/Requirement	NERC Board Adoption	Order 822 Effective Date: March 31, 2016	V5 Enforcement Date***	If effective date of the FERC approval, then LERC revisions become effective:		
		Compliance Deadline		3Q17	4Q17	1Q18
CIP-002-5	IAC, CN revisions - November 13, 2014 U, TD revisions - February 12, 2015	1-Jul-16	July 1, 2016 - CIP V5 Approved Compliance Date			
CIP-003-7		1-Jul-16		1-Jul-16	1-Jul-16	
CIP-003-6, R1, part 1.1*		1-Jul-16		1-Jul-16	1-Jul-16	
CIP-003-6, R1, part 1.2		1-Apr-17		1-Apr-17	1-Apr-17	
CIP-003-6, R2		1-Apr-17		1-Apr-17	1-Apr-17	
CIP-003-6, Att 1, Sect. 1		1-Apr-17		1-Apr-17	1-Apr-17	
CIP-003-7, Att 1, Sect. 2		1-Sep-18		1-Sep-18	1-Jan-19	
CIP-003-7, Att 1, Sect. 3		1-Sep-18		1-Sep-18	1-Jan-19	
CIP-003-6, Att 1, Sect. 4		1-Apr-17		1-Apr-17	1-Apr-17	
CIP-004-6		1-Jul-16				
CIP-005-5		1-Jul-16				
CIP-006-6		1-Jul-16				
CIP-006-6, R1, part 1.10**		1-Apr-17				
CIP-007-6		1-Jul-16				
CIP-007-6, R1, part 1.2**		1-Apr-17				
CIP-008-5		1-Jul-16				
CIP-009-6		1-Jul-16				
CIP-010-2		1-Jul-16				
CIP-010-2, R4		1-Apr-17				
CIP-011-2		1-Jul-16				
TCA, RM Glossary Terms		1-Apr-17				
BCA, PCA Glossary Terms		1-Apr-17				
LERC, LEAP Glossary Terms		1-Apr-17				

*“Where approval by an applicable governmental authority is required, Reliability Standard CIP-003-7 and the NERC Glossary term Low Impact External Rutable Communication (LERC) shall become **effective on the later of September 1, 2018 or the first day of the first calendar quarter that is nine (9) calendar months after the effective date** of the applicable governmental authority’s order approving the standard and NERC Glossary term, or as otherwise provided for by the applicable governmental authority.*

*Where approval by an applicable governmental authority is not required, Reliability Standard CIP-003-7 and the NERC Glossary term Low Impact External Rutable Communication (LERC) shall become **effective on the first day of the first calendar quarter that is nine (9) calendar months after the date the standard is adopted by the NERC Board of Trustees**, or as otherwise provided for in that jurisdiction.”*

“Planned or Unplanned Changes Resulting in a Higher Categorization – This implementation Plan incorporates by reference the section in the Implementation Plan associated with CIP-003-5 titled Planned or Unplanned Changes Resulting in a Higher Categorization.¹

Unplanned Changes Resulting in Low Impact Categorization – This implementation Plan incorporates by reference the section in the Implementation Plan associated with CIP-003-6 titled Unplanned Changes Resulting in Low Impact Categorization. That section provides:

For unplanned changes resulting in a low impact categorization where previously the asset containing BES Cyber Systems had no categorization, the Responsible Entity shall comply with all Requirements applicable to low impact BES Cyber Systems within 12 calendar months following the identification and categorization of the affected BES Cyber System.”

1. Due to the length of that section, it is not reproduced herein.

- July 20 – Request Standards Committee authorization to post Definition and CIP-003-7 (**Project 2016-02**) for stakeholder comment and ballot period.
- July 21 – September 6 – Planned 45 day Comment Period
- August 26 – September 6 – Ballot Period (for new ballot pool)
- August 16 – SDT Webinar (tentative)

- The SDT approved a proposed interpretation to the CIP-002-5.1 EnergySec Request for Interpretation.
- July 20 – Request Standards Committee authorization to post **Project 2015-INT-01** Interpretation for stakeholder comment and ballot period.
- July 27- September 9 – Planned 45 day Comment Period
- August 30 – September 9 – Ballot Period (for new ballot pool)

- Following close of the SAR comment period, the SDT considered comments submitted.
- The SDT reaffirmed the scope of work as proposed and accepted the revised SAR as final.
- The comments that were informative to the work in the scope of work are being referred to the sub-team leads for their consideration during development.

- Team and sub-team conference calls continue.

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
			1	2	3	4						1	2		1	2	3	4	5	6					1	2	3
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	Definitions and Concepts 12:00-2:00 ET 866-740-1260; Access: 6519455; Sec: 0001 Virtualization 2:00-4:00 PM ET 866-740-1260; Access: 5301963; Sec: 0002	Transient Cyber Assets at Low Impact 12:00-2:00 PM 866-740-1260; Access: 6519455; Sec: 0003 TO CC / Comm Networks 2:00-4:00 PM ET 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 July 26-28 in St. Paul, MN.

- 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