

Exhibit A

Proposed Reliability Standard PER-003-2 – Personnel Credentials

A. Introduction

1. **Title:** Operating Personnel Credentials
2. **Number:** PER-003-2
3. **Purpose:** To ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1. Reliability Coordinator
 - 4.1.2. Transmission Operator
 - 4.1.3. Balancing Authority
5. **Effective Date:** See Implementation Plan for standard PER-003-2.

B. Requirements and Measures

- R1. Each Reliability Coordinator shall staff its Real-time operating positions performing Reliability Coordinator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining a valid NERC Reliability Operator certificate ⁽¹⁾⁽²⁾: [*Risk Factor: High*][*Time Horizon: Real-time Operations*]
 - 1.1. Areas of Competency
 - 1.1.1. Resource and demand balancing
 - 1.1.2. Transmission operations
 - 1.1.3. Emergency preparedness and operations
 - 1.1.4. System operations
 - 1.1.5. Protection and control
 - 1.1.6. Voltage and reactive
 - 1.1.7. Interchange scheduling and coordination
 - 1.1.8. Interconnection reliability operations and coordination

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.

- M1.** Each Reliability Coordinator shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:
- M1.1** A list of Real-time operating positions.
 - M1.2** A list of System Operators assigned to its Real-time operating positions.
 - M1.3** A copy of each of its System Operator’s NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.
 - M1.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.
- R2.** Each Transmission Operator shall staff its Real-time operating positions performing Transmission Operator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates ⁽¹⁾⁽²⁾: [*Risk Factor: High*][*Time Horizon: Real-time Operations*]:
- 2.1. Areas of Competency**
 - 2.1.1.** Transmission operations
 - 2.1.2.** Emergency preparedness and operations
 - 2.1.3.** System operations
 - 2.1.4.** Protection and control
 - 2.1.5.** Voltage and reactive
 - 2.2. Certificates**
 - Reliability Operator
 - Balancing, Interchange and Transmission Operator
 - Transmission Operator
- M2.** Each Transmission Operator shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.

- M2.1** A list of Real-time operating positions.
 - M2.2** A list of System Operators assigned to its Real-time operating positions.
 - M2.3** A copy of each of its System Operator’s NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.
 - M2.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.
- R3.** Each Balancing Authority shall staff its Real-time operating positions performing Balancing Authority reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates ⁽¹⁾⁽²⁾: [*Risk Factor: High*][*Time Horizon: Real-time Operations*]:
- 3.1.** Areas of Competency
 - 3.1.1.** Resources and demand balancing
 - 3.1.2.** Emergency preparedness and operations
 - 3.1.3.** System operations
 - 3.1.4.** Interchange scheduling and coordination
 - 3.2.** Certificates
 - Reliability Operator
 - Balancing, Interchange and Transmission Operator
 - Balancing and Interchange Operator
- M3.** Each Balancing Authority shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:
- M3.1** A list of Real-time operating positions.
 - M3.2** A list of System Operators assigned to its Real-time operating positions.
 - M3.3** A copy of each of its System Operator’s NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.

- M3.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention:

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- Each Reliability Coordinator, Transmission Operator and Balancing Authority shall keep data or evidence for three years or since its last compliance audit, whichever time frame is the greatest.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	N/A	The Reliability Coordinator failed to staff each Real-time operating position performing Reliability Coordinator reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R1.
R2.	N/A	N/A	N/A	The Transmission Operator failed to staff each Real-time operating position performing Transmission Operator reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R2, Part 2.2.
R3.	N/A	N/A	N/A	The Balancing Authority failed to staff each Real-time operating position performing Balancing Authority reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R3, Part 3.2.

D. Regional Variances

None.

E. Associated Documents

[Implementation Plan](#)

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
1	February 17, 2011	Complete revision under Project 2007-04	Revision
1	February 17, 2011	Adopted by Board of Trustees	
1	September 15, 2011	FERC Order issued by FERC approving PER-003-1 (effective date of the Order is September 15, 2011)	
2	May 10, 2018	Added footnote to requirements	Revision
2	May 10, 2018	Adopted by Board of Trustees	Revision

A. Introduction

1. **Title:** Operating Personnel Credentials
2. **Number:** PER-003-~~1~~2
3. **Purpose:** To ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1. Reliability Coordinator
 - 4.1.2. Transmission Operator
 - 4.1.3. Balancing Authority
5. **Effective Date:** ~~See Implementation Plan for standard PER-003-2. In those jurisdictions where regulatory approval is required, this standard shall become effective the first calendar day of the first calendar quarter twelve months after applicable regulatory approval. In those jurisdictions where no regulatory approval is required, this standard shall become effective the first calendar day of the first calendar quarter twelve months after Board of Trustees adoption.~~

B. Requirements and Measures

- R1. Each Reliability Coordinator shall staff its Real-time operating positions performing Reliability Coordinator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining a valid NERC Reliability Operator certificate ⁽¹⁾(2); [*Risk Factor: High*][*Time Horizon: Real-time Operations*]
 - 1.1. Areas of Competency
 - 1.1.1. Resource and demand balancing
 - 1.1.2. Transmission operations
 - 1.1.3. Emergency preparedness and operations
 - 1.1.4. System operations

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.

1.1.5. Protection and control

1.1.6. Voltage and reactive

1.1.7. Interchange scheduling and coordination

1.1.8. Interconnection reliability operations and coordination

M1. Each Reliability Coordinator shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:

M1.1 A list of Real-time operating positions.

M1.2 A list of System Operators assigned to its Real-time operating positions.

M1.3 A copy of each of its System Operator's NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.

M1.4 Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.

R2. Each Transmission Operator shall staff its Real-time operating positions performing Transmission Operator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates ⁽¹⁾(2): [*Risk Factor: High*][*Time Horizon: Real-time Operations*]:

2.1. Areas of Competency

2.1.1. Transmission operations

2.1.2. Emergency preparedness and operations

2.1.3. System operations

2.1.4. Protection and control

2.1.5. Voltage and reactive

2.2. Certificates

- Reliability Operator
- Balancing, Interchange and Transmission Operator

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² [The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.](#)

- Transmission Operator
- M2.** Each Transmission Operator shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:
- M2.1** A list of Real-time operating positions.
 - M2.2** A list of System Operators assigned to its Real-time operating positions.
 - M2.3** A copy of each of its System Operator’s NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.
 - M2.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.
- R3.** Each Balancing Authority shall staff its Real-time operating positions performing Balancing Authority reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates ⁽¹⁾(2): [*Risk Factor: High*][*Time Horizon: Real-time Operations*]:
- 3.1.** Areas of Competency
 - 3.1.1.** Resources and demand balancing
 - 3.1.2.** Emergency preparedness and operations
 - 3.1.3.** System operations
 - 3.1.4.** Interchange scheduling and coordination
 - 3.2.** Certificates
 - Reliability Operator
 - Balancing, Interchange and Transmission Operator
 - Balancing and Interchange Operator
- M3.** Each Balancing Authority shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:

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² [The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.](#)

- M3.1** A list of Real-time operating positions.
- M3.2** A list of System Operators assigned to its Real-time operating positions.
- M3.3** A copy of each of its System Operator’s NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.
- M3.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention:

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- Each Reliability Coordinator, Transmission Operator and Balancing Authority shall keep data or evidence for three years or since its last compliance audit, whichever time frame is the greatest.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	N/A	The Reliability Coordinator failed to staff each Real-time operating position performing Reliability Coordinator reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R1.
R2.	N/A	N/A	N/A	The Transmission Operator failed to staff each Real-time operating position performing Transmission Operator reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R2, Part 2.2.
R3.	N/A	N/A	N/A	The Balancing Authority failed to staff each Real-time operating position performing Balancing Authority reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R3, Part 3.2.

D. Regional Variances

None.

E. Associated Documents

[Implementation Plan](#)

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
1	February 17, 2011	Complete revision under Project 2007-04	Revision
1	February 17, 2011	Adopted by Board of Trustees	
1	September 15, 2011	FERC Order issued by FERC approving PER-003-1 (effective date of the Order is September 15, 2011)	
<u>2</u>	<u>January 22, 2018</u>	<u>Added footnote to requirements</u>	<u>Revision</u>
<u>2</u>	<u>May 10, 2018</u>	<u>Adopted by Board of Trustees</u>	<u>Revision</u>

Exhibit B

Implementation Plan for Proposed Reliability Standard PER-003-2

Implementation Plan

Project 2017-02 Operating Personnel Credentials

Requested Approvals

- PER-003-2 Operating Personnel Credentials

Requested Retirements

- PER-003-1 Operating Personnel Credentials
- PER-004-2 Reliability Coordination - Staffing

Applicable Entities

- Reliability Coordinator
- Transmission Operator
- Balancing Authority

Effective Date

The effective date for proposed Reliability Standard PER-003-2 is provided below:

Where approval by an applicable governmental authority is required, Reliability Standard PER-003-2 shall become effective the first day of the first calendar quarter that is six (6) calendar months after the effective date of the applicable governmental authority's order approving the standards and terms, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, Reliability Standard PER-003-2 shall become effective on the first day of the first calendar quarter that is six (6) calendar months after the date the standards and terms are adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Retirement Date

Current NERC Reliability Standards

The existing standards PER-003-1 and PER-004-2 shall be retired immediately prior to the effective date of the proposed PER-003-2 standard.

Exhibit D

Summary of Development History and Complete Record of Development

Summary of Development History

Summary of Development History

The development record for proposed Reliability Standard PER-003-2 is summarized below.

I. Overview of the Standard Drafting Team

When evaluating a proposed Reliability Standard, the Commission is expected to give “due weight” to the technical expertise of the ERO.¹ The technical expertise of the ERO is derived from the standard drafting team selected to lead each project in accordance with Section 4.3 of the NERC Standards Process Manual.² For this project, the standard drafting team consisted of industry experts, all with a diverse set of experiences. A roster of the Standard Drafting team (“SDT”) members is included in Exhibit E.

II. Standard Development History

A. Standard Authorization Request Development

Project 2017-02 – Modifications to Personnel Performance, Training, and Qualifications Standards was initiated in direct relation to recommendations provided by the Project 2016-EPR-01 – Personnel, Performance, Training, and Qualifications (PER) Standards Periodic Review Team (“PER PRT”) to add clarity to the currently-effective PER-003-1 standard that explains that the NERC certifications identified in this standard are described in the NERC System Operator Certification Program. Specifically, the PER PRT developed a recommendation that a clarifying footnote be added to PER-003-1 to ensure that stakeholders (now and in the future) understand (i) the connection between the Standard and the Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program.

¹ Section 215(d)(2) of the Federal Power Act; 16 U.S.C. §824(d)(2) (2012).

² The NERC *Standard Processes Manual* is available at http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf.

The Standards Authorization Request (“SAR”) for Project 2017-02 was posted for an initial 30-day informal comment period from June 21, 2017 through July 24, 2017. The SAR was accepted by the Standards Committee on June 14, 2017.

B. First Posting - Comment Period, Initial Ballots

Proposed Reliability Standard PER-003-2 and the associated Implementation Plan, were posted for a 45-day formal comment period from January 22, 2018 through March 7, 2018, with parallel Initial Ballots for proposed the standard held during the last 10 days of the comment period from February 26, 2018 through March 7, 2018. The Initial Ballot for proposed Reliability Standard PER-003-2 received 80.93% quorum, and 97.50% approval. The Initial Ballot for the proposed Implementation Plan received 81.27% quorum, and 98.91% approval. There were 30 sets of responses, including comments from approximately 97 different individuals and approximately 76 companies, representing all of the 10 industry segments.³

C. Final Ballots

Proposed Reliability Standard PER-003-2 and the associated Implementation Plan were posted for a 10-day final ballot period from April 3, 2018 through April 12, 2018. The final ballot for proposed Reliability Standard PER-003-2 reached quorum at 84.82% of the ballot pool, and the proposed standard received sufficient affirmative votes for approval, receiving support from 96.64% of the voters.⁴ The final ballot for proposed Implementation Plan reached quorum at

³ NERC, *Consideration of Comments*, Project 2017-02 Modifications to Personnel Performance, Training, and Qualifications Standards (PER-003-2 and Implementation Plan), (March 26, 2018), *available at* https://www.nerc.com/pa/Stand/201702_Modifications_to_PER_Standards_DL/2017-02_Mod_PER_Standards_Consideration_of_Comments_04032018.pdf.

⁴ NERC, Ballot Results (PER-003-2), *available at* <https://sbs.nerc.net/BallotResults/Index/245>.

84.86% of the ballot pool, and the proposed Implementation Plan received sufficient affirmative votes for approval, receiving support from 97.88% of the voters.⁵

D. Board of Trustees Adoption

Proposed Reliability Standard PER-003-2 was adopted by the NERC Board of Trustees on May 10, 2018.⁶

⁵ NERC, Ballot Results (Implementation Plan), available at <https://sbs.nerc.net/BallotResults/Index/246>.

⁶ NERC, *Board of Trustees Agenda Package*, Agenda Item 7a (PER-003-2 — Operating Personnel Credentials), available at

[https://www.nerc.com/gov/bot/Agenda%20highlights%20and%20Mintues%202013/Board Meeting Agenda Package May 10 2018.pdf](https://www.nerc.com/gov/bot/Agenda%20highlights%20and%20Mintues%202013/Board%20Meeting%20Agenda%20Package%20May%2010%202018.pdf).

Complete Record of Development

Project 2017-02 Modifications to Personnel Performance, Training, and Qualifications

Status

Final ballots for the following concluded **8 p.m. Eastern, Thursday, April 12, 2018.**

- PER-003-2 Operating Personnel Credentials
- PER-003-1 Operating Personnel Credentials – Retirement
- PER-004-2 Reliability Coordination-Staffing – Retirement

The voting results can be accessed via the links below. The standard and implementation plan will be submitted to the Board of Trustees for adoption and then filed with the appropriate regulatory authorities.

Background

The Project 2016-EPR-01 PER Team recommends that a clarifying footnote be added to PER-003-1 to ensure that stakeholders (now and in the future) understand (i) the connection between the Standard and the Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program.

The Project 2016-EPR-01 PER Team recommends that PER-004-2 be retired.

Standard(s) Affected – PER-003-1 and PER-004-2

Purpose/Industry Need

A clarifying footnote needs to be added to PER-003-1 Requirement R1, R2 and R3 to ensure that stakeholders (now and in the future) understand (i) the connection between the Standard and the Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program.

The PER-004-2 standard falls within Paragraph 81 Criterion B7 and should be retired. All of its requirements are redundant with requirements in other FERC-approved reliability standards that are in effect or soon to be effective. It is not necessary or efficient to maintain such duplicative requirements. Specifically, PER-004-2's requirements are duplicated in standards:

- PER-003-1, R1
- PER-005-2, R2 and R3
- IRO-002-4, R3 and R4
- EOP-004-2, R2
- IRO-008-2, R1, R2, and R4
- IRO-009-2, R1 – R4
- IRO-010-2, R1 – R3
- IRO-014-3, generally
- IRO-018-1, R1-R3

Draft	Actions	Dates	Results	Consideration of Comments
<p align="center">Final Ballots</p> <p align="center">PER-003-2 Clean (25) Redline to Last Approved (26)</p> <p align="center">Implementation Plan (27)</p>	<p align="center">Final Ballots</p> <p align="center">Info (28)</p> <p align="center">Vote</p>	<p align="center">04/03/18 - 04/12/18</p>	<p align="center">Ballot Results</p> <p align="center">PER-003-2 (29)</p> <p align="center">Implementation Plan (30)</p>	
<p align="center">Draft 1</p> <p align="center">PER-003-2 Clean (14) Redline to Last Approved (15)</p> <p align="center">Implementation Plan (16)</p> <p align="center">Supporting Materials</p> <p align="center">Unofficial Comment Form (Word) (17)</p>	<p align="center">Initial Ballots</p> <p align="center">Updated Info (21)</p> <p align="center">Info (22)</p> <p align="center">Vote</p> <hr/> <p align="center">Comment Period</p> <p align="center">Info (18)</p> <p align="center">Submit Comments</p>	<p align="center">02/26/18 - 03/07/18</p> <hr/> <p align="center">01/22/18 - 03/07/18</p>	<p align="center">Ballot Results</p> <p align="center">PER-003-2 (23)</p> <p align="center">Implementation Plan (24)</p> <hr/> <p align="center">Comments Received (19)</p>	<p align="center">Consideration of Comments (20)</p>

	Join Ballot Pools	01/22/18 - 02/20/18		
Standards Authorization Request (7) Supporting Materials Periodic Review Templates PER-003-1 (8) PER-004-2 (9) Unofficial Comment Form (Word) (10)	Comment Period Info (11) Submit Comments	06/21/17 - 07/24/17	Comments Received (12)	Consideration of Comments (13)
Periodic Review Templates PER-003-1 (1) PER-004-2 (2) Supporting Materials Unofficial Comment Form (Word) (3)	Comment Period Info (4) Submit Comments	01/10/17 - 02/23/17	Comments Received (5)	Consideration of Comments (6)

Periodic Review Template: PER-003-1 Operating Personnel Credentials

December 2016

Introduction

The North American Electric Reliability Corporation (NERC) is required to conduct a periodic review of each NERC Reliability Standard at least once every ten (10) years, or once every five (5) years for Reliability Standards approved by the American National Standards Institute as an American National Standard.¹ The Reliability Standard identified above has been included in the current cycle of periodic reviews. The Review Team shall consist of two (2) subgroups; a Standing Review Team which is appointed annually by the Standards Committee for periodic reviews, and a stakeholder Subject Matter Expert (SME) team.² Consistent with Section 13 of the Standards Processes Manual, the Standards Committee may use a public nomination process to appoint the stakeholder SME team, or may use another method to appoint that results in a team that collectively has the necessary technical expertise and work process skills to meet the objectives of the project. The technical experts provide the subject matter expertise and guide the development of the technical aspects of the periodic review, assisted by technical writers, legal and compliance experts. The technical experts maintain authority over the technical details of the periodic review.

Together, the Standing Review Team and SME stakeholder team are the Review Team for a particular periodic review project and complete their portion of the template below.

The purpose of the template is to collect background information, pose questions to guide a comprehensive review of the Standard(s) by the Review Team, and document the Review Team’s considerations and recommendations. The Review Team will post the completed template containing its recommendations for information and stakeholder input as required by Section 13 of the NERC Standard Processes Manual.

Review Team Composition

	Standing Review Team	Plus Section 13 (SMEs):
Non-CIP Standards	Chairs of the following NERC Standing Committees ³ : <ul style="list-style-type: none"> Standards Committee (Also, the SC chair or his/her delegate from the 	The Standards Committee will appoint stakeholder subject matter experts for the particular standard(s) being reviewed. The SMEs will work together with the

¹NERC Standard Processes Manual 45 (2013), posted at http://www.nerc.com/pa/Stand/Documents/Appendix_3A_StandardsProcessesManual.pdf.

² Other reliability standards included as part of the Review Team’s periodic review were PER-004-2 (included in a separate, concurrent, report) and PER-001-0.2 (which was approved for retirement on March 31, 2017 and therefore not included in either report).

³Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.

	<p>SC will chair the Standing Review Team)⁴</p> <ul style="list-style-type: none"> • Planning Committee • Operating Committee <p>The Standing Review Team will meet with SMEs and help to ensure a consistent strategy and approach across all of the reviews.</p>	<p>Standing Review Team to conduct its review of the standard(s) and complete the template below.</p>
CIP Standards	<p>Chairs of the following NERC Standing Committees⁵:</p> <ul style="list-style-type: none"> • Standards Committee (Also, the SC chair or his/her delegate from the SC will chair the Standing Review Team) • CIPC 	<p>The Standards Committee will appoint stakeholder subject matter experts for the particular standard(s) being reviewed. The SMEs will work together with the Standing Review Team to conduct its review of the standard(s) and complete the template below.</p>

The Review Team will use the background information and the questions below, along with any associated worksheets or reference documents, to guide a comprehensive review that results in a recommendation from one of the following three (3) choices:

1. Recommend reaffirming the Standard as steady-state (Green); or
2. Recommend that the standard is sufficient to protect reliability and meet the reliability objective of the standard, however there may be future opportunity to improve a non-substantive or insignificant quality and content issue – i.e., continue to monitor (Yellow); or
3. Recommend that the standard needs revision or retirement (Red).

If the team recommends a revision to or a retirement of the Reliability Standard, it must also submit a Standard Authorization Request (SAR) outlining the proposed scope and technical justification for the revision or retirement.

A completed Periodic Review Template and any associated documentation should be submitted by email to Darrel Richardson at darrel.richardson@nerc.net.

⁴ The Standards Committee chair may delegate one member of the SC to chair one Standing Review Team’s review of a standard s), and another SC member to chair a review of another standard(s).

⁵ Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.

Applicable Reliability Standard: PER-003-1**Team Members (include name and organization):**

1. Patti Metro, Nation Rural Electric Cooperative Association
2. Lauri Jones, Pacific Gas and Electric Company
3. Heather Morgan, EDP Renewables North America LLC
4. Jeffrey Sunvick, Western Area Power Administration
5. Jimmy Womack, Southwest Power Pool
6. Brad Perrett, Minnesota Power
7. Carolyn White Wilson, Duke Energy Corporation
8. Michael B. Hoke, PJM Interconnection LLC
9. Danny W. Johnson, Xcel Energy
10. Darrel Richardson, NERC Senior Standards Developer
11. Candice Castaneda, NERC Counsel
12. Michael Brytowski, Great River Energy PMOS Representative

Date Review Completed:**Background Information (to be completed initially by NERC staff)**

1. Are there any outstanding Federal Energy Regulatory Commission (FERC) directives associated with the Reliability Standard? *(If so, NERC staff will attach a list of the directives with citations to associated FERC orders for inclusion in a SAR.)*

Yes

No

2. Have stakeholders requested clarity on the Reliability Standard in the form of an (outstanding, in progress, or approved) Interpretation or Compliance Application Notice (CAN)? *(If there are, NERC staff will include a list of the Interpretation(s), CAN(s), or other stakeholder-identified issue(s) that apply to the Reliability Standard.)*

Yes

No

Please explain:

3. Is the Reliability Standard one of the most violated Reliability Standards?

Yes No

If so, does the cause of the frequent violation appear to be a lack of clarity in the language?

 Yes No

Please explain:

Questions for the Review Team

If NERC staff answered “Yes” to any of the questions above, the Reliability Standard probably requires revision. The questions below are intended to further guide your review. Some of the questions reference documents provided by NERC staff as indicated in the Background questions above. Either as a guide to help answer the ensuing questions or as a final check, the Review Team is to use Attachment 3: Independent Expert Evaluation Process.

I. Quality

1. **Reliability Need, Paragraph 81:** Do any of the requirements in the Reliability Standard meet criteria for retirement or modification based on Paragraph 81 concepts? *Use Attachment 2: Paragraph 81 Criteria to make this determination.*

 Yes No

Please summarize your application of Paragraph 81 Criteria, if any:

2. **Clarity:** From the Background Information section of this template, has the Reliability Standard been the subject of an Interpretation, CAN or issue associated with it, or is frequently violated because of ambiguity?
- Does the Reliability Standard have obviously ambiguous language?
 - Does the Reliability Standard have language that requires performance that is not measurable?
 - Are the requirements consistent with the purpose of the Reliability Standard?
 - Should the requirements stand alone as is, or should they be consolidated with other standards?
 - Is the Reliability Standard complete and self-contained?
 - Does the Reliability Standard use consistent terminology?

Yes No

Please summarize your assessment: Although the response to the parent question above is “No” examination of its subparts (a) – (g) has led the Review Team to recommend a clarifying revision. The Project 2016-EPR-01 PER Review Team recommends that a clarifying footnote be added to PER-003-1 to ensure that stakeholders (now and in the future) understand (i) the connection between the Standard and the NERC System Operator Certification Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program.

3. **Definitions:** Do any of the defined terms used within the Reliability Standard need to be refined?

 Yes No

Please explain:

4. **Compliance Elements:** Are the compliance elements associated with the requirements (Measures, Data Retention, Violation Risk Factors (VRF), Violation Severity Levels (VSL) and Time Horizons) consistent with the direction of the Reliability Assurance Initiative and FERC and NERC guidelines?

 Yes No

If you answered “No,” please identify which elements require revision, and why:

5. **Consistency with Other Reliability Standards:** Does the Reliability Standard need to be revised for formatting and language consistency among requirements within the Reliability Standard, or for coordination with other Reliability Standards?

 Yes No

If you answered “Yes,” please describe the changes needed to achieve formatting and language consistency:

6. **Changes in Technology, System Conditions, or other Factors:** Does the Reliability Standard need to be revised to account for changes in technology, system conditions or other factors?

Yes

No

If you answered “Yes,” please describe the changes and specifically what the potential impact is to reliability if the Reliability Standard is not revised:

7. **Practicable:**

- a. Can the Reliability Standard be practically implemented?

Yes

No

- b. Is there a concern that it is not cost effective as drafted?

Yes

No

Please summarize your assessment of the practicability of the standard:

8. **Consideration of Generator and Transmission Interconnection Facilities:** Is responsibility for generator interconnection Facilities and Transmission Interconnection Facilities appropriately accounted for in the Reliability Standard? **N/A to this standard.**

Yes

No

Guiding Questions:

- a. If the Reliability Standard is applicable to Generator Owners and/or Generator Operators, is there any ambiguity about the inclusion of generator Interconnection Facilities? (If generation Interconnection Facilities could be perceived to be excluded, specific language referencing the Facilities should be introduced in the Reliability Standard.)
- b. If the Reliability Standard is not applicable to Generator Owners and/or Generator Operators, is there a reliability-related need for treating generator Interconnection Facilities as Transmission Lines for the purposes of this Reliability Standard? (If so, Generator Owners that own and/or

Generator Operators that operate relevant generator Interconnection Facilities should be explicit in the applicability section of the Reliability Standard.)

- c. If the Reliability Standard is applicable to Transmission Operators and/or Distribution Providers, is there any ambiguity about the inclusion of Transmission Interconnection Facilities? (If Transmission Interconnection Facilities could be perceived to be excluded, specific language referencing the Facilities should be introduced in the Reliability Standard.)

9. **Results Based Standard:** Is the Reliability Standard drafted as a results-based standard?

Yes

No

If not, please summarize your assessment:

Guiding Questions:

- a. Does the Reliability Standard address performance, risk (prevention) and capability?

Yes

No

- b. Does the Reliability Standard follow the RBS format (for example, Requirement and Part structure) in Attachment 1?

Yes

No

- c. Does the Reliability Standard follow the Ten Benchmarks of an Excellent Reliability Standard⁶?

Yes

No

II. Content

⁶ Ten Benchmarks of an Excellent Reliability Standard, posted at Page 626 of:
http://www.nerc.com/pa/Stand/Resources/Documents/DT_Reference_Manual_Resource_Package_080114.pdf

10. **Technical accuracy:** Is the content of the Requirements technically correct, including identifying who does what and when?

Yes

No

If not, please summarize your assessment:

11. **Functional Model:** Are the correct functional entities assigned to perform the requirements, consistent with the Functional Model?

Yes

No

If not, please summarize your assessment:

12. **Applicability:** Is there a technical justification for revising the applicability of the Reliability Standard, or specific requirements within the standard, to account for differences in reliability risk?

Yes

No

If so, please summarize your assessment:

13. **Reliability Gaps:** Are the appropriate actions for which there should be accountability included, or is there a gap?

Yes

No

If a gap is identified, please explain:

14. **Technical Quality:** Does the Reliability Standard have a technical basis in engineering and operations?

Yes

No

If not, please summarize your assessment:

15. Does the Reliability Standard reflect a higher solution than the lowest common denominator?

Yes

No

If not, please summarize your assessment:

16. Related Regional Reliability Standards: Is there a related regional Reliability Standard, and is it appropriate to recommend the regional Reliability Standard be retired, appended into the continent-wide standard, or revised in favor of a continent-wide Standard?

Yes

No

If yes, please identify the regional standard(s) and summarize your assessment:

RED, YELLOW GREEN GRADING

Using the questions above, the Review Team shall come to a consensus on whether the Reliability Standard is Green – i.e., affirm as steady-state; Yellow –is sufficient to protect reliability and meet the reliability objective of the standard, however, there may be future opportunity to improve a non-substantive or insignificant quality and content issue – i.e., continue to monitor; or Red - either retire or needs revision, and, thus, a SAR should be developed to process the Standard through the Standards development process for retirement or revision. The reasons for the Review Team’s conclusions of Green, Yellow, or Red shall be documented. If a consensus is not reached within the Review Team, minority reviews shall be posted for stakeholder comment, along with the majority opinion on whether the Reliability Standard is Green, Yellow or Red.

Recommendation

The answers to the questions above, along with its Red, Yellow, Green grading and the recommendation of the Review Team, will be posted for a 45-day comment period, and the comments publicly posted. The Review Team will review the comments to evaluate whether to modify its initial recommendation, and will document the final recommendation which will be presented to the Standards Committee.

Preliminary Recommendation (to be completed by the Review Team after its review and prior to posting the results of the review for industry comment):

REAFFIRM *(This should be checked only if there are no outstanding directives, interpretations or issues identified by stakeholders.) GREEN*

- REVISE (*The standard is sufficient to protect reliability and meet the reliability objective of the standard, however there may be future opportunity to improve a non-substantive or insignificant quality and content issue.*) (Would include revision of associated RSAW.) **YELLOW**
- REVISE (*The recommended revisions are required to support reliability.*) (Would include revision of associated RSAW.) **RED**
- RETIRE (Would include revision of associated RSAW.) **RED**

Technical Justification (*If the Review Team recommends that the Reliability Standard be revised, a draft SAR may be included and the technical justification included in the SAR*):

The Project 2016-EPR-01 PER Team recommends that a clarifying footnote be added to PER-003-1 to ensure that stakeholders (now and in the future) understand (i) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program; and (ii) the connection between the Standard and the Program Manual.

Preliminary Recommendation posted for industry comment (date):

Final Recommendation (to be completed by the Review Team after it has reviewed industry comments on the preliminary recommendation):

- REAFFIRM *(This should be checked only if there are no outstanding directives, interpretations or issues identified by stakeholders.) GREEN*
- REVISE *(The standard is sufficient to protect reliability and meet the reliability objective of the standard, however there may be future opportunity to improve a non-substantive or insignificant quality and content issue.) (Would include revision of associated RSAW.) YELLOW*
- REVISE *(The recommended revisions are required to support reliability.) (Would include revision of associated RSAW.) RED*
- RETIRE *(Would include revision of associated RSAW.) RED*

Technical Justification *(If the Review Team recommends that the Reliability Standard be revised, a draft SAR must be included and the technical justification included in the SAR):*

Date submitted to Standards Committee:

Attachment 1: Results-Based Standards

Question 9 for the Review Team asks if the Reliability Standard is results-based. The information below will be used by the Review Team in making this determination.

Transitioning the current body of standards into a clear, concise, and effective body will require a comprehensive application of the RBS concept. RBS concepts employ a defense-in-depth strategy for Reliability Standards development where each requirement has a role in preventing system failures, and the roles are complementary and reinforcing. Reliability Standards should be viewed as a portfolio of requirements designed to achieve an overall defense-in-depth strategy and comply with the quality objectives identified in the resource document titled, "[Acceptance Criteria of a Reliability Standard](#)."

Accordingly, the Review Team shall consider whether the Reliability Standard contains results-based requirements with sufficient clarity to hold entities accountable without being overly prescriptive as to how a specific reliability outcome is to be achieved. The RBS concept, properly applied, addresses the clarity and effectiveness aspects of a standard.

A Reliability Standard that adheres to the RBS format should strive to achieve a portfolio of performance-, risk-, and competency-based mandatory reliability requirements that support an effective defense-in-depth strategy. Each requirement should identify a clear and measurable expected outcome, such as: a) a stated level of reliability performance, b) a reduction in a specified reliability risk, or c) a necessary competency.

- a. **Performance-Based**—defines a particular reliability objective or outcome to be achieved. In its simplest form, a results-based requirement has four components: who, under what conditions (if any), shall perform what action, to achieve what particular result or outcome?
- b. **Risk-Based**—preventive requirements to reduce the risks of failure to acceptable tolerance levels. A risk-based reliability requirement should be framed as: who, under what conditions (if any), shall perform what action, to achieve what particular result or outcome that reduces a stated risk to the reliability of the bulk power system?
- c. **Competency-Based**—defines a minimum set of capabilities an entity needs to have to demonstrate it is able to perform its designated reliability functions. A competency-based reliability requirement should be framed as: who, under what conditions (if any), shall have what capability, to achieve what particular result or outcome to perform an action to achieve a result or outcome or to reduce a risk to the reliability of the bulk power system?

Additionally, each RBS-adherent Reliability Standard should enable or support one or more of the eight reliability principles listed below. Each Reliability Standard should also be consistent with all of the reliability principles.

1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.
5. Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of interconnected bulk power systems.
6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
7. The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.
8. Bulk power systems shall be protected from malicious physical or cyber-attacks.

If the Reliability Standard does not provide for a portfolio of performance-, risk-, and competency-based requirements or consistency with NERC's reliability principles, NERC staff and the Review Team should recommend that the Reliability Standard be revised or reformatted in accordance with the RBS format.

Attachment 2: Paragraph 81 Criteria

The first question for the Review Team asks if one or more of the requirements in the Reliability Standard meet(s) criteria for retirement or modification based on Paragraph 81 concepts.⁷ Use the Paragraph 81 criteria explained below to make this determination. Document the justification for the decisions throughout and provide them in the final assessment in the Periodic Review Template.

For a Reliability Standard requirement to be proposed for retirement or modification based on Paragraph 81 concepts, it must satisfy **both**: (i) Criterion A (the overarching criterion); and (ii) at least one of the Criteria B listed below (identifying criteria). In addition, for each Reliability Standard requirement proposed for retirement or modification, the data and reference points set forth below in Criteria C should be considered for making a more informed decision.

Criterion A (Overarching Criterion)

The Reliability Standard requirement requires responsible entities (“entities”) to conduct an activity or task that does little, if anything, to benefit or protect the reliable operation of the BES.

Section 215(a) (4) of the United States Federal Power Act defines “reliable operation” as: “... 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.”

Criteria B (Identifying Criteria)

B1. Administrative

The Reliability Standard requirement requires responsible entities to perform a function that is administrative in nature, does not support reliability and is needlessly burdensome.

This criterion is designed to identify requirements that can be retired or modified with little effect on reliability and whose retirement or modification will result in an increase in the efficiency of the ERO compliance program. Administrative functions may include a task that is related to developing procedures or plans, such as establishing communication contacts. Thus, for certain requirements, Criterion B1 is closely related to Criteria B2, B3 and B4. Strictly administrative functions do not inherently negatively impact reliability directly and, where possible, should be eliminated or modified for purposes of efficiency and to allow the ERO and entities to appropriately allocate resources.

⁷ In most cases, satisfaction of the Paragraph 81 criteria will result in the retirement of a requirement. In some cases, however, there may be a way to modify a requirement so that it no longer satisfies Paragraph 81 criteria. Recognizing that, this document refers to both options.

B2. Data Collection/Data Retention

These are requirements that obligate responsible entities to produce and retain data which document prior events or activities, and should be collected via some other method under NERC's rules and processes.

This criterion is designed to identify requirements that can be retired or modified with little effect on reliability. The collection and/or retention of data do not necessarily have a reliability benefit and yet are often required to demonstrate compliance. Where data collection and/or data retention is unnecessary for reliability purposes, such requirements should be retired or modified in order to increase the efficiency of the ERO compliance program.

B3. Documentation

The Reliability Standard requirement requires responsible entities to develop a document (*e.g.*, plan, policy or procedure) which is not necessary to protect reliability of the bulk power system.

This criterion is designed to identify requirements that require the development of a document that is unrelated to reliability or has no performance or results-based function. In other words, the document is required, but no execution of a reliability activity or task is associated with or required by the document.

B4. Reporting

The Reliability Standard requirement obligates responsible entities to report to a Regional Entity, NERC or another party or entity. These are requirements that obligate responsible entities to report to a Regional Entity on activities which have no discernible impact on promoting the reliable operation of the BES and if the entity failed to meet this requirement there would be little reliability impact.

B5. Periodic Updates

The Reliability Standard requirement requires responsible entities to periodically update (*e.g.*, annually) documentation, such as a plan, procedure or policy without an operational benefit to reliability.

This criterion is designed to identify requirements that impose an updating requirement that is out of sync with the actual operations of the BES, unnecessary, or duplicative.

B6. Commercial or Business Practice

The Reliability Standard requirement is a commercial or business practice, or implicates commercial rather than reliability issues.

This criterion is designed to identify those requirements that require: (i) implementing a best or outdated business practice or (ii) implicating the exchange of or debate on commercially sensitive information while doing little, if anything, to promote the reliable operation of the BES.

B7. Redundant

The Reliability Standard requirement is redundant with: (i) another FERC-approved Reliability Standard requirement(s); (ii) the ERO compliance and monitoring program; or (iii) a governmental regulation (*e.g.*, Open Access Transmission Tariff, North American Energy Standards Board (“NAESB”), etc.).

This criterion is designed to identify requirements that are redundant with other requirements and are, therefore, unnecessary. Unlike the other criteria listed in Criterion B, in the case of redundancy, the task or activity itself may contribute to a reliable BES, but it is not necessary to have two duplicative requirements on the same or similar task or activity. Such requirements can be retired or modified with little or no effect on reliability and removal will result in an increase in efficiency of the ERO compliance program.

Criteria C (Additional data and reference points)

Use the following data and reference points to assist in the determination of (and justification for) whether to proceed with retirement or modification of a Reliability Standard requirement that satisfies both Criteria A and B:

C1. Was the Reliability Standard requirement part of a FFT filing?

The application of this criterion involves determining whether the requirement was included in a FFT filing.

C2. Is the Reliability Standard requirement being reviewed in an ongoing Standards Development Project?

The application of this criterion involves determining whether the requirement proposed for retirement or modification is part of an active Standards Development Project, with consideration for the status of the project. If the requirement has been approved by Registered Ballot Body and is scheduled to be presented to the NERC Board of Trustees, in most cases it will not need to be addressed in the periodic review. The exception would be a requirement, such as the Critical Information Protection (CIP) requirements for Version 3 and 4, that is not due to be retired for an extended period of time. Also, for informational purposes, whether the requirement is included in a future or pending Standards Development Project should be identified and discussed.

C3. What is the VRF of the Reliability Standard requirement?

The application of this criterion involves identifying the VRF of the requirement proposed for retirement or modification, with particular consideration of any requirement that has been assigned as having a Medium or High VRF. Also, the fact that a requirement has a Lower VRF is not dispositive that

it qualifies for retirement or modification. In this regard, Criterion C3 is considered in light of Criterion C5 (Reliability Principles) and C6 (Defense in Depth) to ensure that no reliability gap would be created by the retirement or modification of the Lower VRF requirement. For example, no requirement, including a Lower VRF requirement, should be retired or modified if doing so would harm the effectiveness of a larger scheme of requirements that are purposely designed to protect the reliable operation of the BES.

C4. In which tier of the most recent Actively Monitored List (AML) does the Reliability Standard requirement fall?

The application of this criterion involves identifying whether the requirement proposed for retirement or modification is on the most recent AML, with particular consideration for any requirement in the first tier of the AML.

C5. Is there a possible negative impact on NERC's published and posted reliability principles?

The application of this criterion involves consideration of the eight following reliability principles published on the NERC webpage.

Reliability Principles

NERC Reliability Standards are based on certain reliability principles that define the foundation of reliability for North American bulk power systems. Each reliability standard shall enable or support one or more of the reliability principles, thereby ensuring that each standard serves a purpose in support of reliability of the North American bulk power systems. Each reliability standard shall also be consistent with all of the reliability principles, thereby ensuring that no standard undermines reliability through an unintended consequence.

Principle 1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.

Principle 2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.

Principle 3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.

Principle 4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.

Principle 5. Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of interconnected bulk power systems.

Principle 6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.

Principle 7. The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.

Principle 8. Bulk power systems shall be protected from malicious physical or cyber-attacks.
(footnote omitted)

C6. Is there any negative impact on the defense in depth protection of the BES?

The application of this criterion considers whether the requirement proposed for retirement or modification is part of a defense in depth protection strategy. In other words, the assessment is to verify whether other requirements rely on the requirement proposed for retirement or modification to protect the BES.

C7. Does the retirement or modification promote results or performance based Reliability Standards?

The application of this criterion considers whether the requirement, if retired or modified, will promote the initiative to implement results- and/or performance-based Reliability Standards.

Attachment 3: Independent Expert Evaluation Process

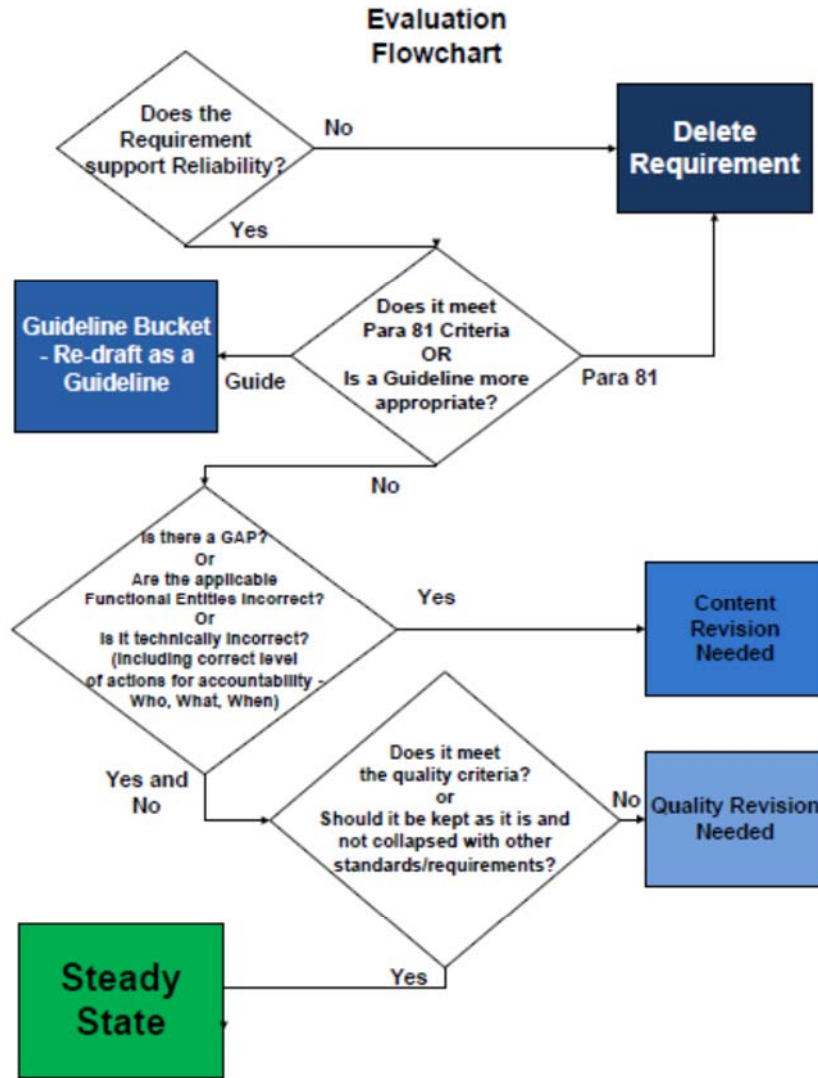


Figure 1: Evaluation Flow Chart

Periodic Review Template: PER-004-2 Reliability Coordination - Staffing

December 2016

Introduction

The North American Electric Reliability Corporation (NERC) is required to conduct a periodic review of each NERC Reliability Standard at least once every ten (10) years, or once every five (5) years for Reliability Standards approved by the American National Standards Institute as an American National Standard.¹ The Reliability Standard identified above has been included in the current cycle of periodic reviews. The Review Team shall consist of two (2) subgroups; a Standing Review Team which is appointed annually by the Standards Committee for periodic reviews, and a stakeholder Subject Matter Expert (SME) team.² Consistent with Section 13 of the Standards Processes Manual, the Standards Committee may use a public nomination process to appoint the stakeholder SME team, or may use another method to appoint that results in a team that collectively has the necessary technical expertise and work process skills to meet the objectives of the project. The technical experts provide the subject matter expertise and guide the development of the technical aspects of the periodic review, assisted by technical writers, legal and compliance experts. The technical experts maintain authority over the technical details of the periodic review.

Together, the Standing Review Team and SME stakeholder team are the Review Team for a particular periodic review project and complete their portion of the template below.

The purpose of the template is to collect background information, pose questions to guide a comprehensive review of the Standard(s) by the Review Team, and document the Review Team's considerations and recommendations. The Review Team will post the completed template containing its recommendations for information and stakeholder input as required by Section 13 of the NERC Standard Processes Manual.

Review Team Composition

	Standing Review Team	Plus Section 13 (SMEs):
Non-CIP Standards	Chairs of the following NERC Standing Committees ³ : <ul style="list-style-type: none"> Standards Committee (Also, the SC chair or his/her delegate from the 	The Standards Committee will appoint stakeholder subject matter experts for the particular standard(s) being reviewed. The SMEs will work together with the

¹NERC Standard Processes Manual 45 (2013), posted at http://www.nerc.com/pa/Stand/Documents/Appendix_3A_StandardsProcessesManual.pdf.

² Other reliability standards included as part of the Review Team's periodic review were PER-003-1 (included in a separate, concurrent, report) and PER-001-0.2 (which was approved for retirement on March 31, 2017 and therefore not included in either report).

³Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.

	<p>SC will chair the Standing Review Team)⁴</p> <ul style="list-style-type: none"> • Planning Committee • Operating Committee <p>The Standing Review Team will meet with SMEs and help to ensure a consistent strategy and approach across all of the reviews.</p>	<p>Standing Review Team to conduct its review of the standard(s) and complete the template below.</p>
CIP Standards	<p>Chairs of the following NERC Standing Committees⁵:</p> <ul style="list-style-type: none"> • Standards Committee (Also, the SC chair or his/her delegate from the SC will chair the Standing Review Team) • CIPC 	<p>The Standards Committee will appoint stakeholder subject matter experts for the particular standard(s) being reviewed. The SMEs will work together with the Standing Review Team to conduct its review of the standard(s) and complete the template below.</p>

The Review Team will use the background information and the questions below, along with any associated worksheets or reference documents, to guide a comprehensive review that results in a recommendation from one of the following three (3) choices:

1. Recommend reaffirming the Standard as steady-state (Green); or
2. Recommend that the standard is sufficient to protect reliability and meet the reliability objective of the standard, however there may be future opportunity to improve a non-substantive or insignificant quality and content issue – i.e., continue to monitor (Yellow); or
3. Recommend that the standard needs revision or retirement (Red).

If the team recommends a revision to or a retirement of the Reliability Standard, it must also submit a Standard Authorization Request (SAR) outlining the proposed scope and technical justification for the revision or retirement.

A completed Periodic Review Template and any associated documentation should be submitted by email to Darrel Richardson at darrel.richardson@nerc.net.

⁴ The Standards Committee chair may delegate one member of the SC to chair one Standing Review Team’s review of a standard s), and another SC member to chair a review of another standard(s).

⁵ Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.

Applicable Reliability Standard: PER-004-2**Team Members (include name and organization):**

1. Patti Metro, Nation Rural Electric Cooperative Association
2. Lauri Jones, Pacific Gas and Electric Company
3. Heather Morgan, EDP Renewables North America LLC
4. Jeffrey Sunvick, Western Area Power Administration
5. Jimmy Womack, Southwest Power Pool
6. Brad Perrett, Minnesota Power
7. Carolyn White Wilson, Duke Energy Corporation
8. Michael B. Hoke, PJM Interconnection LLC
9. Danny W. Johnson, Xcel Energy
10. Darrel Richardson, NERC Senior Standards Developer
11. Candice Castaneda, NERC Counsel
12. Michael Brytowski, Great River Energy PMOS Representative

Date Review Completed:**Background Information (to be completed initially by NERC staff)**

1. Are there any outstanding Federal Energy Regulatory Commission (FERC) directives associated with the Reliability Standard? *(If so, NERC staff will attach a list of the directives with citations to associated FERC orders for inclusion in a SAR.)*

Yes

No

2. Have stakeholders requested clarity on the Reliability Standard in the form of an (outstanding, in progress, or approved) Interpretation or Compliance Application Notice (CAN)? *(If there are, NERC staff will include a list of the Interpretation(s), CAN(s), or other stakeholder-identified issue(s) that apply to the Reliability Standard.)*

Yes

No

Please explain:

3. Is the Reliability Standard one of the most violated Reliability Standards?

Yes No

If so, does the cause of the frequent violation appear to be a lack of clarity in the language?

 Yes No

Please explain:

Questions for the Review Team

If NERC staff answered “Yes” to any of the questions above, the Reliability Standard probably requires revision. The questions below are intended to further guide your review. Some of the questions reference documents provided by NERC staff as indicated in the Background questions above. Either as a guide to help answer the ensuing questions or as a final check, the Review Team is to use Attachment 3: Independent Expert Evaluation Process.

I. Quality

1. **Reliability Need, Paragraph 81:** Do any of the requirements in the Reliability Standard meet criteria for retirement or modification based on Paragraph 81 concepts? *Use Attachment 2: Paragraph 81 Criteria to make this determination.*

 Yes No

Please summarize your application of Paragraph 81 Criteria, if any:

This standard falls within Paragraph 81 Criterion B7, because all of its requirements are redundant with requirements in other FERC-approved reliability standards that are in effect or soon to be effective. It is not necessary or efficient to maintain such duplicative requirements and PER-004-2 may be retired with little to no effect on reliability. Specifically, PER-004-2’s requirements are duplicated in standards:

- PER-003-1, R1
- PER-005-2, R2 and R3
- IRO-002-4, R3 and R4
- EOP-004-2, R2
- IRO-008-2, R1, R2, and R4
- IRO-009-2, R1 – R4

- IRO-010-2, R1 – R3
- IRO-014-3, generally
- IRO-018-1, R1-R3

Please refer to Page 10 of this document for a detailed justification for retirement of these requirements.

2. **Clarity:** From the Background Information section of this template, has the Reliability Standard been the subject of an Interpretation, CAN or issue associated with it, or is frequently violated because of ambiguity?
- a. Does the Reliability Standard have obviously ambiguous language?
 - b. Does the Reliability Standard have language that requires performance that is not measurable?
 - c. Are the requirements consistent with the purpose of the Reliability Standard?
 - d. Should the requirements stand alone as is, or should they be consolidated with other standards?
 - e. Is the Reliability Standard complete and self-contained?
 - f. Does the Reliability Standard use consistent terminology?

Yes

No

Please summarize your assessment:

3. **Definitions:** Do any of the defined terms used within the Reliability Standard need to be refined?

Yes

No

Please explain:

4. **Compliance Elements:** Are the compliance elements associated with the requirements (Measures, Data Retention, Violation Risk Factors (VRF), Violation Severity Levels (VSL) and Time Horizons) consistent with the direction of the Reliability Assurance Initiative and FERC and NERC guidelines?

Yes

No

If you answered “No,” please identify which elements require revision, and why:

5. **Consistency with Other Reliability Standards:** Does the Reliability Standard need to be revised for formatting and language consistency among requirements within the Reliability Standard, or for coordination with other Reliability Standards?

Yes

No

If you answered “Yes,” please describe the changes needed to achieve formatting and language consistency:

6. **Changes in Technology, System Conditions, or other Factors:** Does the Reliability Standard need to be revised to account for changes in technology, system conditions or other factors?

Yes

No

If you answered “Yes,” please describe the changes and specifically what the potential impact is to reliability if the Reliability Standard is not revised:

7. **Practicable:**

- a. Can the Reliability Standard be practically implemented?

Yes

No

- b. Is there a concern that it is not cost effective as drafted?

Yes

No

Please summarize your assessment of the practicability of the standard:

8. **Consideration of Generator and Transmission Interconnection Facilities:** Is responsibility for generator interconnection Facilities and Transmission Interconnection Facilities appropriately accounted for in the Reliability Standard? **Not Applicable.**

Yes

No

Guiding Questions:

- a. If the Reliability Standard is applicable to Generator Owners and/or Generator Operators, is there any ambiguity about the inclusion of generator Interconnection Facilities? (If generation Interconnection Facilities could be perceived to be excluded, specific language referencing the Facilities should be introduced in the Reliability Standard.)
- b. If the Reliability Standard is not applicable to Generator Owners and/or Generator Operators, is there a reliability-related need for treating generator Interconnection Facilities as Transmission Lines for the purposes of this Reliability Standard? (If so, Generator Owners that own and/or Generator Operators that operate relevant generator Interconnection Facilities should be explicit in the applicability section of the Reliability Standard.)
- c. If the Reliability Standard is applicable to Transmission Operators and/or Distribution Providers, is there any ambiguity about the inclusion of Transmission Interconnection Facilities? (If Transmission Interconnection Facilities could be perceived to be excluded, specific language referencing the Facilities should be introduced in the Reliability Standard.)

9. **Results Based Standard:** Is the Reliability Standard drafted as a results-based standard?

Yes

No

If not, please summarize your assessment:

Guiding Questions:

- a. Does the Reliability Standard address performance, risk (prevention) and capability?

Yes

No

- b. Does the Reliability Standard follow the RBS format (for example, Requirement and Part structure) in Attachment 1?

Yes

No

c. Does the Reliability Standard follow the Ten Benchmarks of an Excellent Reliability Standard⁶?

Yes

No

II. Content

10. **Technical accuracy:** Is the content of the Requirements technically correct, including identifying who does what and when?

Yes

No

If not, please summarize your assessment:

11. **Functional Model:** Are the correct functional entities assigned to perform the requirements, consistent with the Functional Model?

Yes

No

If not, please summarize your assessment:

12. **Applicability:** Is there a technical justification for revising the applicability of the Reliability Standard, or specific requirements within the standard, to account for differences in reliability risk?

Yes

No

If so, please summarize your assessment:

13. **Reliability Gaps:** Are the appropriate actions for which there should be accountability included, or is there a gap?

⁶ Ten Benchmarks of an Excellent Reliability Standard, posted at Page 626 of:
http://www.nerc.com/pa/Stand/Resources/Documents/DT_Reference_Manual_Resource_Package_080114.pdf

Yes No

If a gap is identified, please explain:

14. **Technical Quality:** Does the Reliability Standard have a technical basis in engineering and operations?

 Yes No

If not, please summarize your assessment:

15. **Does the Reliability Standard reflect a higher solution than the lowest common denominator?**

 Yes No

If not, please summarize your assessment:

16. **Related Regional Reliability Standards:** Is there a related regional Reliability Standard, and is it appropriate to recommend the regional Reliability Standard be retired, appended into the continent-wide standard, or revised in favor of a continent-wide Standard?

 Yes No

If yes, please identify the regional standard(s) and summarize your assessment:

RED, YELLOW GREEN GRADING

Using the questions above, the Review Team shall come to a consensus on whether the Reliability Standard is Green – i.e., affirm as steady-state; Yellow –is sufficient to protect reliability and meet the reliability objective of the standard, however, there may be future opportunity to improve a non-substantive or insignificant quality and content issue – i.e., continue to monitor; or Red - either retire or needs revision, and, thus, a SAR should be developed to process the Standard through the Standards development process for retirement or revision. The reasons for the Review Team’s conclusions of Green, Yellow, or Red shall be documented. If a consensus is not reached within the Review Team, minority reviews shall be posted for stakeholder comment, along with the majority opinion on whether the Reliability Standard is Green, Yellow or Red.

Recommendation

The answers to the questions above, along with its Red, Yellow, Green grading and the recommendation of the Review Team, will be posted for a 45-day comment period, and the comments publicly posted. The Review Team will review the comments to evaluate whether to modify its initial recommendation, and will document the final recommendation which will be presented to the Standards Committee.

Preliminary Recommendation (to be completed by the Review Team after its review and prior to posting the results of the review for industry comment):

- REAFFIRM (*This should be checked only if there are no outstanding directives, interpretations or issues identified by stakeholders.*) GREEN
- REVISE (*The standard is sufficient to protect reliability and meet the reliability objective of the standard, however there may be future opportunity to improve a non-substantive or insignificant quality and content issue.*) (Would include revision of associated RSAW.) YELLOW
- REVISE (*The recommended revisions are required to support reliability.*) (Would include revision of associated RSAW.) RED
- RETIRE (Would include revision of associated RSAW.) RED

Technical Justification (*If the Review Team recommends that the Reliability Standard be revised, a draft SAR may be included and the technical justification included in the SAR*):

PER-004-2 R1 is duplicative and all requirements are covered in other reliability standards. Specifically, PER-003-1 R1 states that each Reliability Coordinator shall staff its Real-time operating positions with System Operators who have obtained and maintained a valid NERC Reliability Operator certificate. PER-005-2 R1 states that each Reliability Coordinator shall design, develop and deliver training to its System Operators based on a list of Bulk Electric System (BES) company specific Real-time reliability-related tasks. Additionally, PER-005-2 R3 states that Reliability Coordinators have to verify that their personnel are capable of performing each of those tasks.

Moreover, in PER-004-2 R1, 24 hours per day, and seven days a week requirements are addressed by several NERC Reliability Standards and Requirements. These requirements cannot be accomplished without an entity having a 24/7 operation. IRO-002-4 R4 (enforceable 4/1/2017) requires that, "Each Reliability Coordinator shall have monitoring systems that provide information utilized by the Reliability Coordinator's operating personnel..." In addition, IRO-002-4 R3 states that, "Each Reliability Coordinator shall monitor Facilities, the status of Special Protection Systems, and non-BES facilities identified as necessary by the Reliability Coordinator, within its Reliability Coordinator Area and neighboring Reliability Coordinator Areas to identify any System Operating Limit exceedances and to determine any Interconnection Reliability Operating Limit exceedances within its Reliability Coordination Area." EOP-004-2 covers continuous observation through its reporting timeframes to

meet OE-417 for Loss of Monitoring. Additional coverage is ensured through IRO 008-2 R2, “Each Reliability Coordinator shall have a coordinated Operating Plan(s) for next-day operations to address ...(SOL) and (IROL) exceedances...” and R4 states, “Each Reliability Coordinator shall ensure that a Real-time Assessment is performed at least once every 30 minutes.” Reinforcing the structure of the 24 hours per day, and seven days per week requirement is carried out by IRO-010-2 R1, requiring that Reliability Coordinator’s maintain documented specifications for the data to perform Operational Planning analyses, Real-time monitoring, and Real-time Assessments. Real-time is defined as, “Present time as opposed to future times,” while Real-time Assessment is defined as “An examination of existing and expected system conditions, conducted by collecting and reviewing immediately available data.” Using these definitions in the Reliability Standards further confirms that PER-004-2 Requirement 1 is duplicative and non-essential as its content is covered in multiple Reliability Standards.

PER-004-2 Requirement R2 is duplicated in numerous Reliability Standards justifying the need for retirement of this requirement. As described below, the Standards and requirements of IRO-002-4, IRO-008-2, IRO-009-2, IRO-010-2, IRO-014-3 and IRO-018-1 adequately ensure that protocols are in place to allow the Reliability Coordinator operating personnel to have the best available information at all times.

IRO-002-4, R3 states that the Reliability Coordinator shall monitor Facilities and work with neighboring Reliability Coordinator areas to identify SOL and IROL exceedances within its area. In order to ensure compliance with this Standard and Requirement, particular attention must be placed on SOLs, IROLs, and inter-tie facility limits.

IRO-008-2 ensures that the Reliability Coordinator performs analyses and assessments to prevent instability, uncontrolled separation, or cascading. R1, R2, and R4 of this Standard specifically require that an Operational Planning Analysis is performed to:

- assess whether the planned operations for the next-day will exceed SOLs and IROLs within its Wide Area,
- ensure that coordinated plans are developed for the next-day operations to address these exceedances, and
- execute Real-time Assessments at least once every 30 minutes.

To maintain compliance with the IRO-008-2 Standard, the Reliability Coordinator must place particular attention on SOLs and IROLs.

IRO-009-2 builds on IRO-008-2 by ensuring prompt action to prevent or mitigate instances where IROLs are exceeded. Through the Requirements of this Standard, assurances are made that the Reliability Coordinator has one or more Operating Processes, Procedures, or Plans that identify actions to take, or

actions to direct others to take, to mitigate the magnitude and duration of an IROL exceedance identified in their Assessments.

IRO-010-2 provides data specifications that affords the Reliability Coordinator the specific data necessary to perform its Operational Planning Analyses, Real-time monitoring, Real-time Assessments and ensures that a protocol exists to resolve any data conflicts. This Standard ensures that the Reliability Coordinator has the best available information at all times to maintain compliance.

IRO-014-3 ensures that each Reliability Coordinator's operations are coordinated so that they will not adversely impact other Reliability Coordinator Areas and preserve the reliability benefits of interconnected operations. This Standard again builds on the coordination of the Operational Analyses and Real-time Assessments which requires the Reliability Coordinator to have the best available information at all times to maintain compliance.

IRO-018-1 established three requirements for Real-time monitoring and analysis capabilities to support reliable operations. Real-time monitoring involves observing operating status and operating values in Real-time to ensure awareness of system conditions. Through this Standard, processes and procedures are established for evaluating the quality of Real-time data and to provide assurance that any action taken addresses any data quality issues so that Real-time monitoring and Real-time Assessments performed by the Reliability Coordinator contains the best available information at all times.

Preliminary Recommendation posted for industry comment (date):

Final Recommendation (to be completed by the Review Team after it has reviewed industry comments on the preliminary recommendation):

- REAFFIRM *(This should be checked only if there are no outstanding directives, interpretations or issues identified by stakeholders.) GREEN*
- REVISE *(The standard is sufficient to protect reliability and meet the reliability objective of the standard, however there may be future opportunity to improve a non-substantive or insignificant quality and content issue.) (Would include revision of associated RSAW.) YELLOW*
- REVISE *(The recommended revisions are required to support reliability.) (Would include revision of associated RSAW.) RED*
- RETIRE *(Would include revision of associated RSAW.) RED*

Technical Justification *(If the Review Team recommends that the Reliability Standard be revised, a draft SAR must be included and the technical justification included in the SAR):*

Date submitted to Standards Committee:

Attachment 1: Results-Based Standards

Question 9 for the Review Team asks if the Reliability Standard is results-based. The information below will be used by the Review Team in making this determination.

Transitioning the current body of standards into a clear, concise, and effective body will require a comprehensive application of the RBS concept. RBS concepts employ a defense-in-depth strategy for Reliability Standards development where each requirement has a role in preventing system failures, and the roles are complementary and reinforcing. Reliability Standards should be viewed as a portfolio of requirements designed to achieve an overall defense-in-depth strategy and comply with the quality objectives identified in the resource document titled, "[Acceptance Criteria of a Reliability Standard](#)."

Accordingly, the Review Team shall consider whether the Reliability Standard contains results-based requirements with sufficient clarity to hold entities accountable without being overly prescriptive as to how a specific reliability outcome is to be achieved. The RBS concept, properly applied, addresses the clarity and effectiveness aspects of a standard.

A Reliability Standard that adheres to the RBS format should strive to achieve a portfolio of performance-, risk-, and competency-based mandatory reliability requirements that support an effective defense-in-depth strategy. Each requirement should identify a clear and measurable expected outcome, such as: a) a stated level of reliability performance, b) a reduction in a specified reliability risk, or c) a necessary competency.

- a. **Performance-Based**—defines a particular reliability objective or outcome to be achieved. In its simplest form, a results-based requirement has four components: who, under what conditions (if any), shall perform what action, to achieve what particular result or outcome?
- b. **Risk-Based**—preventive requirements to reduce the risks of failure to acceptable tolerance levels. A risk-based reliability requirement should be framed as: who, under what conditions (if any), shall perform what action, to achieve what particular result or outcome that reduces a stated risk to the reliability of the bulk power system?
- c. **Competency-Based**—defines a minimum set of capabilities an entity needs to have to demonstrate it is able to perform its designated reliability functions. A competency-based reliability requirement should be framed as: who, under what conditions (if any), shall have what capability, to achieve what particular result or outcome to perform an action to achieve a result or outcome or to reduce a risk to the reliability of the bulk power system?

Additionally, each RBS-adherent Reliability Standard should enable or support one or more of the eight reliability principles listed below. Each Reliability Standard should also be consistent with all of the reliability principles.

1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.
5. Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of interconnected bulk power systems.
6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
7. The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.
8. Bulk power systems shall be protected from malicious physical or cyber-attacks.

If the Reliability Standard does not provide for a portfolio of performance-, risk-, and competency-based requirements or consistency with NERC's reliability principles, NERC staff and the Review Team should recommend that the Reliability Standard be revised or reformatted in accordance with the RBS format.

Attachment 2: Paragraph 81 Criteria

The first question for the Review Team asks if one or more of the requirements in the Reliability Standard meet(s) criteria for retirement or modification based on Paragraph 81 concepts.⁷ Use the Paragraph 81 criteria explained below to make this determination. Document the justification for the decisions throughout and provide them in the final assessment in the Periodic Review Template.

For a Reliability Standard requirement to be proposed for retirement or modification based on Paragraph 81 concepts, it must satisfy **both**: (i) Criterion A (the overarching criterion); and (ii) at least one of the Criteria B listed below (identifying criteria). In addition, for each Reliability Standard requirement proposed for retirement or modification, the data and reference points set forth below in Criteria C should be considered for making a more informed decision.

Criterion A (Overarching Criterion)

The Reliability Standard requirement requires responsible entities (“entities”) to conduct an activity or task that does little, if anything, to benefit or protect the reliable operation of the BES.

Section 215(a) (4) of the United States Federal Power Act defines “reliable operation” as: “... 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.”

Criteria B (Identifying Criteria)

B1. Administrative

The Reliability Standard requirement requires responsible entities to perform a function that is administrative in nature, does not support reliability and is needlessly burdensome.

This criterion is designed to identify requirements that can be retired or modified with little effect on reliability and whose retirement or modification will result in an increase in the efficiency of the ERO compliance program. Administrative functions may include a task that is related to developing procedures or plans, such as establishing communication contacts. Thus, for certain requirements, Criterion B1 is closely related to Criteria B2, B3 and B4. Strictly administrative functions do not inherently negatively impact reliability directly and, where possible, should be eliminated or modified for purposes of efficiency and to allow the ERO and entities to appropriately allocate resources.

⁷ In most cases, satisfaction of the Paragraph 81 criteria will result in the retirement of a requirement. In some cases, however, there may be a way to modify a requirement so that it no longer satisfies Paragraph 81 criteria. Recognizing that, this document refers to both options.

B2. Data Collection/Data Retention

These are requirements that obligate responsible entities to produce and retain data which document prior events or activities, and should be collected via some other method under NERC's rules and processes.

This criterion is designed to identify requirements that can be retired or modified with little effect on reliability. The collection and/or retention of data do not necessarily have a reliability benefit and yet are often required to demonstrate compliance. Where data collection and/or data retention is unnecessary for reliability purposes, such requirements should be retired or modified in order to increase the efficiency of the ERO compliance program.

B3. Documentation

The Reliability Standard requirement requires responsible entities to develop a document (*e.g.*, plan, policy or procedure) which is not necessary to protect reliability of the bulk power system.

This criterion is designed to identify requirements that require the development of a document that is unrelated to reliability or has no performance or results-based function. In other words, the document is required, but no execution of a reliability activity or task is associated with or required by the document.

B4. Reporting

The Reliability Standard requirement obligates responsible entities to report to a Regional Entity, NERC or another party or entity. These are requirements that obligate responsible entities to report to a Regional Entity on activities which have no discernible impact on promoting the reliable operation of the BES and if the entity failed to meet this requirement there would be little reliability impact.

B5. Periodic Updates

The Reliability Standard requirement requires responsible entities to periodically update (*e.g.*, annually) documentation, such as a plan, procedure or policy without an operational benefit to reliability.

This criterion is designed to identify requirements that impose an updating requirement that is out of sync with the actual operations of the BES, unnecessary, or duplicative.

B6. Commercial or Business Practice

The Reliability Standard requirement is a commercial or business practice, or implicates commercial rather than reliability issues.

This criterion is designed to identify those requirements that require: (i) implementing a best or outdated business practice or (ii) implicating the exchange of or debate on commercially sensitive information while doing little, if anything, to promote the reliable operation of the BES.

B7. Redundant

The Reliability Standard requirement is redundant with: (i) another FERC-approved Reliability Standard requirement(s); (ii) the ERO compliance and monitoring program; or (iii) a governmental regulation (e.g., Open Access Transmission Tariff, North American Energy Standards Board (“NAESB”), etc.).

This criterion is designed to identify requirements that are redundant with other requirements and are, therefore, unnecessary. Unlike the other criteria listed in Criterion B, in the case of redundancy, the task or activity itself may contribute to a reliable BES, but it is not necessary to have two duplicative requirements on the same or similar task or activity. Such requirements can be retired or modified with little or no effect on reliability and removal will result in an increase in efficiency of the ERO compliance program.

Criteria C (Additional data and reference points)

Use the following data and reference points to assist in the determination of (and justification for) whether to proceed with retirement or modification of a Reliability Standard requirement that satisfies both Criteria A and B:

C1. Was the Reliability Standard requirement part of a FFT filing?

The application of this criterion involves determining whether the requirement was included in a FFT filing.

C2. Is the Reliability Standard requirement being reviewed in an ongoing Standards Development Project?

The application of this criterion involves determining whether the requirement proposed for retirement or modification is part of an active Standards Development Project, with consideration for the status of the project. If the requirement has been approved by Registered Ballot Body and is scheduled to be presented to the NERC Board of Trustees, in most cases it will not need to be addressed in the periodic review. The exception would be a requirement, such as the Critical Information Protection (CIP) requirements for Version 3 and 4, that is not due to be retired for an extended period of time. Also, for informational purposes, whether the requirement is included in a future or pending Standards Development Project should be identified and discussed.

C3. What is the VRF of the Reliability Standard requirement?

The application of this criterion involves identifying the VRF of the requirement proposed for retirement or modification, with particular consideration of any requirement that has been assigned as having a Medium or High VRF. Also, the fact that a requirement has a Lower VRF is not dispositive that

it qualifies for retirement or modification. In this regard, Criterion C3 is considered in light of Criterion C5 (Reliability Principles) and C6 (Defense in Depth) to ensure that no reliability gap would be created by the retirement or modification of the Lower VRF requirement. For example, no requirement, including a Lower VRF requirement, should be retired or modified if doing so would harm the effectiveness of a larger scheme of requirements that are purposely designed to protect the reliable operation of the BES.

C4. In which tier of the most recent Actively Monitored List (AML) does the Reliability Standard requirement fall?

The application of this criterion involves identifying whether the requirement proposed for retirement or modification is on the most recent AML, with particular consideration for any requirement in the first tier of the AML.

C5. Is there a possible negative impact on NERC's published and posted reliability principles?

The application of this criterion involves consideration of the eight following reliability principles published on the NERC webpage.

Reliability Principles

NERC Reliability Standards are based on certain reliability principles that define the foundation of reliability for North American bulk power systems. Each reliability standard shall enable or support one or more of the reliability principles, thereby ensuring that each standard serves a purpose in support of reliability of the North American bulk power systems. Each reliability standard shall also be consistent with all of the reliability principles, thereby ensuring that no standard undermines reliability through an unintended consequence.

Principle 1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.

Principle 2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.

Principle 3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.

Principle 4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.

Principle 5. Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of interconnected bulk power systems.

Principle 6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.

Principle 7. The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.

Principle 8. Bulk power systems shall be protected from malicious physical or cyber-attacks.
(footnote omitted)

C6. Is there any negative impact on the defense in depth protection of the BES?

The application of this criterion considers whether the requirement proposed for retirement or modification is part of a defense in depth protection strategy. In other words, the assessment is to verify whether other requirements rely on the requirement proposed for retirement or modification to protect the BES.

C7. Does the retirement or modification promote results or performance based Reliability Standards?

The application of this criterion considers whether the requirement, if retired or modified, will promote the initiative to implement results- and/or performance-based Reliability Standards.

Attachment 3: Independent Expert Evaluation Process

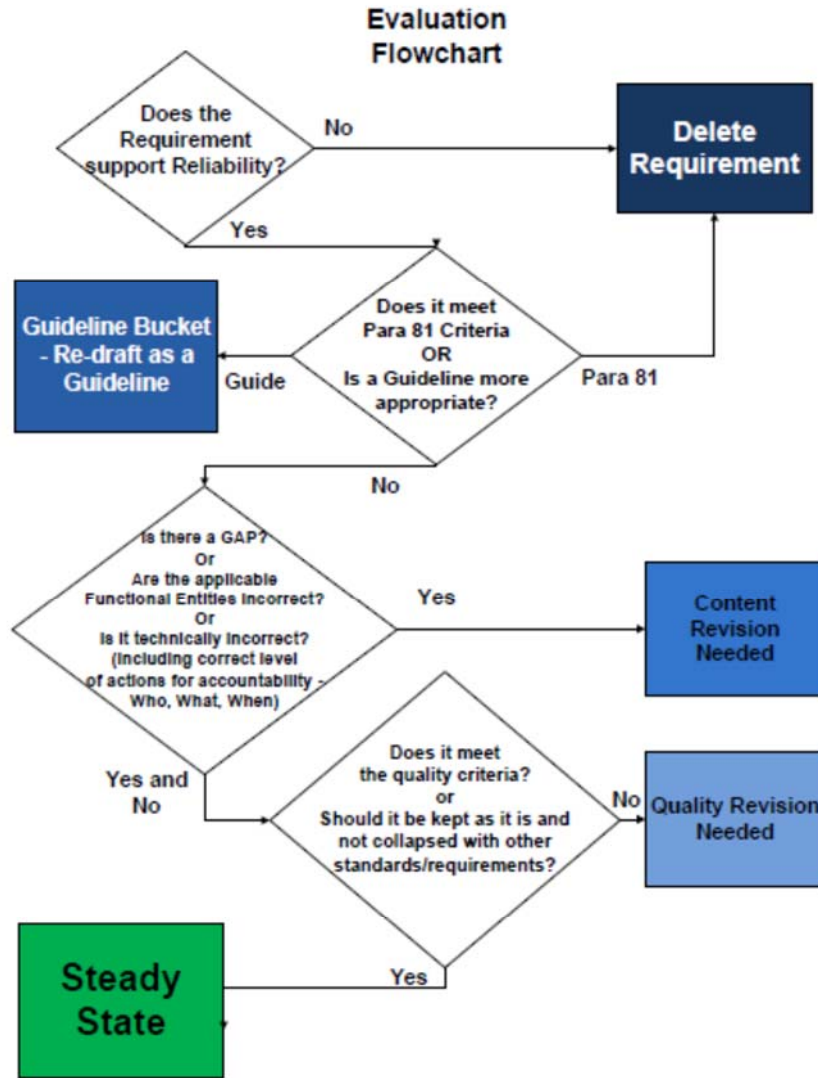


Figure 1: Evaluation Flow Chart

Unofficial Comment Form

Project 2016-EPR-01 Enhanced Periodic Review of Personnel Performance, Training, and Qualifications Standards (PER)

Do not use this form for submitting comments. Use the [electronic form](#) to submit comments on the **Project 2016-EPR-01 PER** project. The electronic form must be submitted by **8 p.m. Eastern, Thursday, February 23, 2017**.

Documents and information about this project are available on the [Project 2016-EPR-01 PER](#) page. If you have questions, contact Senior Standards Developer, [Darrel Richardson](#) (via email) or at (609) 613-1848.

Background

This periodic review project will review the following three PER standards:

- PER-001-0.2 – Operating Personnel Responsibility and Authority;
- PER-003-1 – Operating Personnel Credentials; and
- PER-004-2 – Reliability Coordination – Staffing.

The PER periodic review team (PER PRT) will use the background information, along with any associated worksheets or reference documents (such as the Independent Expert Review Project report, and Paragraph 81 criteria) to guide a comprehensive review that results in a recommendation from one of the following three choices:

1. Recommend re-affirming the standard;
2. Recommend revising the standard; or
3. Recommend retirement of the standard.

If the PER PRT recommends a revision to, or a retirement of, the standard, it must also submit a Standard Authorization Request to the Standards Committee outlining the proposed scope and technical justification for the revision or retirement.

PER-001-0.2 was initially included in this project. However, the standard was subsequently approved for retirement under FERC Order 817. Therefore this project will only review PER-003-1 and PER-004-2.

Questions

1. The PER PRT recommends that a clarifying footnote be added to PER-003-1 to ensure that stakeholders (now and in the future) understand (i) the connection between the Standard and the NERC System Operator Certification Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program. Do you agree with the recommendation? If not, please explain in the comment area below.

Yes

No

Comments:

2. The PER PRT recommends that PER-004-2 be retired. The PER PRT believes that the requirements in PER-004-2 are duplicative with several other standards as outlined in the PER-004-2 EPR template. Do you agree with the recommendation? If not, please explain in the comment area below.

Yes

No

Comments:

Standards Announcement

Project 2016-EPR-01 Enhanced Periodic Review of Personnel, Performance, Training, and Qualifications (PER) Standards

Formal Comment Period Open through February 23, 2017

[Now Available](#)

A 45-day formal comment period for the **Project 2016-EPR-01 Enhanced Periodic Review of PER Standard Templates**, is open through **8 p.m. Eastern, Thursday, February 23, 2017**.

Commenting

Use the [electronic form](#) to submit comments on the templates. If you experience any difficulties using the electronic form, contact [Wendy Muller](#). An unofficial Word version of the comment form is posted on the [project page](#).

If you are having difficulty accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out, contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern).

- *Passwords expire every **6 months** and must be reset.*
- *The SBS is **not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

The drafting team will review all responses received during the comment period and determine the next steps of the project.

For more information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Senior Standards Developer, [Darrel Richardson](#) (via email) or at (609) 613-1848.

North American Electric Reliability Corporation
3353 Peachtree Rd, NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Comment Report

Project Name: 2016-EPR-01 Enhanced Periodic Review of PER Standards | Templates for PER-003-1 and PER-004-2
Comment Period Start Date: 1/10/2017
Comment Period End Date: 2/23/2017
Associated Ballots:

There were 28 sets of responses, including comments from approximately 86 different people from approximately 63 companies representing 10 of the Industry Segments as shown in the table on the following pages.

Questions

1. The PER PRT recommends that a clarifying footnote be added to PER-003-1 to ensure that stakeholders (now and in the future) understand (i) the connection between the Standard and the NERC System Operator Certification Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program. Do you agree with the recommendation? If not, please explain in the comment area below.

2. The PER PRT recommends that PER-004-2 be retired. The PER PRT believes that the requirements in PER-004-2 are duplicative with several other standards as outlined in the PER-004-2 EPR template. Do you agree with the recommendation? If not, please explain in the comment area below.

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
ACES Power Marketing	Brian Van Gheem	6	NA - Not Applicable	ACES Standards Collaborators	Mark Peter	Hoosier Energy Rural Electric Cooperative, Inc.	1	RF
					Shari Heino	Brazos Electric Power Cooperative, Inc.	1,5	Texas RE
					Tara Lightner	Sunflower Electric Power Corporation	1	SPP RE
					John Shaver	Arizona Electric Power Cooperative, Inc.	1	WECC
					Ryan Strom	Buckeye Power, Inc.	4	RF
					Greg Froehling	Rayburn Country Electric Cooperative, Inc.	3	SPP RE
					Amber Skillern	East Kentucky Power Cooperative	1,3	SERC
					Amber Skillern	East Kentucky Power Cooperative	1,3	SERC
Duke Energy	Colby Bellville	1,3,5,6	FRCC,RF,SERC	Duke Energy	Doug Hills	Duke Energy	1	RF
					Lee Schuster	Duke Energy	3	FRCC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
Southern Company - Southern Company Services, Inc.	Marsha Morgan	1,3,5,6	SERC	Southern Company	Katherine Prewitt	Southern Company Services, Inc	1	SERC
					Jennifer Sykes	Southern Company Generation and Energy Marketing	6	SERC

					R Scott Moore	Alabama Power Company	3	SERC
					William Shultz	Southern Company Generation	5	SERC
California ISO	Richard Vine	2		ISO/RTO Council Standards Review Committee	Ali Miremadi	California ISO	2	WECC
					Greg Campoli	NYISO	2	NPCC
					Kathleen Goodman	ISONE	2	NPCC
					Liz Axson	ERCOT	2	Texas RE
					Terry Bilke	MISO	2	MRO
					Ben Li	IESO	2	NPCC
					Mark Holman	PJM	2	RF
					Charles Yeung	SPP	2	SPP RE
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC no Dominion and Eversource	Paul Malozewski	Hydro One.	1	NPCC
					Guy Zito	Northeast Power Coordinating Council	NA - Not Applicable	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Wayne Sipperly	New York Power Authority	4	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Brian Robinson	Utility Services	5	NPCC
					Bruce Metruck	New York Power Authority	6	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC
					Edward Bedder	Orange & Rockland Utilities	1	NPCC
					David Burke	UI	3	NPCC
					Michele Tondalo	UI	1	NPCC

					Sylvain Clermont	Hydro Quebec	1	NPCC
					Si Truc Phan	Hydro Quebec	2	NPCC
					Helen Lainis	IESO	2	NPCC
					Laura Mcleod	NB Power	1	NPCC
					Michael Forte	Con Edison	1	NPCC
					Kelly Silver	Con Edison	3	NPCC
					Peter Yost	Con Edison	4	NPCC
					Brian O'Boyle	Con Edison	5	NPCC
					Greg Campoli	NY-ISO	2	NPCC
					Kathleen Goodman	ISO-NE	2	NPCC
					Silvia Parada Mitchell	NextEra Energy, LLC	4	NPCC
					Michael Schiavone	National Grid	1	NPCC
					Michael Jones	National Grid	3	NPCC
					David Ramkalawan	Ontario Power Generation Inc.	5	NPCC
Southwest Power Pool, Inc. (RTO)	Shannon Mickens	2	SPP RE	SPP Standards Review Group	Shannon Mickens	Southwest Power Pool Inc.	2	SPP RE
					Kevin Giles	Westar Energy	1	SPP RE
					Lonnie Lindekugel	Southwest Power Pool Inc.	2	SPP RE
					Mike Kidwell	Empire District Electric Company	1,3,5	SPP RE
					Jim Nail	City of Independence, Power and Light Department	5	SPP RE
Santee Cooper	Shawn Abrams	1,3,5,6		Santee Cooper	Tom Abrams	Santee Cooper	1	SERC
					Rene' Free	Santee Cooper	1	SERC
					Diana Scott	Santee Cooper	1	SERC

					Heugnette Bostic Santee Cooper	1	SERC
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1. The PER PRT recommends that a clarifying footnote be added to PER-003-1 to ensure that stakeholders (now and in the future) understand (i) the connection between the Standard and the NERC System Operator Certification Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program. Do you agree with the recommendation? If not, please explain in the comment area below.

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer No

Document Name

Comment

This recommendation may be suitable if the standard was being revised for a substantive reason, but to make a change to the standard to implement this recommendation is unwarranted. The footnote is unnecessary for any RC, TOP, and/or BA stakeholder worthy of performing functions to which this standard applies.

The purpose statement in PER-003-1 specifically states the standard is "To ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System."

In addition, requirement 1 specifically references a "...valid NERC Reliability Operator certificate...", while requirements 2 and 3 specifically references "...obtaining and maintaining one of the following valid NERC certificates..." and specifically lists applicable NERC certifications for each requirement.

Further, the PER-003 RSAW has auditor guidance that the "...Audit Team may contact NERC to confirm the certification information is valid." This guidance points to the NERC System Operator Certification Program and associated manual. It would require a tortured argument to point these references to certifications or a certification program other than NERC.

Considering the above references, coupled with historic precedent from previous audits, there should be no need to include a footnote to ensure BAs, TOPs, and RCs "understand (i) the connection between the Standard and the NERC System Operator Certification Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program."

Likes 0

Dislikes 0

Response

Thomas Foltz - AEP - 3,5

Answer No

Document Name

Comment

AEP believes the standard is sufficiently clear in this regard as currently written. The current version of these requirements all specify NERC certificates, so a direct correlation to the NERC System Operator Certification Program Manual should already be clear. While AEP does not entirely

object to the concept of explicitly referencing the SOC Program Manual in PER-003-1, care should be taken to ensure that additional obligations aren't unintentionally implied (say, from the content of the manual itself) by doing so.

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no Dominion and Eversource

Answer

No

Document Name

Comment

While we do not feel strongly one way or the other with the proposed addition of a clarifying footnote, we are unclear on where that footnote will be added, i.e., is it under R1, R2 or R3 or all of the above. We wonder if a seemingly minor change would provide sufficient reliability improvement to warrant the effort needed to effect the change (e.g., forming a drafting team, going through the approval process, etc.). Also, the PER-003-1 EPR template indicates sub-parts (a) to (g), which are not found in the PER-003 standard. This needs to be clarified in the SAR.

There is already a footnote related to each requirement R1, R2 and R3 in PER-003-1 which ties to the NERC Operator Certification Program.

FN1 of PER-003-1 Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability related tasks.

Likes 0

Dislikes 0

Response

Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee

Answer

No

Document Name

Comment

For PER-003-1, it is unclear as to where this footnote will be added, i.e., is it under R1, R2 or R3, or all of the above. This needs to be clarified but the SRC questions whether it is worth the effort in creating a SAR given that there is significant effort involved in creating a SAR, forming a drafting team and processing the proposed changes through the NERC and FERC regulatory processes. SRC is of the opinion that the proposed footnote addition does not provide enough of a justification for the amount of effort needed for the industry to put out a SAR, form a drafting team, recommend changes and get the proposed changes through the NERC and regulatory process.

Likes 0

Dislikes 0

Response

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer Yes

Document Name

Comment

BPA has no objections to this proposed edit for clarification.

Likes 0

Dislikes 0

Response

Oliver Burke - Entergy - Entergy Services, Inc. - 1,5

Answer Yes

Document Name

Comment

Entergy Agrees with adding a footnote to PER-003-1 Standard.

Likes 0

Dislikes 0

Response

Quintin Lee - Eversource Energy - 1,3,5

Answer Yes

Document Name

Comment

We don't think this has been an issue in the past, however we do not object to the clarifying footnote being added.

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer Yes

Document Name

Comment

The suggested clarification to highlight that certifications required under PER-003-1 must be NERC certifications appears reasonable, particularly in light of the proposed retirement of PER-004-2.

Likes 0

Dislikes 0

Response

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer Yes

Document Name

Comment

The SPP Standards Review Group agrees with the Periodic Review Team's (PRT) recommendation for adding a footnote to provide more clarity in the Standard. Additionally, we suggest the drafting team add a Guideline and Technical Basis (GTB) Section to the Standard to help provide clarity in reference to the Requirements. Also, we suggest reformatting the Measurements in the current Standard. We feel this will help provide consistency with the current formatting of newly developed and revised Standards in reference to the Requirement and Measurement Process. The best example of the current formatting process would be demonstrated in the IRO-002-4 Standard.

Likes 0

Dislikes 0

Response

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators

Answer Yes

Document Name NERC 2012 Exam Study Guide.pdf

Comment

(1) We agree that a footnote should be added to NERC Reliability Standard PER-003-1 that clarifies its dependency on the NERC System Operator Certification Program. However, we feel the Periodic Review Team (PRT) has neglected to address an urgent compliance gap present following recent changes to the NERC System Operator Certification Program, and urge the PRT to revise its recommendation to identify that a revision to the standard is necessary.

(2) We observe no complementary mechanism that ties the NERC System Operator Certification Program back to this reliability standard. At a minimum, we expect direct, one-for-one alignment between the areas of competencies and the content domains identified as the framework used to ensure the content validity of each NERC certification exam. From what we observe, these content domains were updated recently in the 2017 NERC Exam Resource Materials posted on the NERC web site (<http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx>). For comparison, we attached a similar list of content domains from 2012. Without this alignment and when the requirements within this standard are taken verbatim, then industry is burdened to demonstrate that a minimum competency has been obtained for applicable staff performing Real-time, company-specific, reliability-related tasks.

(3) The current approach to the interdependencies between this reliability standard and the NERC Continuing Education Program relies on the assumption that all registered entities are also NERC Continuing Education Providers. We find this is not always the case. We believe the minimum set of competencies System Operators must maintain are already addressed by the systematic training approach required by their employers in NERC Reliability Standard PER-005-2. At a minimum, we ask the PRT to document in its recommendations that further coordination with the NERC Personnel Certification Governance Committee is necessary to update the list of Recognized Operator Training Topics, as identified in Appendix A of the NERC System Operator Certification Program Manual. We feel this list needs to be revised with current industry concerns, situation awareness and human performance-centric themes, and available technologies.

(4) We ask the PRT to expand its recommendation to include a footnote reference to the NERC Personnel Certification Governance Committee (PCGC) and the importance of its role in monitoring the performance of the NERC System Operator Certification Program.

Likes 0

Dislikes 0

Response

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5

Answer Yes

Document Name

Comment

Likes 1

Tallahassee Electric (City of Tallahassee, FL), 5, Webb Karen

Dislikes 0

Response

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Daniel Herring - DTE Energy - Detroit Edison Company - 3,4,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jeffrey DePriest - DTE Energy - Detroit Edison Company - 3,4,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response**Glen Farmer - Avista - Avista Corporation - 1,3,5****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response**Shawn Abrams - Santee Cooper - 1,3,5,6, Group Name Santee Cooper****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response**Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response

Michelle Amarantos - APS - Arizona Public Service Co. - 1,3,5,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Douglas Webb - Great Plains Energy - Kansas City Power and Light Co. - 1,3,5,6 - SPP RE

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Lauren Price - American Transmission Company, LLC - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Sean Bodkin - Dominion - Dominion Resources, Inc. - 3,5,6

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

sean erickson - Western Area Power Administration - 1,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Scott Downey - Peak Reliability - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

2. The PER PRT recommends that PER-004-2 be retired. The PER PRT believes that the requirements in PER-004-2 are duplicative with several other standards as outlined in the PER-004-2 EPR template. Do you agree with the recommendation? If not, please explain in the comment area below.

Scott Downey - Peak Reliability - 1

Answer No

Document Name

Comment

Peak respectfully disagrees with the recommendation that PER-004-2 be retired. PER-004-2 R1 states that each Reliability Coordinator shall be staffed 24 hours per day, seven days per week. This requirement is not adequately captured in other standards outlined in the PER-004-2 EPR template. Peak suggests consideration be given to incorporating the 24x7 staffing language into PER-003-1 R1.

Likes 0

Dislikes 0

Response

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators

Answer Yes

Document Name

Comment

Thank you for the opportunity to comment.

Likes 0

Dislikes 0

Response

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer Yes

Document Name

Comment

We truly appreciate the efforts of the Periodic Review Team (PRT) on identifying the Paragraph 81 Criteria associated with this particular Standard. The SPP Standards Review Group is in agreeance with the recommendation of retirement of this Standard.

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer Yes

Document Name

Comment

Both PER-004-2 requirements do appear to be substantially addressed by other reliability requirements.

Likes 0

Dislikes 0

Response

Quintin Lee - Eversource Energy - 1,3,5

Answer Yes

Document Name

Comment

We agree that the requirements of PER-004-2 are duplicative and that it can be retired

Likes 0

Dislikes 0

Response

Oliver Burke - Entergy - Entergy Services, Inc. - 1,5

Answer Yes

Document Name

Comment

Entergy agrees on the retirement of the PER-004 Standard.

Likes 0

Dislikes 0

Response

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer Yes

Document Name

Comment

However, this organization is not a Reliability Coordinator so PER-004 does not apply to us.

Likes 0

Dislikes 0

Response

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer Yes

Document Name

Comment

BPA believes that this Standard is for Reliability Coordinators and does not apply to BPA, therefore BPA has no objections to this proposed recommendation.

Likes 0

Dislikes 0

Response

Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no Dominion and Eversource

Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
sean erickson - Western Area Power Administration - 1,6	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	
Likes	0

Dislikes 0

Response

Sean Bodkin - Dominion - Dominion Resources, Inc. - 3,5,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Lauren Price - American Transmission Company, LLC - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Douglas Webb - Great Plains Energy - Kansas City Power and Light Co. - 1,3,5,6 - SPP RE

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Shawn Abrams - Santee Cooper - 1,3,5,6, Group Name Santee Cooper	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Glen Farmer - Avista - Avista Corporation - 1,3,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jeffrey DePriest - DTE Energy - Detroit Edison Company - 3,4,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Daniel Herring - DTE Energy - Detroit Edison Company - 3,4,5

Answer Yes

Document Name

Comment	
Likes 0	
Dislikes 0	
Response	
Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Williams - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5	
Answer	Yes
Document Name	
Comment	
Likes 1	Tallahassee Electric (City of Tallahassee, FL), 5, Webb Karen
Dislikes 0	
Response	

Consideration of Comments

Project Name: 2016-EPR-01 Enhanced Periodic Review of PER Standards
Templates for PER-003-1 and PER-004-2

Comment Period Start Date: 1/10/2017

Comment Period End Date: 2/23/2017

There were 28 sets of responses, including comments from approximately 86 different people from approximately 63 companies representing all 10 of the Industry Segments as shown in the table on the following pages.

All comments submitted can be reviewed in their original format on the [project page](#).

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact the Director of Standards Development, [Steve Noess](#) (via email) or at (404) 446-9691.

Questions

1. The PER PRT recommends that a clarifying footnote be added to PER-003-1 to ensure that stakeholders (now and in the future) understand (i) the connection between the Standard and the NERC System Operator Certification Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program. Do you agree with the recommendation? If not, please explain in the comment area below.

2. The PER PRT recommends that PER-004-2 be retired. The PER PRT believes that the requirements in PER-004-2 are duplicative with several other standards as outlined in the PER-004-2 EPR template. Do you agree with the recommendation? If not, please explain in the comment area below.

The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
ACES Power Marketing	Brian Van Gheem	6	NA - Not Applicable	ACES Standards Collaborators	Mark Peter	Hoosier Energy Rural Electric Cooperative, Inc.	1	RF
					Shari Heino	Brazos Electric Power Cooperative, Inc.	1,5	Texas RE
					Tara Lightner	Sunflower Electric Power Corporation	1	SPP RE
					John Shaver	Arizona Electric Power Cooperative, Inc.	1	WECC
					Ryan Strom	Buckeye Power, Inc.	4	RF
					Greg Froehling	Rayburn Country Electric Cooperative, Inc.	3	SPP RE
					Amber Skillern	East Kentucky Power Cooperative	1,3	SERC
					Amber Skillern	East Kentucky Power Cooperative	1,3	SERC
Duke Energy	Colby Bellville	1,3,5,6	FRCC,RF,SERC	Duke Energy	Doug Hils	Duke Energy	1	RF
					Lee Schuster	Duke Energy	3	FRCC
					Dale Goodwine	Duke Energy	5	SERC
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					Liz Axson	ERCOT	2	Texas RE
					Terry Bilke	MISO	2	MRO
					Ben Li	IESO	2	NPCC
					Mark Holman	PJM	2	RF
					Charles Yeung	SPP	2	SPP RE
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC no Dominion and Eversource	Paul Malozewski	Hydro One.	1	NPCC
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Bruce Metruck	New York Power Authority	6	NPCC
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David Burke	UI	3	NPCC
Michele Tondalo	UI	1	NPCC
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Helen Lainis	IESO	2	NPCC
Laura Mcleod	NB Power	1	NPCC
Michael Forte	Con Edison	1	NPCC
Kelly Silver	Con Edison	3	NPCC
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Brian O'Boyle	Con Edison	5	NPCC
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Kathleen Goodman	ISO-NE	2	NPCC

					Silvia Parada Mitchell	NextEra Energy, LLC	4	NPCC
					Michael Schiavone	National Grid	1	NPCC
					Michael Jones	National Grid	3	NPCC
					David Ramkalawan	Ontario Power Generation Inc.	5	NPCC
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					Mike Kidwell	Empire District Electric Company	1,3,5	SPP RE
					Jim Nail	City of Independence, Power and Light Department	5	SPP RE
Santee Cooper	Shawn Abrams	1,3,5,6		Santee Cooper	Tom Abrams	Santee Cooper	1	SERC
					Rene' Free	Santee Cooper	1	SERC
					Diana Scott	Santee Cooper	1	SERC
					Heugnette Bostic	Santee Cooper	1	SERC

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LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer No

Document Name

Comment

This recommendation may be suitable if the standard was being revised for a substantive reason, but to make a change to the standard to implement this recommendation is unwarranted. The footnote is unnecessary for any RC, TOP, and/or BA stakeholder worthy of performing functions to which this standard applies.

The purpose statement in PER-003-1 specifically states the standard is "To ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System."

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Further, the PER-003 RSAW has auditor guidance that the "...Audit Team may contact NERC to confirm the certification information is valid." This guidance points to the NERC System Operator Certification Program and associated manual. It would require a tortured argument to point these references to certifications or a certification program other than NERC.

Considering the above references, coupled with historic precedent from previous audits, there should be no need to include a footnote to ensure BAs, TOPs, and RCs "understand (i) the connection between the Standard and the NERC System Operator Certification Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program."

Likes 0

Dislikes 0

Response

The PRT was provided information that further clarity was needed for the industry to understand (i) the connection between the Standard and the Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program. Therefore the PRT determined that adding the footnote provided the needed clarity. In addition, based on the comments received from this posting, the majority of the industry agrees with the PRT's recommendation.

Thomas Foltz - AEP - 3,5

Answer

No

Document Name

Comment

AEP believes the standard is sufficiently clear in this regard as currently written. The current version of these requirements all specify NERC certificates, so a direct correlation to the NERC System Operator Certification Program Manual should already be clear. While AEP does not entirely object to the concept of explicitly referencing the SOC Program Manual in PER-003-1, care should be taken to ensure that additional obligations aren't unintentionally implied (say, from the content of the manual itself) by doing so.

Likes 0

Dislikes 0

Response

The PRT was provided information that further clarity was needed for the industry to understand (i) the connection between the Standard and the Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator

Certification Program. Therefore the PRT determined that adding the footnote provided the needed clarity. In addition, based on the comments received from this posting, the majority of the industry agrees with the PRT’s recommendation.

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no Dominion and Eversource

Answer No

Document Name

Comment

While we do not feel strongly one way or the other with the proposed addition of a clarifying footnote, we are unclear on where that footnote will be added, i.e., is it under R1, R2 or R3 or all of the above. We wonder if a seemingly minor change would provide sufficient reliability improvement to warrant the effort needed to effect the change (e.g., forming a drafting team, going through the approval process, etc.). Also, the PER-003-1 EPR template indicates sub-parts (a) to (g), which are not found in the PER-003 standard. This needs to be clarified in the SAR.

There is already a footnote related to each requirement R1, R2 and R3 in PER-003-1 which ties to the NERC Operator Certification Program.

FN1 of PER-003-1 Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability related tasks.

Likes 0

Dislikes 0

Response

The PRT was provided information that further clarity was needed for the industry to understand (i) the connection between the Standard and the Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program. Therefore the PRT determined that adding the footnote provided the needed clarity. In addition, based on the comments received from this posting, the majority of the industry agrees with the PRT’s recommendation.

The PRT intends to add the footnote to all of the requirements in PER-003-1.

The System Operator Certification Program Manual does not address non-certified personnel that are in training to assume System Operator positions. The current footnote addresses those non-certified personnel in training.

Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee

Answer No

Document Name

Comment

For PER-003-1, it is unclear as to where this footnote will be added, i.e., is it under R1, R2 or R3, or all of the above. This needs to be clarified but the SRC questions whether it is worth the effort in creating a SAR given that there is significant effort involved in creating a SAR, forming a drafting team and processing the proposed changes through the NERC and FERC regulatory processes. SRC is of the opinion that the proposed footnote addition does not provide enough of a justification for the amount of effort needed for the industry to put out a SAR, form a drafting team, recommend changes and get the proposed changes through the NERC and regulatory process.

Likes 0

Dislikes 0

Response

The PRT was provided information that further clarity was needed for the industry to understand (i) the connection between the Standard and the Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program. Therefore the PRT determined that adding the footnote provided the needed clarity. In addition, based on the comments received from this posting, the majority of the industry agrees with the PRT's recommendation.

The PRT intends to add the footnote to all of the requirements in PER-003-1.

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer Yes

Document Name

Comment

BPA has no objections to this proposed edit for clarification.

Likes 0

Dislikes 0

Response

Thank you for your affirmative response and clarifying comment.

Oliver Burke - Entergy - Entergy Services, Inc. - 1,5

Answer

Yes

Document Name

Comment

Entergy Agrees with adding a footnote to PER-003-1 Standard.

Likes 0

Dislikes 0

Response

Thank you for your affirmative response and clarifying comment.

Quintin Lee - Eversource Energy - 1,3,5

Answer

Yes

Document Name

Comment

We don't think this has been an issue in the past, however we do not object to the clarifying footnote being added.

Likes	0
Dislikes	0
Response	
Thank you for your affirmative response and clarifying comment.	
The PRT was provided information that further clarity was needed for the industry to understand (i) the connection between the Standard and the Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program. Therefore the PRT determined that adding the footnote provided the needed clarity.	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Yes
Document Name	
Comment	
The suggested clarification to highlight that certifications required under PER-003-1 must be NERC certifications appears reasonable, particularly in light of the proposed retirement of PER-004-2.	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response and clarifying comment.	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes
Document Name	
Comment	

The SPP Standards Review Group agrees with the Periodic Review Team’s (PRT) recommendation for adding a footnote to provide more clarity in the Standard. Additionally, we suggest the drafting team add a Guideline and Technical Basis (GTB) Section to the Standard to help provide clarity in reference to the Requirements. Also, we suggest reformatting the Measurements in the current Standard. We feel this will help provide consistency with the current formatting of newly developed and revised Standards in reference to the Requirement and Measurement Process. The best example of the current formatting process would be demonstrated in the IRO-002-4 Standard.

Likes 0

Dislikes 0

Response

Thank you for your affirmative response and clarifying comment.

The EPR PRT is focusing on fixing the substance of the standard. The SDT that is assigned to perform the actual revision to the standard will work with NERC staff to determine the appropriate template.

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators

Answer

Yes

Document Name

NERC 2012 Exam Study Guide.pdf

Comment

(1) We agree that a footnote should be added to NERC Reliability Standard PER-003-1 that clarifies its dependency on the NERC System Operator Certification Program. However, we feel the Periodic Review Team (PRT) has neglected to address an urgent compliance gap present following recent changes to the NERC System Operator Certification Program, and urge the PRT to revise its recommendation to identify that a revision to the standard is necessary.

(2) We observe no complementary mechanism that ties the NERC System Operator Certification Program back to this reliability standard. At a minimum, we expect direct, one-for-one alignment between the areas of competencies and the content domains identified as the framework used to ensure the content validity of each NERC certification exam. From what we observe, these content domains were updated recently in the 2017 NERC Exam Resource Materials posted on the NERC web site

(<http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx>). For comparison, we attached a similar list of content domains from 2012. Without this alignment and when the requirements within this standard are taken verbatim, then industry is burdened to demonstrate that a minimum competency has been obtained for applicable staff performing Real-time, company-specific, reliability-related tasks.

(3) The current approach to the interdependencies between this reliability standard and the NERC Continuing Education Program relies on the assumption that all registered entities are also NERC Continuing Education Providers. We find this is not always the case. We believe the minimum set of competencies System Operators must maintain are already addressed by the systematic training approach required by their employers in NERC Reliability Standard PER-005-2. At a minimum, we ask the PRT to document in its recommendations that further coordination with the NERC Personnel Certification Governance Committee is necessary to update the list of Recognized Operator Training Topics, as identified in Appendix A of the NERC System Operator Certification Program Manual. We feel this list needs to be revised with current industry concerns, situation awareness and human performance-centric themes, and available technologies.

(4) We ask the PRT to expand its recommendation to include a footnote reference to the NERC Personnel Certification Governance Committee (PCGC) and the importance of its role in monitoring the performance of the NERC System Operator Certification Program.

Likes	0
Dislikes	0

Response

Thank you for your affirmative response and clarifying comment.

(1) The PRT is not aware of any compliance gaps and therefore cannot respond to your concern.

(2) The PRT does not believe that there is a need to modify this standard due to changes in the NERC exam content outline. The competencies identified in the standard are believed to be the minimum competency areas necessary to perform the duties of a System Operator.

(3) The PRT does not agree with your assumption that all registered entities are NERC Continuing Education Providers nor is it required for all entities to be providers. The PCGC reviews the System Operator Certification Manual and Appendix A on an annual basis. The PCGC is completing an update to this manual that should address your concern.

(4) The NERC Rules of Procedure address the PCGC role in the NERC System Operator Program.

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5

Answer Yes

Document Name

Comment

Likes 1 Tallahassee Electric (City of Tallahassee, FL), 5, Webb Karen

Dislikes 0

Response

Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5

Answer Yes

Document Name

Comment

Thank you for your affirmative response.

Likes 0

Dislikes 0

Response

Daniel Herring - DTE Energy - Detroit Edison Company - 3,4,5

Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Jeffrey DePriest - DTE Energy - Detroit Edison Company - 3,4,5	
Answer	Yes
Document Name	
Comment	
Likes	0

Dislikes 0	
Response	
Thank you for your affirmative response.	
Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Glen Farmer - Avista - Avista Corporation - 1,3,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Shawn Abrams - Santee Cooper - 1,3,5,6, Group Name Santee Cooper	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Michelle Amarantos - APS - Arizona Public Service Co. - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

Thank you for your affirmative response.

Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Douglas Webb - Great Plains Energy - Kansas City Power and Light Co. - 1,3,5,6 - SPP RE

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Lauren Price - American Transmission Company, LLC - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Sean Bodkin - Dominion - Dominion Resources, Inc. - 3,5,6

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

sean erickson - Western Area Power Administration - 1,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Scott Downey - Peak Reliability - 1

Answer Yes

Document Name

Comment

Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	

2. The PER PRT recommends that PER-004-2 be retired. The PER PRT believes that the requirements in PER-004-2 are duplicative with several other standards as outlined in the PER-004-2 EPR template. Do you agree with the recommendation? If not, please explain in the comment area below.

Scott Downey - Peak Reliability - 1

Answer No

Document Name

Comment

Peak respectfully disagrees with the recommendation that PER-004-2 be retired. PER-004-2 R1 states that each Reliability Coordinator shall be staffed 24 hours per day, seven days per week. This requirement is not adequately captured in other standards outlined in the PER-004-2 EPR template. Peak suggests consideration be given to incorporating the 24x7 staffing language into PER-003-1 R1.

Likes 0

Dislikes 0

Response

The PRT does not agree with your recommendation to incorporate the 24x7 staffing language into PER-003. Entities would not be able to maintain the reliability of the BES in real-time unless those entities are staffed 24x7. In addition, based on the comments received from this posting, the majority of the industry agrees with the PRT's recommendation.

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators

Answer Yes

Document Name

Comment

Thank you for the opportunity to comment.

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer Yes

Document Name

Comment

We truly appreciate the efforts of the Periodic Review Team (PRT) on identifying the Paragraph 81 Criteria associated with this particular Standard. The SPP Standards Review Group is in agreeance with the recommendation of retirement of this Standard.

Likes 0

Dislikes 0

Response

Thank you for your affirmative response and clarifying comment.

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer Yes

Document Name

Comment

Both PER-004-2 requirements do appear to be substantially addressed by other reliability requirements.

Likes	0
Dislikes	0
Response	
Thank you for your affirmative response and clarifying comment.	
Quintin Lee - Eversource Energy - 1,3,5	
Answer	Yes
Document Name	
Comment	
We agree that the requirements of PER-004-2 are duplicative and that it can be retired	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response and clarifying comment.	
Oliver Burke - Entergy - Entergy Services, Inc. - 1,5	
Answer	Yes
Document Name	
Comment	
Entergy agrees on the retirement of the PER-004 Standard.	
Likes	0
Dislikes	0
Response	

Thank you for your affirmative response and clarifying comment.	
LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	Yes
Document Name	
Comment	
However, this organization is not a Reliability Coordinator so PER-004 does not apply to us.	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response and clarifying comment.	
Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
BPA believes that this Standard is for Reliability Coordinators and does not apply to BPA, therefore BPA has no objections to this proposed recommendation.	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response and clarifying comment.	
Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee	

Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no Dominion and Eversource	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
sean erickson - Western Area Power Administration - 1,6	
Answer	Yes
Document Name	
Comment	
Likes	0

Dislikes	0
Response	
Thank you for your affirmative response.	
Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Sean Bodkin - Dominion - Dominion Resources, Inc. - 3,5,6	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Lauren Price - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Douglas Webb - Great Plains Energy - Kansas City Power and Light Co. - 1,3,5,6 - SPP RE	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

Thank you for your affirmative response.

Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Shawn Abrams - Santee Cooper - 1,3,5,6, Group Name Santee Cooper

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Glen Farmer - Avista - Avista Corporation - 1,3,5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Rick Applegate - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Jeffrey DePriest - DTE Energy - Detroit Edison Company - 3,4,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Daniel Herring - DTE Energy - Detroit Edison Company - 3,4,5

Answer Yes

Document Name

Comment

Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Karen Webb - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
John Williams - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5	
Answer	Yes
Document Name	
Comment	
Likes 1	
Dislikes 0	
Tallahassee Electric (City of Tallahassee, FL), 5, Webb Karen	
Response	
Thank you for your affirmative response.	

End of Report

Standards Authorization Request Form

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

NERC welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards. Please use this form to submit your request to propose a new or a revision to a NERC Reliability Standard.

Request to propose a new or a revision to a Reliability Standard

Title of Proposed Standard:	PER-003-1 Operating Personnel Credentials and PER-004-2 Reliability Coordination — Staffing		
Date Submitted:	TBD		
SAR Requester Information			
Name:	Patti Metro		
Organization:	Chair - Project 2016-EPR-01 PER		
Telephone:	(703) 907-5817	Email:	patti.metro@nreca.coop
SAR Type (Check as many as applicable)			
<input type="checkbox"/> New Standard	<input checked="" type="checkbox"/> Withdrawal of Existing Standard		
<input checked="" type="checkbox"/> Revision to Existing Standard	<input type="checkbox"/> Urgent Action		

SAR Information

Industry Need (What is the industry problem this request is trying to solve?):

Need to add clarity to PER-003-1 that explains that the NERC certifications identified in this standard are described in the NERC System Operator Certification Program.

The requirements of PER-004-2 are duplicative with requirements in several other standards that explain in detail the staffing requirements of personnel conducting the Reliability Coordinator function.

SAR Information
Purpose or Goal (How does this request propose to address the problem described above?):
<p>The Project 2016-EPR-01 PER Team recommends that a clarifying footnote be added to PER-003-1 to ensure that stakeholders (now and in the future) understand (i) the connection between the Standard and the Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program.</p> <p>The Project 2016-EPR-01 PER Team recommends that PER-004-2 be retired.</p>
Identify the Objectives of the proposed standard's requirements (What specific reliability deliverables are required to achieve the goal?):
N/A
Brief Description (Provide a paragraph that describes the scope of this standard action.)
<p>The Project 2016-EPR-01 PER team recommends that a clarifying footnote be added to PER-003-1 Requirement R1, R2 and R3 to ensure that stakeholders (now and in the future) understand (i) the connection between the Standard and the Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program.</p> <p>The PER-004-2 standard falls within Paragraph 81 Criterion B7, because all of its requirements are redundant with requirements in other FERC-approved reliability standards that are in effect or soon to be effective. It is not necessary or efficient to maintain such duplicative requirements. Specifically, PER-004-2's requirements are duplicated in standards:</p> <ul style="list-style-type: none"> • PER-003-1, R1 • PER-005-2, R2 and R3 • IRO-002-4, R3 and R4 • EOP-004-2, R2 • IRO-008-2, R1, R2, and R4 • IRO-009-2, R1 – R4 • IRO-010-2, R1 – R3 • IRO-014-3, generally • IRO-018-1, R1-R3

SAR Information

Detailed Description (Provide a description of the proposed project with sufficient details for the standard drafting team to execute the SAR. Also provide a justification for the development or revision of the standard, including an assessment of the reliability and market interface impacts of implementing or not implementing the standard action.)

The Project 2016-EPR-01 PER Team recommends that a clarifying footnote be added to PER-003-1 Requirements R1, R2 and R3 to ensure that stakeholders (now and in the future) understand the connection between the Standard and the Program Manual. The PRT suggests for consideration the following language be used for the footnote “The certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program.”

Concerning PER-004-2, the standards is duplicative and all requirements are covered in other reliability standards. Specifically, PER-003-1 R1 states that each Reliability Coordinator shall staff its Real-time operating positions with System Operators who have obtained and maintained a valid NERC Reliability Operator certificate. PER-005-2 R1 states that each Reliability Coordinator shall design, develop and deliver training to its System Operators based on a list of Bulk Electric System (BES) company specific Real-time reliability-related tasks. Additionally, PER-005-2 R3 states that Reliability Coordinators have to verify that their personnel are capable of performing each of those tasks.

Moreover, in PER-004-2 R1, 24 hours per day, and seven days a week requirements are addressed by several NERC Reliability Standards and Requirements. These requirements cannot be accomplished without an entity having a 24/7 operation. IRO-002-4 R4 (enforceable 4/1/2017) requires that, “Each Reliability Coordinator shall have monitoring systems that provide information utilized by the Reliability Coordinator’s operating personnel...” In addition, IRO-002-4 R3 states that, “Each Reliability Coordinator shall monitor Facilities, the status of Special Protection Systems, and non-BES facilities identified as necessary by the Reliability Coordinator, within its Reliability Coordinator Area and neighboring Reliability Coordinator Areas to identify any System Operating Limit exceedances and to determine any Interconnection Reliability Operating Limit exceedances within its Reliability Coordination Area.” EOP-004-2 covers continuous observation through its reporting timeframes to meet OE-417 for Loss of Monitoring. Additional coverage is ensured through IRO 008-2 R2, “Each Reliability Coordinator shall have a coordinated Operating Plan(s) for next-day operations to address ...(SOL) and (IROL) exceedances...” and R4 states, “Each Reliability Coordinator shall ensure that a Real-time Assessment is performed at least once every 30 minutes.” Reinforcing the structure of the 24 hours per day, and seven days per week requirement is carried out by IRO-010-2 R1, requiring that Reliability Coordinator’s maintain documented specifications for the data to perform Operational Planning analyses, Real-time monitoring, and Real-time Assessments. Real-time is defined as, “Present time as opposed to future times,” while Real-time Assessment is defined as “An examination of existing and expected system

SAR Information

conditions, conducted by collecting and reviewing immediately available data.” Using these definitions in the Reliability Standards further confirms that PER-004-2 Requirement 1 is duplicative and non-essential as its content is covered in multiple Reliability Standards.

PER-004-2 Requirement R2 is duplicated in numerous Reliability Standards justifying the need for retirement of this requirement. As described below, the Standards and requirements of IRO-002-4, IRO-008-2, IRO-009-2, IRO-010-2, IRO-014-3 and IRO-018-1 adequately ensure that protocols are in place to allow the Reliability Coordinator operating personnel to have the best available information at all times.

IRO-002-4, R3 states that the Reliability Coordinator shall monitor Facilities and work with neighboring Reliability Coordinator areas to identify SOL and IROL exceedances within its area. In order to ensure compliance with this Standard and Requirement, particular attention must be placed on SOLs, IROLs, and inter-tie facility limits.

IRO-008-2 ensures that the Reliability Coordinator performs analyses and assessments to prevent instability, uncontrolled separation, or cascading. R1, R2, and R4 of this Standard specifically require that an Operational Planning Analysis is performed to:

- assess whether the planned operations for the next-day will exceed SOLs and IROLs within its Wide Area,
- ensure that coordinated plans are developed for the next-day operations to address these exceedances, and
- execute Real-time Assessments at least once every 30 minutes.

To maintain compliance with the IRO-008-2 Standard, the Reliability Coordinator must place particular attention on SOLs and IROLs.

IRO-009-2 builds on IRO-008-2 by ensuring prompt action to prevent or mitigate instances where IROLs are exceeded. Through the Requirements of this Standard, assurances are made that the Reliability Coordinator has one or more Operating Processes, Procedures, or Plans that identify actions to take, or actions to direct others to take, to mitigate the magnitude and duration of an IROL exceedance identified in their Assessments.

IRO-010-2 provides data specifications that affords the Reliability Coordinator the specific data necessary to perform its Operational Planning Analyses, Real-time monitoring, Real-time Assessments

SAR Information

and ensures that a protocol exists to resolve any data conflicts. This Standard ensures that the Reliability Coordinator has the best available information at all times to maintain compliance.

IRO-014-3 ensures that each Reliability Coordinator’s operations are coordinated so that they will not adversely impact other Reliability Coordinator Areas and preserve the reliability benefits of interconnected operations. This Standard again builds on the coordination of the Operational Analyses and Real-time Assessments which requires the Reliability Coordinator to have the best available information at all times to maintain compliance.

IRO-018-1 established three requirements for Real-time monitoring and analysis capabilities to support reliable operations. Real-time monitoring involves observing operating status and operating values in Real-time to ensure awareness of system conditions. Through this Standard, processes and procedures are established for evaluating the quality of Real-time data and to provide assurance that any action taken addresses any data quality issues so that Real-time monitoring and Real-time Assessments performed by the Reliability Coordinator contains the best available information at all times.

Reliability Functions

The Standard will Apply to the Following Functions (Check each one that applies.)

<input checked="" type="checkbox"/> Reliability Coordinator	Responsible for the real-time operating reliability of its Reliability Coordinator Area in coordination with its neighboring Reliability Coordinator’s wide area view.
<input checked="" type="checkbox"/> Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within a Balancing Authority Area and supports Interconnection frequency in real time.
<input type="checkbox"/> Interchange Authority	Ensures communication of interchange transactions for reliability evaluation purposes and coordinates implementation of valid and balanced interchange schedules between Balancing Authority Areas.
<input type="checkbox"/> Planning Coordinator	Assesses the longer-term reliability of its Planning Coordinator Area.
<input type="checkbox"/> Resource Planner	Develops a one year plan for the resource adequacy of its specific loads within a Planning Coordinator area.

Reliability Functions	
<input type="checkbox"/> Transmission Planner	Develops a one year plan for the reliability of the interconnected Bulk Electric System within its portion of the Planning Coordinator area.
<input type="checkbox"/> Transmission Service Provider	Administers the transmission tariff and provides transmission services under applicable transmission service agreements (e.g., the pro forma tariff).
<input type="checkbox"/> Transmission Owner	Owns and maintains transmission facilities.
<input checked="" type="checkbox"/> Transmission Operator	Ensures the real-time operating reliability of the transmission assets within a Transmission Operator Area.
<input type="checkbox"/> Distribution Provider	Delivers electrical energy to the end-use customer.
<input type="checkbox"/> Generator Owner	Owns and maintains generation facilities.
<input type="checkbox"/> Generator Operator	Operates generation unit(s) to provide real and reactive power.
<input type="checkbox"/> Purchasing-Selling Entity	Purchases or sells energy, capacity, and necessary reliability-related services as required.
<input type="checkbox"/> Market Operator	Interface point for reliability functions with commercial functions.
<input type="checkbox"/> Load-Serving Entity	Secures energy and transmission service (and reliability-related services) to serve the end-use customer.

Reliability and Market Interface Principles	
Applicable Reliability Principles (Check all that apply).	
<input type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained and implemented.
<input type="checkbox"/>	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.

Reliability and Market Interface Principles	
<input checked="" type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored and maintained on a wide area basis.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber attacks.
Does the proposed Standard comply with all of the following Market Interface Principles?	
1. A reliability standard shall not give any market participant an unfair competitive advantage.	Enter (yes/no) YES
2. A reliability standard shall neither mandate nor prohibit any specific market structure.	YES
3. A reliability standard shall not preclude market solutions to achieving compliance with that standard.	YES
4. A reliability standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards.	YES

Related Standards	
Standard No.	Explanation

Related SARs	
SAR ID	Explanation
	N/A

Related SARs	

Regional Variances	
Region	Explanation
ERCOT	N/A
FRCC	N/A
MRO	N/A
NPCC	N/A
RFC	N/A
SERC	N/A
SPP	N/A
WECC	N/A

Version History

Version	Date	Owner	Change Tracking
1	June 3, 2013		Revised
1	August 29, 2014	Standards Information Staff	Updated template

Periodic Review Template: PER-003-1 Operating Personnel Credentials

December 2016

Introduction

The North American Electric Reliability Corporation (NERC) is required to conduct a periodic review of each NERC Reliability Standard at least once every ten (10) years, or once every five (5) years for Reliability Standards approved by the American National Standards Institute as an American National Standard.¹ The Reliability Standard identified above has been included in the current cycle of periodic reviews. The Review Team shall consist of two (2) subgroups; a Standing Review Team which is appointed annually by the Standards Committee for periodic reviews, and a stakeholder Subject Matter Expert (SME) team.² Consistent with Section 13 of the Standards Processes Manual, the Standards Committee may use a public nomination process to appoint the stakeholder SME team, or may use another method to appoint that results in a team that collectively has the necessary technical expertise and work process skills to meet the objectives of the project. The technical experts provide the subject matter expertise and guide the development of the technical aspects of the periodic review, assisted by technical writers, legal and compliance experts. The technical experts maintain authority over the technical details of the periodic review.

Together, the Standing Review Team and SME stakeholder team are the Review Team for a particular periodic review project and complete their portion of the template below.

The purpose of the template is to collect background information, pose questions to guide a comprehensive review of the Standard(s) by the Review Team, and document the Review Team's considerations and recommendations. The Review Team will post the completed template containing its recommendations for information and stakeholder input as required by Section 13 of the NERC Standard Processes Manual.

Review Team Composition

	Standing Review Team	Plus Section 13 (SMEs):
Non-CIP Standards	Chairs of the following NERC Standing Committees ³ : <ul style="list-style-type: none"> Standards Committee (Also, the SC chair or his/her delegate from the 	The Standards Committee will appoint stakeholder subject matter experts for the particular standard(s) being reviewed. The SMEs will work together with the

¹NERC Standard Processes Manual 45 (2013), posted at http://www.nerc.com/pa/Stand/Documents/Appendix_3A_StandardsProcessesManual.pdf.

² Other reliability standards included as part of the Review Team's periodic review were PER-004-2 (included in a separate, concurrent, report) and PER-001-0.2 (which was approved for retirement on March 31, 2017 and therefore not included in either report).

³Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.

	<p>SC will chair the Standing Review Team)⁴</p> <ul style="list-style-type: none"> • Planning Committee • Operating Committee <p>The Standing Review Team will meet with SMEs and help to ensure a consistent strategy and approach across all of the reviews.</p>	<p>Standing Review Team to conduct its review of the standard(s) and complete the template below.</p>
CIP Standards	<p>Chairs of the following NERC Standing Committees⁵:</p> <ul style="list-style-type: none"> • Standards Committee (Also, the SC chair or his/her delegate from the SC will chair the Standing Review Team) • CIPC 	<p>The Standards Committee will appoint stakeholder subject matter experts for the particular standard(s) being reviewed. The SMEs will work together with the Standing Review Team to conduct its review of the standard(s) and complete the template below.</p>

The Review Team will use the background information and the questions below, along with any associated worksheets or reference documents, to guide a comprehensive review that results in a recommendation from one of the following three (3) choices:

1. Recommend reaffirming the Standard as steady-state (Green); or
2. Recommend that the standard is sufficient to protect reliability and meet the reliability objective of the standard, however there may be future opportunity to improve a non-substantive or insignificant quality and content issue – i.e., continue to monitor (Yellow); or
3. Recommend that the standard needs revision or retirement (Red).

If the team recommends a revision to or a retirement of the Reliability Standard, it must also submit a Standard Authorization Request (SAR) outlining the proposed scope and technical justification for the revision or retirement.

A completed Periodic Review Template and any associated documentation should be submitted by email to Darrel Richardson at darrel.richardson@nerc.net.

⁴ The Standards Committee chair may delegate one member of the SC to chair one Standing Review Team’s review of a standard s), and another SC member to chair a review of another standard(s).

⁵ Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.

Applicable Reliability Standard: PER-003-1**Team Members (include name and organization):**

1. Patti Metro, Nation Rural Electric Cooperative Association
2. Lauri Jones, Pacific Gas and Electric Company
3. Heather Morgan, EDP Renewables North America LLC
4. Jeffrey Sunvick, Western Area Power Administration
5. Jimmy Womack, Southwest Power Pool
6. Brad Perrett, Minnesota Power
7. Carolyn White Wilson, Duke Energy Corporation
8. Michael B. Hoke, PJM Interconnection LLC
9. Danny W. Johnson, Xcel Energy
10. Darrel Richardson, NERC Senior Standards Developer
11. Candice Castaneda, NERC Counsel
12. Michael Brytowski, Great River Energy PMOS Representative

Date Review Completed:**Background Information (to be completed initially by NERC staff)**

1. Are there any outstanding Federal Energy Regulatory Commission (FERC) directives associated with the Reliability Standard? *(If so, NERC staff will attach a list of the directives with citations to associated FERC orders for inclusion in a SAR.)*

Yes

No

2. Have stakeholders requested clarity on the Reliability Standard in the form of an (outstanding, in progress, or approved) Interpretation or Compliance Application Notice (CAN)? *(If there are, NERC staff will include a list of the Interpretation(s), CAN(s), or other stakeholder-identified issue(s) that apply to the Reliability Standard.)*

Yes

No

Please explain:

3. Is the Reliability Standard one of the most violated Reliability Standards?

Yes No

If so, does the cause of the frequent violation appear to be a lack of clarity in the language?

 Yes No

Please explain:

Questions for the Review Team

If NERC staff answered “Yes” to any of the questions above, the Reliability Standard probably requires revision. The questions below are intended to further guide your review. Some of the questions reference documents provided by NERC staff as indicated in the Background questions above. Either as a guide to help answer the ensuing questions or as a final check, the Review Team is to use Attachment 3: Independent Expert Evaluation Process.

I. Quality

1. **Reliability Need, Paragraph 81:** Do any of the requirements in the Reliability Standard meet criteria for retirement or modification based on Paragraph 81 concepts? *Use Attachment 2: Paragraph 81 Criteria to make this determination.*

 Yes No

Please summarize your application of Paragraph 81 Criteria, if any:

2. **Clarity:** From the Background Information section of this template, has the Reliability Standard been the subject of an Interpretation, CAN or issue associated with it, or is frequently violated because of ambiguity?
- Does the Reliability Standard have obviously ambiguous language?
 - Does the Reliability Standard have language that requires performance that is not measurable?
 - Are the requirements consistent with the purpose of the Reliability Standard?
 - Should the requirements stand alone as is, or should they be consolidated with other standards?
 - Is the Reliability Standard complete and self-contained?
 - Does the Reliability Standard use consistent terminology?

Yes No

Please summarize your assessment: Although the response to the parent question above is “No” examination of its subparts (a) – (g) has led the Review Team to recommend a clarifying revision. The Project 2016-EPR-01 PER Review Team recommends that a clarifying footnote be added to PER-003-1 to ensure that stakeholders (now and in the future) understand (i) the connection between the Standard and the NERC System Operator Certification Program Manual; and (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program.

3. **Definitions:** Do any of the defined terms used within the Reliability Standard need to be refined?

 Yes No

Please explain:

4. **Compliance Elements:** Are the compliance elements associated with the requirements (Measures, Data Retention, Violation Risk Factors (VRF), Violation Severity Levels (VSL) and Time Horizons) consistent with the direction of the Reliability Assurance Initiative and FERC and NERC guidelines?

 Yes No

If you answered “No,” please identify which elements require revision, and why:

5. **Consistency with Other Reliability Standards:** Does the Reliability Standard need to be revised for formatting and language consistency among requirements within the Reliability Standard, or for coordination with other Reliability Standards?

 Yes No

If you answered “Yes,” please describe the changes needed to achieve formatting and language consistency:

6. **Changes in Technology, System Conditions, or other Factors:** Does the Reliability Standard need to be revised to account for changes in technology, system conditions or other factors?

Yes

No

If you answered “Yes,” please describe the changes and specifically what the potential impact is to reliability if the Reliability Standard is not revised:

7. **Practicable:**

- a. Can the Reliability Standard be practically implemented?

Yes

No

- b. Is there a concern that it is not cost effective as drafted?

Yes

No

Please summarize your assessment of the practicability of the standard:

8. **Consideration of Generator and Transmission Interconnection Facilities:** Is responsibility for generator interconnection Facilities and Transmission Interconnection Facilities appropriately accounted for in the Reliability Standard? **N/A to this standard.**

Yes

No

Guiding Questions:

- a. If the Reliability Standard is applicable to Generator Owners and/or Generator Operators, is there any ambiguity about the inclusion of generator Interconnection Facilities? (If generation Interconnection Facilities could be perceived to be excluded, specific language referencing the Facilities should be introduced in the Reliability Standard.)
- b. If the Reliability Standard is not applicable to Generator Owners and/or Generator Operators, is there a reliability-related need for treating generator Interconnection Facilities as Transmission Lines for the purposes of this Reliability Standard? (If so, Generator Owners that own and/or

Generator Operators that operate relevant generator Interconnection Facilities should be explicit in the applicability section of the Reliability Standard.)

- c. If the Reliability Standard is applicable to Transmission Operators and/or Distribution Providers, is there any ambiguity about the inclusion of Transmission Interconnection Facilities? (If Transmission Interconnection Facilities could be perceived to be excluded, specific language referencing the Facilities should be introduced in the Reliability Standard.)

9. **Results Based Standard:** Is the Reliability Standard drafted as a results-based standard?

Yes

No

If not, please summarize your assessment:

Guiding Questions:

- a. Does the Reliability Standard address performance, risk (prevention) and capability?

Yes

No

- b. Does the Reliability Standard follow the RBS format (for example, Requirement and Part structure) in Attachment 1?

Yes

No

- c. Does the Reliability Standard follow the Ten Benchmarks of an Excellent Reliability Standard⁶?

Yes

No

II. Content

⁶ Ten Benchmarks of an Excellent Reliability Standard, posted at Page 626 of:
http://www.nerc.com/pa/Stand/Resources/Documents/DT_Reference_Manual_Resource_Package_080114.pdf

10. **Technical accuracy:** Is the content of the Requirements technically correct, including identifying who does what and when?

Yes

No

If not, please summarize your assessment:

11. **Functional Model:** Are the correct functional entities assigned to perform the requirements, consistent with the Functional Model?

Yes

No

If not, please summarize your assessment:

12. **Applicability:** Is there a technical justification for revising the applicability of the Reliability Standard, or specific requirements within the standard, to account for differences in reliability risk?

Yes

No

If so, please summarize your assessment:

13. **Reliability Gaps:** Are the appropriate actions for which there should be accountability included, or is there a gap?

Yes

No

If a gap is identified, please explain:

14. **Technical Quality:** Does the Reliability Standard have a technical basis in engineering and operations?

Yes

No

If not, please summarize your assessment:

15. Does the Reliability Standard reflect a higher solution than the lowest common denominator?

Yes

No

If not, please summarize your assessment:

16. Related Regional Reliability Standards: Is there a related regional Reliability Standard, and is it appropriate to recommend the regional Reliability Standard be retired, appended into the continent-wide standard, or revised in favor of a continent-wide Standard?

Yes

No

If yes, please identify the regional standard(s) and summarize your assessment:

RED, YELLOW GREEN GRADING

Using the questions above, the Review Team shall come to a consensus on whether the Reliability Standard is Green – i.e., affirm as steady-state; Yellow –is sufficient to protect reliability and meet the reliability objective of the standard, however, there may be future opportunity to improve a non-substantive or insignificant quality and content issue – i.e., continue to monitor; or Red - either retire or needs revision, and, thus, a SAR should be developed to process the Standard through the Standards development process for retirement or revision. The reasons for the Review Team’s conclusions of Green, Yellow, or Red shall be documented. If a consensus is not reached within the Review Team, minority reviews shall be posted for stakeholder comment, along with the majority opinion on whether the Reliability Standard is Green, Yellow or Red.

Recommendation

The answers to the questions above, along with its Red, Yellow, Green grading and the recommendation of the Review Team, will be posted for a 45-day comment period, and the comments publicly posted. The Review Team will review the comments to evaluate whether to modify its initial recommendation, and will document the final recommendation which will be presented to the Standards Committee.

Preliminary Recommendation (to be completed by the Review Team after its review and prior to posting the results of the review for industry comment):

REAFFIRM *(This should be checked only if there are no outstanding directives, interpretations or issues identified by stakeholders.) GREEN*

- REVISE (*The standard is sufficient to protect reliability and meet the reliability objective of the standard, however there may be future opportunity to improve a non-substantive or insignificant quality and content issue.*) (Would include revision of associated RSAW.) **YELLOW**
- REVISE (*The recommended revisions are required to support reliability.*) (Would include revision of associated RSAW.) **RED**
- RETIRE (Would include revision of associated RSAW.) **RED**

Technical Justification (*If the Review Team recommends that the Reliability Standard be revised, a draft SAR may be included and the technical justification included in the SAR*):

The Project 2016-EPR-01 PER Team recommends that a clarifying footnote be added to PER-003-1 to ensure that stakeholders (now and in the future) understand (i) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program; and (ii) the connection between the Standard and the Program Manual.

Preliminary Recommendation posted for industry comment (date): January 10, 2017

Final Recommendation (to be completed by the Review Team after it has reviewed industry comments on the preliminary recommendation):

- REAFFIRM *(This should be checked only if there are no outstanding directives, interpretations or issues identified by stakeholders.) GREEN*
- REVISE *(The standard is sufficient to protect reliability and meet the reliability objective of the standard, however there may be future opportunity to improve a non-substantive or insignificant quality and content issue.) (Would include revision of associated RSAW.) YELLOW*
- REVISE *(The recommended revisions are required to support reliability.) (Would include revision of associated RSAW.) RED*
- RETIRE *(Would include revision of associated RSAW.) RED*

Technical Justification *(If the Review Team recommends that the Reliability Standard be revised, a draft SAR must be included and the technical justification included in the SAR):*

The Project 2016-EPR-01 PER Team recommends that a clarifying footnote be added to PER-003-1 to ensure that stakeholders (now and in the future) understand (i) that the certifications referenced under PER-003-1 are those under the NERC System Operator Certification Program; and (ii) the connection between the Standard and the Program Manual.

Date submitted to Standards Committee: June 14, 2017

Attachment 1: Results-Based Standards

Question 9 for the Review Team asks if the Reliability Standard is results-based. The information below will be used by the Review Team in making this determination.

Transitioning the current body of standards into a clear, concise, and effective body will require a comprehensive application of the RBS concept. RBS concepts employ a defense-in-depth strategy for Reliability Standards development where each requirement has a role in preventing system failures, and the roles are complementary and reinforcing. Reliability Standards should be viewed as a portfolio of requirements designed to achieve an overall defense-in-depth strategy and comply with the quality objectives identified in the resource document titled, "[Acceptance Criteria of a Reliability Standard](#)."

Accordingly, the Review Team shall consider whether the Reliability Standard contains results-based requirements with sufficient clarity to hold entities accountable without being overly prescriptive as to how a specific reliability outcome is to be achieved. The RBS concept, properly applied, addresses the clarity and effectiveness aspects of a standard.

A Reliability Standard that adheres to the RBS format should strive to achieve a portfolio of performance-, risk-, and competency-based mandatory reliability requirements that support an effective defense-in-depth strategy. Each requirement should identify a clear and measurable expected outcome, such as: a) a stated level of reliability performance, b) a reduction in a specified reliability risk, or c) a necessary competency.

- a. **Performance-Based**—defines a particular reliability objective or outcome to be achieved. In its simplest form, a results-based requirement has four components: who, under what conditions (if any), shall perform what action, to achieve what particular result or outcome?
- b. **Risk-Based**—preventive requirements to reduce the risks of failure to acceptable tolerance levels. A risk-based reliability requirement should be framed as: who, under what conditions (if any), shall perform what action, to achieve what particular result or outcome that reduces a stated risk to the reliability of the bulk power system?
- c. **Competency-Based**—defines a minimum set of capabilities an entity needs to have to demonstrate it is able to perform its designated reliability functions. A competency-based reliability requirement should be framed as: who, under what conditions (if any), shall have what capability, to achieve what particular result or outcome to perform an action to achieve a result or outcome or to reduce a risk to the reliability of the bulk power system?

Additionally, each RBS-adherent Reliability Standard should enable or support one or more of the eight reliability principles listed below. Each Reliability Standard should also be consistent with all of the reliability principles.

1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.
5. Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of interconnected bulk power systems.
6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
7. The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.
8. Bulk power systems shall be protected from malicious physical or cyber-attacks.

If the Reliability Standard does not provide for a portfolio of performance-, risk-, and competency-based requirements or consistency with NERC's reliability principles, NERC staff and the Review Team should recommend that the Reliability Standard be revised or reformatted in accordance with the RBS format.

Attachment 2: Paragraph 81 Criteria

The first question for the Review Team asks if one or more of the requirements in the Reliability Standard meet(s) criteria for retirement or modification based on Paragraph 81 concepts.⁷ Use the Paragraph 81 criteria explained below to make this determination. Document the justification for the decisions throughout and provide them in the final assessment in the Periodic Review Template.

For a Reliability Standard requirement to be proposed for retirement or modification based on Paragraph 81 concepts, it must satisfy **both**: (i) Criterion A (the overarching criterion); and (ii) at least one of the Criteria B listed below (identifying criteria). In addition, for each Reliability Standard requirement proposed for retirement or modification, the data and reference points set forth below in Criteria C should be considered for making a more informed decision.

Criterion A (Overarching Criterion)

The Reliability Standard requirement requires responsible entities (“entities”) to conduct an activity or task that does little, if anything, to benefit or protect the reliable operation of the BES.

Section 215(a) (4) of the United States Federal Power Act defines “reliable operation” as: “... 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.”

Criteria B (Identifying Criteria)

B1. Administrative

The Reliability Standard requirement requires responsible entities to perform a function that is administrative in nature, does not support reliability and is needlessly burdensome.

This criterion is designed to identify requirements that can be retired or modified with little effect on reliability and whose retirement or modification will result in an increase in the efficiency of the ERO compliance program. Administrative functions may include a task that is related to developing procedures or plans, such as establishing communication contacts. Thus, for certain requirements, Criterion B1 is closely related to Criteria B2, B3 and B4. Strictly administrative functions do not inherently negatively impact reliability directly and, where possible, should be eliminated or modified for purposes of efficiency and to allow the ERO and entities to appropriately allocate resources.

⁷ In most cases, satisfaction of the Paragraph 81 criteria will result in the retirement of a requirement. In some cases, however, there may be a way to modify a requirement so that it no longer satisfies Paragraph 81 criteria. Recognizing that, this document refers to both options.

B2. Data Collection/Data Retention

These are requirements that obligate responsible entities to produce and retain data which document prior events or activities, and should be collected via some other method under NERC's rules and processes.

This criterion is designed to identify requirements that can be retired or modified with little effect on reliability. The collection and/or retention of data do not necessarily have a reliability benefit and yet are often required to demonstrate compliance. Where data collection and/or data retention is unnecessary for reliability purposes, such requirements should be retired or modified in order to increase the efficiency of the ERO compliance program.

B3. Documentation

The Reliability Standard requirement requires responsible entities to develop a document (*e.g.*, plan, policy or procedure) which is not necessary to protect reliability of the bulk power system.

This criterion is designed to identify requirements that require the development of a document that is unrelated to reliability or has no performance or results-based function. In other words, the document is required, but no execution of a reliability activity or task is associated with or required by the document.

B4. Reporting

The Reliability Standard requirement obligates responsible entities to report to a Regional Entity, NERC or another party or entity. These are requirements that obligate responsible entities to report to a Regional Entity on activities which have no discernible impact on promoting the reliable operation of the BES and if the entity failed to meet this requirement there would be little reliability impact.

B5. Periodic Updates

The Reliability Standard requirement requires responsible entities to periodically update (*e.g.*, annually) documentation, such as a plan, procedure or policy without an operational benefit to reliability.

This criterion is designed to identify requirements that impose an updating requirement that is out of sync with the actual operations of the BES, unnecessary, or duplicative.

B6. Commercial or Business Practice

The Reliability Standard requirement is a commercial or business practice, or implicates commercial rather than reliability issues.

This criterion is designed to identify those requirements that require: (i) implementing a best or outdated business practice or (ii) implicating the exchange of or debate on commercially sensitive information while doing little, if anything, to promote the reliable operation of the BES.

B7. Redundant

The Reliability Standard requirement is redundant with: (i) another FERC-approved Reliability Standard requirement(s); (ii) the ERO compliance and monitoring program; or (iii) a governmental regulation (e.g., Open Access Transmission Tariff, North American Energy Standards Board (“NAESB”), etc.).

This criterion is designed to identify requirements that are redundant with other requirements and are, therefore, unnecessary. Unlike the other criteria listed in Criterion B, in the case of redundancy, the task or activity itself may contribute to a reliable BES, but it is not necessary to have two duplicative requirements on the same or similar task or activity. Such requirements can be retired or modified with little or no effect on reliability and removal will result in an increase in efficiency of the ERO compliance program.

Criteria C (Additional data and reference points)

Use the following data and reference points to assist in the determination of (and justification for) whether to proceed with retirement or modification of a Reliability Standard requirement that satisfies both Criteria A and B:

C1. Was the Reliability Standard requirement part of a FFT filing?

The application of this criterion involves determining whether the requirement was included in a FFT filing.

C2. Is the Reliability Standard requirement being reviewed in an ongoing Standards Development Project?

The application of this criterion involves determining whether the requirement proposed for retirement or modification is part of an active Standards Development Project, with consideration for the status of the project. If the requirement has been approved by Registered Ballot Body and is scheduled to be presented to the NERC Board of Trustees, in most cases it will not need to be addressed in the periodic review. The exception would be a requirement, such as the Critical Information Protection (CIP) requirements for Version 3 and 4, that is not due to be retired for an extended period of time. Also, for informational purposes, whether the requirement is included in a future or pending Standards Development Project should be identified and discussed.

C3. What is the VRF of the Reliability Standard requirement?

The application of this criterion involves identifying the VRF of the requirement proposed for retirement or modification, with particular consideration of any requirement that has been assigned as having a Medium or High VRF. Also, the fact that a requirement has a Lower VRF is not dispositive that

it qualifies for retirement or modification. In this regard, Criterion C3 is considered in light of Criterion C5 (Reliability Principles) and C6 (Defense in Depth) to ensure that no reliability gap would be created by the retirement or modification of the Lower VRF requirement. For example, no requirement, including a Lower VRF requirement, should be retired or modified if doing so would harm the effectiveness of a larger scheme of requirements that are purposely designed to protect the reliable operation of the BES.

C4. In which tier of the most recent Actively Monitored List (AML) does the Reliability Standard requirement fall?

The application of this criterion involves identifying whether the requirement proposed for retirement or modification is on the most recent AML, with particular consideration for any requirement in the first tier of the AML.

C5. Is there a possible negative impact on NERC's published and posted reliability principles?

The application of this criterion involves consideration of the eight following reliability principles published on the NERC webpage.

Reliability Principles

NERC Reliability Standards are based on certain reliability principles that define the foundation of reliability for North American bulk power systems. Each reliability standard shall enable or support one or more of the reliability principles, thereby ensuring that each standard serves a purpose in support of reliability of the North American bulk power systems. Each reliability standard shall also be consistent with all of the reliability principles, thereby ensuring that no standard undermines reliability through an unintended consequence.

Principle 1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.

Principle 2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.

Principle 3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.

Principle 4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.

Principle 5. Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of interconnected bulk power systems.

Principle 6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.

Principle 7. The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.

Principle 8. Bulk power systems shall be protected from malicious physical or cyber-attacks.
(footnote omitted)

C6. Is there any negative impact on the defense in depth protection of the BES?

The application of this criterion considers whether the requirement proposed for retirement or modification is part of a defense in depth protection strategy. In other words, the assessment is to verify whether other requirements rely on the requirement proposed for retirement or modification to protect the BES.

C7. Does the retirement or modification promote results or performance based Reliability Standards?

The application of this criterion considers whether the requirement, if retired or modified, will promote the initiative to implement results- and/or performance-based Reliability Standards.

Attachment 3: Independent Expert Evaluation Process

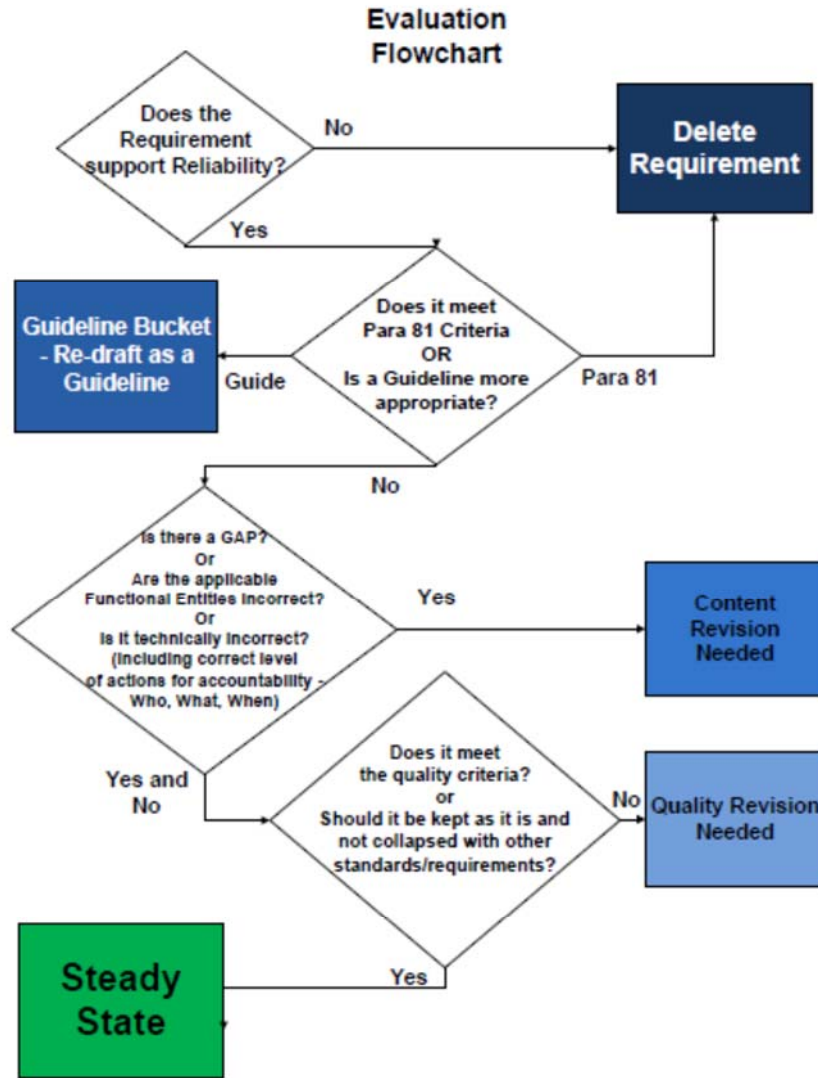


Figure 1: Evaluation Flow Chart

Periodic Review Template: PER-004-2 Reliability Coordination - Staffing

December 2016

Introduction

The North American Electric Reliability Corporation (NERC) is required to conduct a periodic review of each NERC Reliability Standard at least once every ten (10) years, or once every five (5) years for Reliability Standards approved by the American National Standards Institute as an American National Standard.¹ The Reliability Standard identified above has been included in the current cycle of periodic reviews. The Review Team shall consist of two (2) subgroups; a Standing Review Team which is appointed annually by the Standards Committee for periodic reviews, and a stakeholder Subject Matter Expert (SME) team.² Consistent with Section 13 of the Standards Processes Manual, the Standards Committee may use a public nomination process to appoint the stakeholder SME team, or may use another method to appoint that results in a team that collectively has the necessary technical expertise and work process skills to meet the objectives of the project. The technical experts provide the subject matter expertise and guide the development of the technical aspects of the periodic review, assisted by technical writers, legal and compliance experts. The technical experts maintain authority over the technical details of the periodic review.

Together, the Standing Review Team and SME stakeholder team are the Review Team for a particular periodic review project and complete their portion of the template below.

The purpose of the template is to collect background information, pose questions to guide a comprehensive review of the Standard(s) by the Review Team, and document the Review Team's considerations and recommendations. The Review Team will post the completed template containing its recommendations for information and stakeholder input as required by Section 13 of the NERC Standard Processes Manual.

Review Team Composition

	Standing Review Team	Plus Section 13 (SMEs):
Non-CIP Standards	Chairs of the following NERC Standing Committees ³ : <ul style="list-style-type: none"> Standards Committee (Also, the SC chair or his/her delegate from the 	The Standards Committee will appoint stakeholder subject matter experts for the particular standard(s) being reviewed. The SMEs will work together with the

¹NERC Standard Processes Manual 45 (2013), posted at http://www.nerc.com/pa/Stand/Documents/Appendix_3A_StandardsProcessesManual.pdf.

² Other reliability standards included as part of the Review Team's periodic review were PER-003-1 (included in a separate, concurrent, report) and PER-001-0.2 (which was approved for retirement on March 31, 2017 and therefore not included in either report).

³Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.

	<p>SC will chair the Standing Review Team)⁴</p> <ul style="list-style-type: none"> • Planning Committee • Operating Committee <p>The Standing Review Team will meet with SMEs and help to ensure a consistent strategy and approach across all of the reviews.</p>	<p>Standing Review Team to conduct its review of the standard(s) and complete the template below.</p>
CIP Standards	<p>Chairs of the following NERC Standing Committees⁵:</p> <ul style="list-style-type: none"> • Standards Committee (Also, the SC chair or his/her delegate from the SC will chair the Standing Review Team) • CIPC 	<p>The Standards Committee will appoint stakeholder subject matter experts for the particular standard(s) being reviewed. The SMEs will work together with the Standing Review Team to conduct its review of the standard(s) and complete the template below.</p>

The Review Team will use the background information and the questions below, along with any associated worksheets or reference documents, to guide a comprehensive review that results in a recommendation from one of the following three (3) choices:

1. Recommend reaffirming the Standard as steady-state (Green); or
2. Recommend that the standard is sufficient to protect reliability and meet the reliability objective of the standard, however there may be future opportunity to improve a non-substantive or insignificant quality and content issue – i.e., continue to monitor (Yellow); or
3. Recommend that the standard needs revision or retirement (Red).

If the team recommends a revision to or a retirement of the Reliability Standard, it must also submit a Standard Authorization Request (SAR) outlining the proposed scope and technical justification for the revision or retirement.

A completed Periodic Review Template and any associated documentation should be submitted by email to Darrel Richardson at darrel.richardson@nerc.net.

⁴ The Standards Committee chair may delegate one member of the SC to chair one Standing Review Team’s review of a standard s), and another SC member to chair a review of another standard(s).

⁵ Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.

Applicable Reliability Standard: PER-004-2

Team Members (include name and organization):

1. Patti Metro, Nation Rural Electric Cooperative Association
2. Lauri Jones, Pacific Gas and Electric Company
3. Heather Morgan, EDP Renewables North America LLC
4. Jeffrey Sunvick, Western Area Power Administration
5. Jimmy Womack, Southwest Power Pool
6. Brad Perrett, Minnesota Power
7. Carolyn White Wilson, Duke Energy Corporation
8. Michael B. Hoke, PJM Interconnection LLC
9. Danny W. Johnson, Xcel Energy
10. Darrel Richardson, NERC Senior Standards Developer
11. Candice Castaneda, NERC Counsel
12. Michael Brytowski, Great River Energy PMOS Representative

Date Review Completed:

Background Information (to be completed initially by NERC staff)

1. Are there any outstanding Federal Energy Regulatory Commission (FERC) directives associated with the Reliability Standard? *(If so, NERC staff will attach a list of the directives with citations to associated FERC orders for inclusion in a SAR.)*

Yes

No

2. Have stakeholders requested clarity on the Reliability Standard in the form of an (outstanding, in progress, or approved) Interpretation or Compliance Application Notice (CAN)? *(If there are, NERC staff will include a list of the Interpretation(s), CAN(s), or other stakeholder-identified issue(s) that apply to the Reliability Standard.)*

Yes

No

Please explain:

3. Is the Reliability Standard one of the most violated Reliability Standards?

Yes No

If so, does the cause of the frequent violation appear to be a lack of clarity in the language?

 Yes No

Please explain:

Questions for the Review Team

If NERC staff answered “Yes” to any of the questions above, the Reliability Standard probably requires revision. The questions below are intended to further guide your review. Some of the questions reference documents provided by NERC staff as indicated in the Background questions above. Either as a guide to help answer the ensuing questions or as a final check, the Review Team is to use Attachment 3: Independent Expert Evaluation Process.

I. Quality

1. **Reliability Need, Paragraph 81:** Do any of the requirements in the Reliability Standard meet criteria for retirement or modification based on Paragraph 81 concepts? *Use Attachment 2: Paragraph 81 Criteria to make this determination.*

 Yes No

Please summarize your application of Paragraph 81 Criteria, if any:

This standard falls within Paragraph 81 Criterion B7, because all of its requirements are redundant with requirements in other FERC-approved reliability standards that are in effect or soon to be effective. It is not necessary or efficient to maintain such duplicative requirements and PER-004-2 may be retired with little to no effect on reliability. Specifically, PER-004-2’s requirements are duplicated in standards:

- PER-003-1, R1
- PER-005-2, R2 and R3
- IRO-002-4, R3 and R4
- EOP-004-2, R2
- IRO-008-2, R1, R2, and R4
- IRO-009-2, R1 – R4

- IRO-010-2, R1 – R3
- IRO-014-3, generally
- IRO-018-1, R1-R3

Please refer to Page 10 of this document for a detailed justification for retirement of these requirements.

2. **Clarity:** From the Background Information section of this template, has the Reliability Standard been the subject of an Interpretation, CAN or issue associated with it, or is frequently violated because of ambiguity?
- a. Does the Reliability Standard have obviously ambiguous language?
 - b. Does the Reliability Standard have language that requires performance that is not measurable?
 - c. Are the requirements consistent with the purpose of the Reliability Standard?
 - d. Should the requirements stand alone as is, or should they be consolidated with other standards?
 - e. Is the Reliability Standard complete and self-contained?
 - f. Does the Reliability Standard use consistent terminology?

Yes

No

Please summarize your assessment:

3. **Definitions:** Do any of the defined terms used within the Reliability Standard need to be refined?

Yes

No

Please explain:

4. **Compliance Elements:** Are the compliance elements associated with the requirements (Measures, Data Retention, Violation Risk Factors (VRF), Violation Severity Levels (VSL) and Time Horizons) consistent with the direction of the Reliability Assurance Initiative and FERC and NERC guidelines?

Yes

No

If you answered “No,” please identify which elements require revision, and why:

5. **Consistency with Other Reliability Standards:** Does the Reliability Standard need to be revised for formatting and language consistency among requirements within the Reliability Standard, or for coordination with other Reliability Standards?

Yes

No

If you answered “Yes,” please describe the changes needed to achieve formatting and language consistency:

6. **Changes in Technology, System Conditions, or other Factors:** Does the Reliability Standard need to be revised to account for changes in technology, system conditions or other factors?

Yes

No

If you answered “Yes,” please describe the changes and specifically what the potential impact is to reliability if the Reliability Standard is not revised:

7. **Practicable:**

- a. Can the Reliability Standard be practically implemented?

Yes

No

- b. Is there a concern that it is not cost effective as drafted?

Yes

No

Please summarize your assessment of the practicability of the standard:

8. **Consideration of Generator and Transmission Interconnection Facilities:** Is responsibility for generator interconnection Facilities and Transmission Interconnection Facilities appropriately accounted for in the Reliability Standard? **Not Applicable.**

Yes

No

Guiding Questions:

- a. If the Reliability Standard is applicable to Generator Owners and/or Generator Operators, is there any ambiguity about the inclusion of generator Interconnection Facilities? (If generation Interconnection Facilities could be perceived to be excluded, specific language referencing the Facilities should be introduced in the Reliability Standard.)
- b. If the Reliability Standard is not applicable to Generator Owners and/or Generator Operators, is there a reliability-related need for treating generator Interconnection Facilities as Transmission Lines for the purposes of this Reliability Standard? (If so, Generator Owners that own and/or Generator Operators that operate relevant generator Interconnection Facilities should be explicit in the applicability section of the Reliability Standard.)
- c. If the Reliability Standard is applicable to Transmission Operators and/or Distribution Providers, is there any ambiguity about the inclusion of Transmission Interconnection Facilities? (If Transmission Interconnection Facilities could be perceived to be excluded, specific language referencing the Facilities should be introduced in the Reliability Standard.)

9. **Results Based Standard:** Is the Reliability Standard drafted as a results-based standard?

Yes

No

If not, please summarize your assessment:

Guiding Questions:

- a. Does the Reliability Standard address performance, risk (prevention) and capability?

Yes

No

- b. Does the Reliability Standard follow the RBS format (for example, Requirement and Part structure) in Attachment 1?

Yes

No

c. Does the Reliability Standard follow the Ten Benchmarks of an Excellent Reliability Standard⁶?

Yes

No

II. Content

10. **Technical accuracy:** Is the content of the Requirements technically correct, including identifying who does what and when?

Yes

No

If not, please summarize your assessment:

11. **Functional Model:** Are the correct functional entities assigned to perform the requirements, consistent with the Functional Model?

Yes

No

If not, please summarize your assessment:

12. **Applicability:** Is there a technical justification for revising the applicability of the Reliability Standard, or specific requirements within the standard, to account for differences in reliability risk?

Yes

No

If so, please summarize your assessment:

13. **Reliability Gaps:** Are the appropriate actions for which there should be accountability included, or is there a gap?

⁶ Ten Benchmarks of an Excellent Reliability Standard, posted at Page 626 of:
http://www.nerc.com/pa/Stand/Resources/Documents/DT_Reference_Manual_Resource_Package_080114.pdf

Yes No

If a gap is identified, please explain:

14. **Technical Quality:** Does the Reliability Standard have a technical basis in engineering and operations?

 Yes No

If not, please summarize your assessment:

15. **Does the Reliability Standard reflect a higher solution than the lowest common denominator?**

 Yes No

If not, please summarize your assessment:

16. **Related Regional Reliability Standards:** Is there a related regional Reliability Standard, and is it appropriate to recommend the regional Reliability Standard be retired, appended into the continent-wide standard, or revised in favor of a continent-wide Standard?

 Yes No

If yes, please identify the regional standard(s) and summarize your assessment:

RED, YELLOW GREEN GRADING

Using the questions above, the Review Team shall come to a consensus on whether the Reliability Standard is Green – i.e., affirm as steady-state; Yellow –is sufficient to protect reliability and meet the reliability objective of the standard, however, there may be future opportunity to improve a non-substantive or insignificant quality and content issue – i.e., continue to monitor; or Red - either retire or needs revision, and, thus, a SAR should be developed to process the Standard through the Standards development process for retirement or revision. The reasons for the Review Team’s conclusions of Green, Yellow, or Red shall be documented. If a consensus is not reached within the Review Team, minority reviews shall be posted for stakeholder comment, along with the majority opinion on whether the Reliability Standard is Green, Yellow or Red.

Recommendation

The answers to the questions above, along with its Red, Yellow, Green grading and the recommendation of the Review Team, will be posted for a 45-day comment period, and the comments publicly posted. The Review Team will review the comments to evaluate whether to modify its initial recommendation, and will document the final recommendation which will be presented to the Standards Committee.

Preliminary Recommendation (to be completed by the Review Team after its review and prior to posting the results of the review for industry comment):

- REAFFIRM (*This should be checked only if there are no outstanding directives, interpretations or issues identified by stakeholders.*) GREEN
- REVISE (*The standard is sufficient to protect reliability and meet the reliability objective of the standard, however there may be future opportunity to improve a non-substantive or insignificant quality and content issue.*) (Would include revision of associated RSAW.) YELLOW
- REVISE (*The recommended revisions are required to support reliability.*) (Would include revision of associated RSAW.) RED
- RETIRE (Would include revision of associated RSAW.) RED

Technical Justification (*If the Review Team recommends that the Reliability Standard be revised, a draft SAR may be included and the technical justification included in the SAR*):

PER-004-2 R1 is duplicative and all requirements are covered in other reliability standards. Specifically, PER-003-1 R1 states that each Reliability Coordinator shall staff its Real-time operating positions with System Operators who have obtained and maintained a valid NERC Reliability Operator certificate. PER-005-2 R1 states that each Reliability Coordinator shall design, develop and deliver training to its System Operators based on a list of Bulk Electric System (BES) company specific Real-time reliability-related tasks. Additionally, PER-005-2 R3 states that Reliability Coordinators have to verify that their personnel are capable of performing each of those tasks.

Moreover, in PER-004-2 R1, 24 hours per day, and seven days a week requirements are addressed by several NERC Reliability Standards and Requirements. These requirements cannot be accomplished without an entity having a 24/7 operation. IRO-002-4 R4 (enforceable 4/1/2017) requires that, "Each Reliability Coordinator shall have monitoring systems that provide information utilized by the Reliability Coordinator's operating personnel..." In addition, IRO-002-4 R3 states that, "Each Reliability Coordinator shall monitor Facilities, the status of Special Protection Systems, and non-BES facilities identified as necessary by the Reliability Coordinator, within its Reliability Coordinator Area and neighboring Reliability Coordinator Areas to identify any System Operating Limit exceedances and to determine any Interconnection Reliability Operating Limit exceedances within its Reliability Coordination Area." EOP-004-2 covers continuous observation through its reporting timeframes to

meet OE-417 for Loss of Monitoring. Additional coverage is ensured through IRO 008-2 R2, “Each Reliability Coordinator shall have a coordinated Operating Plan(s) for next-day operations to address ...(SOL) and (IROL) exceedances...” and R4 states, “Each Reliability Coordinator shall ensure that a Real-time Assessment is performed at least once every 30 minutes.” Reinforcing the structure of the 24 hours per day, and seven days per week requirement is carried out by IRO-010-2 R1, requiring that Reliability Coordinator’s maintain documented specifications for the data to perform Operational Planning analyses, Real-time monitoring, and Real-time Assessments. Real-time is defined as, “Present time as opposed to future times,” while Real-time Assessment is defined as “An examination of existing and expected system conditions, conducted by collecting and reviewing immediately available data.” Using these definitions in the Reliability Standards further confirms that PER-004-2 Requirement 1 is duplicative and non-essential as its content is covered in multiple Reliability Standards.

PER-004-2 Requirement R2 is duplicated in numerous Reliability Standards justifying the need for retirement of this requirement. As described below, the Standards and requirements of IRO-002-4, IRO-008-2, IRO-009-2, IRO-010-2, IRO-014-3 and IRO-018-1 adequately ensure that protocols are in place to allow the Reliability Coordinator operating personnel to have the best available information at all times.

IRO-002-4, R3 states that the Reliability Coordinator shall monitor Facilities and work with neighboring Reliability Coordinator areas to identify SOL and IROL exceedances within its area. In order to ensure compliance with this Standard and Requirement, particular attention must be placed on SOLs, IROLs, and inter-tie facility limits.

IRO-008-2 ensures that the Reliability Coordinator performs analyses and assessments to prevent instability, uncontrolled separation, or cascading. R1, R2, and R4 of this Standard specifically require that an Operational Planning Analysis is performed to:

- assess whether the planned operations for the next-day will exceed SOLs and IROLs within its Wide Area,
- ensure that coordinated plans are developed for the next-day operations to address these exceedances, and
- execute Real-time Assessments at least once every 30 minutes.

To maintain compliance with the IRO-008-2 Standard, the Reliability Coordinator must place particular attention on SOLs and IROLs.

IRO-009-2 builds on IRO-008-2 by ensuring prompt action to prevent or mitigate instances where IROLs are exceeded. Through the Requirements of this Standard, assurances are made that the Reliability Coordinator has one or more Operating Processes, Procedures, or Plans that identify actions to take, or

actions to direct others to take, to mitigate the magnitude and duration of an IROL exceedance identified in their Assessments.

IRO-010-2 provides data specifications that affords the Reliability Coordinator the specific data necessary to perform its Operational Planning Analyses, Real-time monitoring, Real-time Assessments and ensures that a protocol exists to resolve any data conflicts. This Standard ensures that the Reliability Coordinator has the best available information at all times to maintain compliance.

IRO-014-3 ensures that each Reliability Coordinator's operations are coordinated so that they will not adversely impact other Reliability Coordinator Areas and preserve the reliability benefits of interconnected operations. This Standard again builds on the coordination of the Operational Analyses and Real-time Assessments which requires the Reliability Coordinator to have the best available information at all times to maintain compliance.

IRO-018-1 established three requirements for Real-time monitoring and analysis capabilities to support reliable operations. Real-time monitoring involves observing operating status and operating values in Real-time to ensure awareness of system conditions. Through this Standard, processes and procedures are established for evaluating the quality of Real-time data and to provide assurance that any action taken addresses any data quality issues so that Real-time monitoring and Real-time Assessments performed by the Reliability Coordinator contains the best available information at all times.

Preliminary Recommendation posted for industry comment (date): January 10, 2017

Final Recommendation (to be completed by the Review Team after it has reviewed industry comments on the preliminary recommendation):

- REAFFIRM *(This should be checked only if there are no outstanding directives, interpretations or issues identified by stakeholders.) GREEN*
- REVISE *(The standard is sufficient to protect reliability and meet the reliability objective of the standard, however there may be future opportunity to improve a non-substantive or insignificant quality and content issue.) (Would include revision of associated RSAW.) YELLOW*
- REVISE *(The recommended revisions are required to support reliability.) (Would include revision of associated RSAW.) RED*
- RETIRE *(Would include revision of associated RSAW.) RED*

Technical Justification *(If the Review Team recommends that the Reliability Standard be revised, a draft SAR must be included and the technical justification included in the SAR):*

See justification above.

Date submitted to Standards Committee: June 14, 2017

Attachment 1: Results-Based Standards

Question 9 for the Review Team asks if the Reliability Standard is results-based. The information below will be used by the Review Team in making this determination.

Transitioning the current body of standards into a clear, concise, and effective body will require a comprehensive application of the RBS concept. RBS concepts employ a defense-in-depth strategy for Reliability Standards development where each requirement has a role in preventing system failures, and the roles are complementary and reinforcing. Reliability Standards should be viewed as a portfolio of requirements designed to achieve an overall defense-in-depth strategy and comply with the quality objectives identified in the resource document titled, "[Acceptance Criteria of a Reliability Standard](#)."

Accordingly, the Review Team shall consider whether the Reliability Standard contains results-based requirements with sufficient clarity to hold entities accountable without being overly prescriptive as to how a specific reliability outcome is to be achieved. The RBS concept, properly applied, addresses the clarity and effectiveness aspects of a standard.

A Reliability Standard that adheres to the RBS format should strive to achieve a portfolio of performance-, risk-, and competency-based mandatory reliability requirements that support an effective defense-in-depth strategy. Each requirement should identify a clear and measurable expected outcome, such as: a) a stated level of reliability performance, b) a reduction in a specified reliability risk, or c) a necessary competency.

- a. **Performance-Based**—defines a particular reliability objective or outcome to be achieved. In its simplest form, a results-based requirement has four components: who, under what conditions (if any), shall perform what action, to achieve what particular result or outcome?
- b. **Risk-Based**—preventive requirements to reduce the risks of failure to acceptable tolerance levels. A risk-based reliability requirement should be framed as: who, under what conditions (if any), shall perform what action, to achieve what particular result or outcome that reduces a stated risk to the reliability of the bulk power system?
- c. **Competency-Based**—defines a minimum set of capabilities an entity needs to have to demonstrate it is able to perform its designated reliability functions. A competency-based reliability requirement should be framed as: who, under what conditions (if any), shall have what capability, to achieve what particular result or outcome to perform an action to achieve a result or outcome or to reduce a risk to the reliability of the bulk power system?

Additionally, each RBS-adherent Reliability Standard should enable or support one or more of the eight reliability principles listed below. Each Reliability Standard should also be consistent with all of the reliability principles.

1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.
5. Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of interconnected bulk power systems.
6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
7. The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.
8. Bulk power systems shall be protected from malicious physical or cyber-attacks.

If the Reliability Standard does not provide for a portfolio of performance-, risk-, and competency-based requirements or consistency with NERC's reliability principles, NERC staff and the Review Team should recommend that the Reliability Standard be revised or reformatted in accordance with the RBS format.

Attachment 2: Paragraph 81 Criteria

The first question for the Review Team asks if one or more of the requirements in the Reliability Standard meet(s) criteria for retirement or modification based on Paragraph 81 concepts.⁷ Use the Paragraph 81 criteria explained below to make this determination. Document the justification for the decisions throughout and provide them in the final assessment in the Periodic Review Template.

For a Reliability Standard requirement to be proposed for retirement or modification based on Paragraph 81 concepts, it must satisfy **both**: (i) Criterion A (the overarching criterion); and (ii) at least one of the Criteria B listed below (identifying criteria). In addition, for each Reliability Standard requirement proposed for retirement or modification, the data and reference points set forth below in Criteria C should be considered for making a more informed decision.

Criterion A (Overarching Criterion)

The Reliability Standard requirement requires responsible entities (“entities”) to conduct an activity or task that does little, if anything, to benefit or protect the reliable operation of the BES.

Section 215(a) (4) of the United States Federal Power Act defines “reliable operation” as: “... 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.”

Criteria B (Identifying Criteria)

B1. Administrative

The Reliability Standard requirement requires responsible entities to perform a function that is administrative in nature, does not support reliability and is needlessly burdensome.

This criterion is designed to identify requirements that can be retired or modified with little effect on reliability and whose retirement or modification will result in an increase in the efficiency of the ERO compliance program. Administrative functions may include a task that is related to developing procedures or plans, such as establishing communication contacts. Thus, for certain requirements, Criterion B1 is closely related to Criteria B2, B3 and B4. Strictly administrative functions do not inherently negatively impact reliability directly and, where possible, should be eliminated or modified for purposes of efficiency and to allow the ERO and entities to appropriately allocate resources.

⁷ In most cases, satisfaction of the Paragraph 81 criteria will result in the retirement of a requirement. In some cases, however, there may be a way to modify a requirement so that it no longer satisfies Paragraph 81 criteria. Recognizing that, this document refers to both options.

B2. Data Collection/Data Retention

These are requirements that obligate responsible entities to produce and retain data which document prior events or activities, and should be collected via some other method under NERC's rules and processes.

This criterion is designed to identify requirements that can be retired or modified with little effect on reliability. The collection and/or retention of data do not necessarily have a reliability benefit and yet are often required to demonstrate compliance. Where data collection and/or data retention is unnecessary for reliability purposes, such requirements should be retired or modified in order to increase the efficiency of the ERO compliance program.

B3. Documentation

The Reliability Standard requirement requires responsible entities to develop a document (*e.g.*, plan, policy or procedure) which is not necessary to protect reliability of the bulk power system.

This criterion is designed to identify requirements that require the development of a document that is unrelated to reliability or has no performance or results-based function. In other words, the document is required, but no execution of a reliability activity or task is associated with or required by the document.

B4. Reporting

The Reliability Standard requirement obligates responsible entities to report to a Regional Entity, NERC or another party or entity. These are requirements that obligate responsible entities to report to a Regional Entity on activities which have no discernible impact on promoting the reliable operation of the BES and if the entity failed to meet this requirement there would be little reliability impact.

B5. Periodic Updates

The Reliability Standard requirement requires responsible entities to periodically update (*e.g.*, annually) documentation, such as a plan, procedure or policy without an operational benefit to reliability.

This criterion is designed to identify requirements that impose an updating requirement that is out of sync with the actual operations of the BES, unnecessary, or duplicative.

B6. Commercial or Business Practice

The Reliability Standard requirement is a commercial or business practice, or implicates commercial rather than reliability issues.

This criterion is designed to identify those requirements that require: (i) implementing a best or outdated business practice or (ii) implicating the exchange of or debate on commercially sensitive information while doing little, if anything, to promote the reliable operation of the BES.

B7. Redundant

The Reliability Standard requirement is redundant with: (i) another FERC-approved Reliability Standard requirement(s); (ii) the ERO compliance and monitoring program; or (iii) a governmental regulation (e.g., Open Access Transmission Tariff, North American Energy Standards Board (“NAESB”), etc.).

This criterion is designed to identify requirements that are redundant with other requirements and are, therefore, unnecessary. Unlike the other criteria listed in Criterion B, in the case of redundancy, the task or activity itself may contribute to a reliable BES, but it is not necessary to have two duplicative requirements on the same or similar task or activity. Such requirements can be retired or modified with little or no effect on reliability and removal will result in an increase in efficiency of the ERO compliance program.

Criteria C (Additional data and reference points)

Use the following data and reference points to assist in the determination of (and justification for) whether to proceed with retirement or modification of a Reliability Standard requirement that satisfies both Criteria A and B:

C1. Was the Reliability Standard requirement part of a FFT filing?

The application of this criterion involves determining whether the requirement was included in a FFT filing.

C2. Is the Reliability Standard requirement being reviewed in an ongoing Standards Development Project?

The application of this criterion involves determining whether the requirement proposed for retirement or modification is part of an active Standards Development Project, with consideration for the status of the project. If the requirement has been approved by Registered Ballot Body and is scheduled to be presented to the NERC Board of Trustees, in most cases it will not need to be addressed in the periodic review. The exception would be a requirement, such as the Critical Information Protection (CIP) requirements for Version 3 and 4, that is not due to be retired for an extended period of time. Also, for informational purposes, whether the requirement is included in a future or pending Standards Development Project should be identified and discussed.

C3. What is the VRF of the Reliability Standard requirement?

The application of this criterion involves identifying the VRF of the requirement proposed for retirement or modification, with particular consideration of any requirement that has been assigned as having a Medium or High VRF. Also, the fact that a requirement has a Lower VRF is not dispositive that

it qualifies for retirement or modification. In this regard, Criterion C3 is considered in light of Criterion C5 (Reliability Principles) and C6 (Defense in Depth) to ensure that no reliability gap would be created by the retirement or modification of the Lower VRF requirement. For example, no requirement, including a Lower VRF requirement, should be retired or modified if doing so would harm the effectiveness of a larger scheme of requirements that are purposely designed to protect the reliable operation of the BES.

C4. In which tier of the most recent Actively Monitored List (AML) does the Reliability Standard requirement fall?

The application of this criterion involves identifying whether the requirement proposed for retirement or modification is on the most recent AML, with particular consideration for any requirement in the first tier of the AML.

C5. Is there a possible negative impact on NERC's published and posted reliability principles?

The application of this criterion involves consideration of the eight following reliability principles published on the NERC webpage.

Reliability Principles

NERC Reliability Standards are based on certain reliability principles that define the foundation of reliability for North American bulk power systems. Each reliability standard shall enable or support one or more of the reliability principles, thereby ensuring that each standard serves a purpose in support of reliability of the North American bulk power systems. Each reliability standard shall also be consistent with all of the reliability principles, thereby ensuring that no standard undermines reliability through an unintended consequence.

Principle 1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.

Principle 2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.

Principle 3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.

Principle 4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.

Principle 5. Facilities for communication, monitoring, and control shall be provided, used, and maintained for the reliability of interconnected bulk power systems.

Principle 6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.

Principle 7. The reliability of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide-area basis.

Principle 8. Bulk power systems shall be protected from malicious physical or cyber-attacks.
(footnote omitted)

C6. Is there any negative impact on the defense in depth protection of the BES?

The application of this criterion considers whether the requirement proposed for retirement or modification is part of a defense in depth protection strategy. In other words, the assessment is to verify whether other requirements rely on the requirement proposed for retirement or modification to protect the BES.

C7. Does the retirement or modification promote results or performance based Reliability Standards?

The application of this criterion considers whether the requirement, if retired or modified, will promote the initiative to implement results- and/or performance-based Reliability Standards.

Attachment 3: Independent Expert Evaluation Process

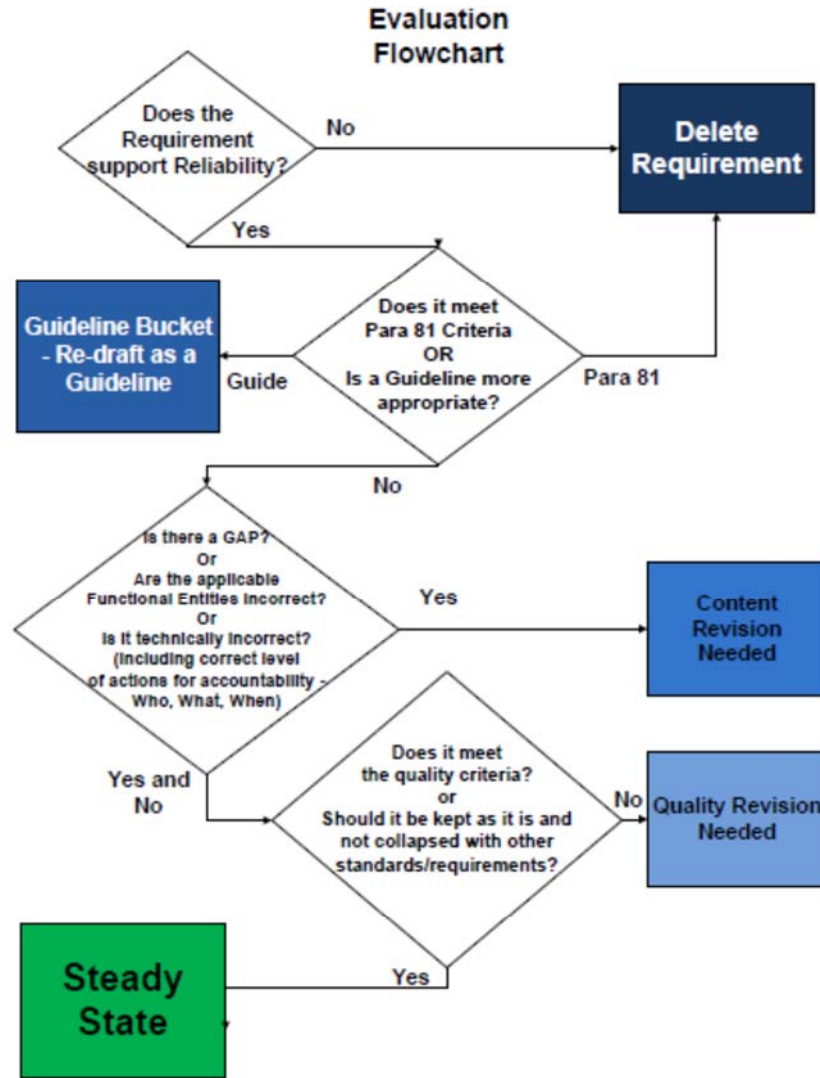


Figure 1: Evaluation Flow Chart

Unofficial Comment Form

Project 2017-02 Modifications to Personnel Performance, Training and Qualifications Standards

Do not use this form for submitting comments. Use the [electronic form](#) to submit comments on the Standards Authorization Request for the **2017-02 Modifications to Personnel Performance, Training, and Qualifications (PER) Standards** project. The electronic form must be submitted by **8 p.m. Eastern, Monday, July 24, 2016**.

Documents and information about this project are available on the [Project 2017-02 Modifications to PER Standards](#) page. If you have questions, contact Senior Standards Developer, [Darrel Richardson](#) or at (609) 613-1848.

Background

The periodic review project reviewed the following two PER standards.

- PER-003-1 – Operating Personnel Credentials
- PER-004-2 – Reliability Coordination - Staffing

PER-001-0.2 was not reviewed during the periodic review. This standard was approved for retirement under FERC Order 817. Therefore this project only reviewed PER-003-1 and PER-004-2.

The PER periodic review team (PER PRT) used the background information, along with any associated worksheets or reference documents (such as the Independent Expert Review Project report, and Paragraph 81 criteria) to guide a comprehensive review that would result in a recommendation from one of the following three (3) choices:

1. Recommend re-affirming the Standard;
2. Recommend revising the Standard; or
3. Recommend retirement of the standard.

The PER PRT developed this Standard Authorization Request (SAR) to implement their recommendations. The SAR proposes to make a minor modification to PER-003-1 and retire PER-004-2. Please provide your responses to the questions listed below along with any detailed comments.

Questions

1. The PRT is recommending that a clarifying footnote be added to all of the requirements in PER-003-1. The PRT is suggesting that the footnote state the following: “The certifications referenced under the standard are those under the NERC System Operator Certification Program.” Do you agree that this footnote would provide the necessary clarity? If not, please explain in the comment area below.

Yes

No

Comments:

2. The PRT suggests that PER-004-2 be retired based on the identified duplicate requirements. Do you agree that this standard should be retired? If not, please explain in the comment area below.

Yes

No

Comments:

3. Do you know of any additional requirements that the PRT has not identified to justify the retirement of PER-004-2? If yes, please identify the standard and requirement in the comment area below.

Yes

No

Comments:

Standards Announcement

Project 2017-02 Modifications to Personnel Performance, Training, and Qualifications Standards

Informal Comment Period Open through July 24, 2017

[Now Available](#)

A 30-day informal comment period on the Standards Authorization Request for the **2017-02 Modifications to Personnel Performance, Training, and Qualifications Standards** project is open through **8 p.m. Eastern, Monday, July 24, 2017**.

Commenting

Use the [electronic form](#) to submit comments. If you experience any difficulties using the electronic form, contact [Wendy Muller](#). An unofficial Word version of the comment form is posted on the [project page](#).

If you are having difficulty accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out, contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern).

- *Passwords expire every **6 months** and must be reset.*
- *The SBS **is not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

The drafting team will review all responses received during the comment period and determine the next steps of the project.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Senior Standards Developer, [Darrel Richardson](#) (via email), or at (609) 613-1848.

North American Electric Reliability Corporation
3353 Peachtree Rd, NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Comment Report

Project Name: 2017-02 Modifications to Personnel Performance, Training, and Qualification Standards
Comment Period Start Date: 6/21/2017
Comment Period End Date: 7/24/2017
Associated Ballots:

There were 29 sets of responses, including comments from approximately 115 different people from approximately 85 companies representing 10 of the Industry Segments as shown in the table on the following pages.

Questions

- 1. The PRT is recommending that a clarifying footnote be added to all of the requirements in PER-003-1. The PRT is suggesting that the footnote state the following: “The certifications referenced under the standard are those under the NERC System Operator Certification Program.” Do you agree that this footnote would provide the necessary clarity? If not, please explain in the comment area below.**
- 2. The PRT suggests that PER-004-2 be retired based on the identified duplicate requirements. Do you agree that this standard should be retired? If not, please explain in the comment area below.**
- 3. Do you know of any additional requirements that the PRT has not identified to justify the retirement of PER-004-2? If yes, please identify the standard and requirement in the comment area below.**

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
ACES Power Marketing	Brian Van Gheem	6	NA - Not Applicable	ACES Standards Collaborators	Greg Froehling	Rayburn Country Electric Cooperative, Inc.	3	SPP RE
					Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	1	RF
					Karl Kohlrus	Prairie Power, Inc.	1,3	SERC
					Steve McElhane	Cooperative Energy	4,6	SERC
					Bill Hutchison	Southern Illinois Power Cooperative	1	SERC
					Amber Skillern	East Kentucky Power Cooperative	1,3	SERC
					Tara Lightner	Sunflower Electric Power Corporation	1	SPP RE
					Shari Heino	Brazos Electric Power Cooperative, Inc.	1,5	Texas RE
					John Shaver	"Arizona Electric Power Cooperative, Inc. "	1	WECC
Duke Energy	Colby Bellville	1,3,5,6	FRCC,RF,SERC	Duke Energy	Doug Hils	Duke Energy	1	RF
					Lee Schuster	Duke Energy	3	FRCC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
Midwest Reliability Organization	Dana Klem	1,2,3,4,5,6	MRO	MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
					Larry Heckert	Alliant Energy	4	MRO
					Amy Casucelli	Xcel Energy	1,3,5,6	MRO

					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jodi Jensen	Western Area Power Administration	1,6	MRO
					Kayleigh Wilkerson	Lincoln Electric System	1,3,5,6	MRO
					Mahmood Safi	Omaha Public Power District	1,3,5,6	MRO
					Brad Parret	Minnesota Powert	1,5	MRO
					Terry Harbour	MidAmerican Energy Company	1,3	MRO
					Tom Breene	Wisconsin Public Service Corporation	3,5,6	MRO
					Jeremy Voll	Basin Electric Power Cooperative	1	MRO
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Mike Morrow	Midcontinent ISO	2	MRO
Seattle City Light	Ginette Lacasse	1,3,4,5,6	WECC	Seattle City Light Ballot Body	Pawel Krupa	Seattle City Light	1	WECC
					Hao Li	Seattle City Light	4	WECC
					Bud (Charles) Freeman	Seattle City Light	6	WECC
					Mike Haynes	Seattle City Light	5	WECC
					Michael Watkins	Seattle City Light	1,4	WECC
					Faz Kasraie	Seattle City Light	5	WECC
					John Clark	Seattle City Light	6	WECC
					Tuan Tran	Seattle City Light	3	WECC
					Laurrie Hammack	Seattle City Light	3	WECC

DTE Energy - Detroit Edison Company	Karie Barczak	3,4,5		DTE Energy - DTE Electric	Jeffrey Depriest	DTE Energy - DTE Electric	5	RF
					Daniel Herring	DTE Energy - DTE Electric	4	RF
					Karie Barczak	DTE Energy - DTE Electric	3	RF
Southern Company - Southern Company Services, Inc.	Marsha Morgan	1,3,5,6	SERC	Southern Company	Katherine Prewitt	Southern Company Services, Inc	1	SERC
					Jennifer Sykes	Southern Company Generation and Energy Marketing	6	SERC
					R Scott Moore	Alabama Power Company	3	SERC
					William Shultz	Southern Company Generation	5	SERC
California ISO	Richard Vine	2		ISO/RTO Council Standards Review Committee	Ali Miremadi	California ISO	2	WECC
					Greg Campoli	NYISO	2	NPCC
					Kathleen Goodman	ISONE	2	NPCC
					Nathan Bigbee	ERCOT	2	Texas RE
					Terry Bilke	MISO	2	MRO
					Ben Li	IESO	2	NPCC
					Al DiCaprio	PJM	2	RF
					Charles Yeung	SPP	2	SPP RE
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC	Paul Malozewski	Hydro One.	1	NPCC
					Guy Zito	Northeast Power Coordinating Council	NA - Not Applicable	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Wayne Sipperly	New York Power Authority	4	NPCC
					Glen Smith	Entergy Services	4	NPCC

Brian Robinson	Utility Services	5	NPCC
Bruce Metruck	New York Power Authority	6	NPCC
Alan Adamson	New York State Reliability Council	7	NPCC
Edward Bedder	Orange & Rockland Utilities	1	NPCC
David Burke	Orange & Rockland Utilities	3	NPCC
Michele Tondalo	UI	1	NPCC
Sylvain Clermont	Hydro Quebec	1	NPCC
Si Truc Phan	Hydro Quebec	2	NPCC
Helen Lainis	IESO	2	NPCC
Laura Mcleod	NB Power	1	NPCC
Michael Forte	Con Edison	1	NPCC
Kelly Silver	Con Edison	3	NPCC
Peter Yost	Con Edison	4	NPCC
Brian O'Boyle	Con Edison	5	NPCC
Michael Schiavone	National Grid	1	NPCC
Michael Jones	National Grid	3	NPCC
David Ramkalawan	Ontario Power Generation Inc.	5	NPCC
Quintin Lee	Eversource Energy	1	NPCC
Kathleen Goodman	ISO-NE	2	NPCC
Greg Campoli	NYISO	2	NPCC
Silvia Mitchell	NextEra Energy - Florida Power and Light Co.	6	NPCC
Sean Bodkin	Dominion - Dominion	6	NPCC

					Resources, Inc.			
Southwest Power Pool, Inc. (RTO)	Shannon Mickens	2	SPP RE	SPP Standards Review Group	Shannon Mickens	Southwest Power Pool Inc.	2	SPP RE
					Lonnie Lindekugel	Southwest Power Pool Inc.	2	SPP RE
					James Nail	City of Independence Power and Light	3	SPP RE
					John Allen	City Utilities of Springfield, Missouri	4	SPP RE
					Kevin Giles	Westar Energy	1	SPP RE
					Michelle Corley	Cleco Corporation	3	SPP RE
					Mike Kidwell	Empire District Electric Company	1,3,5	SPP RE
					Robert Gray	Board of Public Utilities (Kansas City,KS-BPU)	NA - Not Applicable	SPP RE
					Brian Wood	Southwest Power Pool Inc.	2	SPP RE

1. The PRT is recommending that a clarifying footnote be added to all of the requirements in PER-003-1. The PRT is suggesting that the footnote state the following: “The certifications referenced under the standard are those under the NERC System Operator Certification Program.” Do you agree that this footnote would provide the necessary clarity? If not, please explain in the comment area below.

Thomas Foltz - AEP - 3,5

Answer No

Document Name

Comment

As stated in our previous comments related to Project 2016-EPR-01, AEP believes the standard as currently written is sufficiently clear in this regard. The current version of the standard states that its purpose is “to ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System.” This, coupled with the references to “NERC Reliability Operator certificate” within the requirements themselves, provides a clear and direct correlation to the certification specified within the NERC System Operator Certification Program Manual. As a result, we see no lack of clarity within the standard. While AEP does not entirely object to the concept of explicitly referencing the SOC Program Manual in the requirements of PER-003-1, extreme care should be taken to ensure that additional obligations aren’t unintentionally implied by generally referring to the entire manual as a whole.

Likes 0

Dislikes 0

Response

Michael Cruz-Montes - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE

Answer No

Document Name

Comment

CenterPoint Energy does not believe any clarification is needed. The Purpose states, “To ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System.” No revisions are warranted.

Likes 0

Dislikes 0

Response

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators

Answer No

Document Name	
Comment	
<ol style="list-style-type: none"> 1. The language listed within this question does not currently align with what is listed within the SAR. We want to confirm that the language proposed does not identify a specific standard revision (i.e. PER-003-1). Furthermore, we propose the footnote references the NERC Personnel Certification Program, as identified within the NERC Rules of Procedure. We propose using this language instead for the footnote, "The NERC certificates referenced in this standard pertain to those identified under the NERC Personnel Certification Program (i.e. NERC System Operator Certification Program)." 2. We feel the SDT has misunderstood our previous comments regarding the Enhanced Periodic Review of the PER Reliability Standards. The scope of PER-003 is to require registered entities to staff Real-time operating positions with NERC-certified System Operators performing reliability-related tasks. Personnel are certified through an examination process that is dictated by the NERC System Operator Certification Program and governed by the NERC Personnel Certification Governance Committee (PCGC). However, with recent changes to the exam, as identified on the NERC web site (http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx), we no longer see a one-to-one set of minimum competencies necessary for eligible candidates to possess in order to take the NERC System Operator Certification exam. This places a compliance burden on applicable entities to demonstrate a reasonable assurance that their NERC-certified System Operators have obtained the necessary competencies, as identified within the PER-003-1 standard. We feel this "chicken-and-egg" problem could be entirely avoided by removing the minimum set of competencies from the standard and only requiring applicable entities to staff Real-time operating positions with NERC-certified System Operators performing reliability-related tasks. This would also provide the NERC PCGC more control over the NERC System Operator Certification Program and not conflict with examination and continuing education requirements posted on the NERC web site. 3. We thank you for this opportunity to provide these comments. 	

Likes 0	
Dislikes 0	

Response

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer	Yes
---------------	-----

Document Name	
----------------------	--

Comment

No comment.

Likes 0	
Dislikes 0	

Response

Daniel Grinkevich - Con Ed - Consolidated Edison Co. of New York - 1,3,5,6

Answer	Yes
---------------	-----

Document Name	
----------------------	--

Comment

The footnote provides necessary clarity.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer

Yes

Document Name

Comment

We agree that the proposed footnote will provide the necessary clarification, but suggest to change “certifications” to certificates” to conform with the language used in the requirements.

Likes 0

Dislikes 0

Response

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC, Group Name Seattle City Light Ballot Body

Answer

Yes

Document Name

Comment

No Comments

Likes 0

Dislikes 0

Response

Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee

Answer

Yes

Document Name

Comment

No comment

Likes 0

Dislikes 0

Response

Jamie Monette - Allete - Minnesota Power, Inc. - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Alex Ybarra - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kristine Ward - Seminole Electric Cooperative, Inc. - 1,3,4,5,6 - FRCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Lauren Price - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP RE

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

sean erickson - Western Area Power Administration - 1,6

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Dana Klem - Midwest Reliability Organization - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mike Smith - Manitoba Hydro - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michelle Amarantos - APS - Arizona Public Service Co. - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Stephanie Burns - International Transmission Company Holdings Corporation - 1 - MRO,SPP RE,RF

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

2. The PRT suggests that PER-004-2 be retired based on the identified duplicate requirements. Do you agree that his standard should be retired? If not, please explain in the comment area below.

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer No

Document Name

Comment

Texas RE is concerned there could be a potential reliability gap in retiring PER-004-2 R1. The SAR argues PER-004-2 is duplicative and all requirements are covered in other reliability standards. Texas RE is concerned that without an explicit requirement to be staffed with NERC-certified operators 24/7 the RCs' control centers may not be staffed with adequately trained personnel. Is the SDT's position that without the explicit obligation in PER-004-2 R1 that there would be a continuing explicit obligation for RCs to be staffed with NERC-certified operators 24/7? If so, please explain and indicate the specific standard requirements including such compliance responsibility.

Likes 0

Dislikes 0

Response

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer Yes

Document Name

Comment

We would like to thank the drafting team for their efforts of pointing out the redundancy associated with this standard.

Likes 0

Dislikes 0

Response

Dana Klem - Midwest Reliability Organization - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer Yes

Document Name

Comment

The NSRF agrees with the PRT recommendation for retirement of PER-004-2.

Likes 0

Dislikes 0

Response

Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee

Answer Yes

Document Name

Comment

No comment

Likes 0

Dislikes 0

Response

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC, Group Name Seattle City Light Ballot Body

Answer Yes

Document Name

Comment

No Comments

Likes 0

Dislikes 0

Response

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Michael Cruz-Montes - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

sean erickson - Western Area Power Administration - 1,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP RE

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Lauren Price - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Kristine Ward - Seminole Electric Cooperative, Inc. - 1,3,4,5,6 - FRCC

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer

Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Alex Ybarra - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mike Smith - Manitoba Hydro - 1,3,5,6	
Answer	
Document Name	
Comment	
This Standard is not applicable to Manitoba Hydro.	
Likes 0	
Dislikes 0	
Response	
Jamie Monette - Allete - Minnesota Power, Inc. - 1	
Answer	
Document Name	
Comment	
We are not an RC.	

Likes 0

Dislikes 0

Response

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

Document Name

Comment

PER-004-2 does not apply to BPA as BPA is not registered as a Reliability Coordinator.

Likes 0

Dislikes 0

Response

3. Do you know of any additional requirements that the PRT has not identified to justify the retirement of PER-004-2? If yes, please identify the standard and requirement in the comment area below.

Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee

Answer No

Document Name

Comment

No comment

Likes 0

Dislikes 0

Response

Alex Ybarra - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

John Williams - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5

Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kristine Ward - Seminole Electric Cooperative, Inc. - 1,3,4,5,6 - FRCC	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Lauren Price - American Transmission Company, LLC - 1	
Answer	No
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP RE

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

sean erickson - Western Area Power Administration - 1,6

Answer No

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Cruz-Montes - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dana Klem - Midwest Reliability Organization - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators

Answer

No

Document Name

Comment

Likes 0

Dislikes 0

Response

John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6

Answer

No

Document Name

Comment

Likes 0

Dislikes 0

Response

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2

Answer

No

Document Name

Comment

Likes 0

Dislikes 0

Response

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC, Group Name Seattle City Light Ballot Body

Answer Yes

Document Name

Comment

No Comments

Likes 0

Dislikes 0

Response

Stephanie Burns - International Transmission Company Holdings Corporation - 1 - MRO,SPP RE,RF

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

Document Name

Comment

PER-004-2 does not apply to BPA as BPA is not registered as a Reliability Coordinator.

Likes 0

Dislikes 0

Response

Jamie Monette - Allete - Minnesota Power, Inc. - 1

Answer

Document Name	
Comment	
We are not an RC.	
Likes 0	
Dislikes 0	
Response	
Mike Smith - Manitoba Hydro - 1,3,5,6	
Answer	
Document Name	
Comment	
This Standard is not applicable to Manitoba Hydro.	
Likes 0	
Dislikes 0	
Response	

Consideration of Comments

Project Name: 2017-02 Modifications to Personnel Performance, Training, and Qualification Standards

Comment Period Start Date: 6/21/2017

Comment Period End Date: 7/24/2017

There were 29 sets of responses, including comments from approximately 115 different people from approximately 85 companies representing all 10 of the Industry Segments as shown in the table on the following pages.

All comments submitted can be reviewed in their original format on the [project page](#).

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact the Director of Standards Development, [Steve Noess](#) (via email) or at (404) 446-9691.

Questions

1. The PRT is recommending that a clarifying footnote be added to all of the requirements in PER-003-1. The PRT is suggesting that the footnote state the following: “The certifications referenced under the standard are those under the NERC System Operator Certification Program.” Do you agree that this footnote would provide the necessary clarity? If not, please explain in the comment area below.
2. The PRT suggests that PER-004-2 be retired based on the identified duplicate requirements. Do you agree that his standard should be retired? If not, please explain in the comment area below.
3. Do you know of any additional requirements that the PRT has not identified to justify the retirement of PER-004-2? If yes, please identify the standard and requirement in the comment area below.

The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
ACES Power Marketing	Brian Van Gheem	6	NA - Not Applicable	ACES Standards Collaborators	Greg Froehling	Rayburn Country Electric Cooperative, Inc.	3	SPP RE
					Bob Solomon	Hoosier Energy Rural Electric Cooperative, Inc.	1	RF
					Karl Kohlrus	Prairie Power, Inc.	1,3	SERC
					Steve McElhaney	Cooperative Energy	4,6	SERC
					Bill Hutchison	Southern Illinois Power Cooperative	1	SERC
					Amber Skillern	East Kentucky Power Cooperative	1,3	SERC
					Tara Lightner	Sunflower Electric Power Corporation	1	SPP RE

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Shari Heino	Brazos Electric Power Cooperative, Inc.	1,5	Texas RE
					John Shaver	"Arizona Electric Power Cooperative, Inc. "	1	WECC
Duke Energy	Colby Bellville	1,3,5,6	FRCC,RF,SERC	Duke Energy	Doug Hils	Duke Energy	1	RF
					Lee Schuster	Duke Energy	3	FRCC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
Midwest Reliability Organization	Dana Klem	1,2,3,4,5,6	MRO	MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
					Larry Heckert	Alliant Energy	4	MRO
					Amy Casucelli	Xcel Energy	1,3,5,6	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jodi Jensen	Western Area Power Administration	1,6	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Kayleigh Wilkerson	Lincoln Electric System	1,3,5,6	MRO
					Mahmood Safi	Omaha Public Power District	1,3,5,6	MRO
					Brad Parret	Minnesota Powert	1,5	MRO
					Terry Harbour	MidAmerican Energy Company	1,3	MRO
					Tom Breene	Wisconsin Public Service Corporation	3,5,6	MRO
					Jeremy Voll	Basin Electric Power Cooperative	1	MRO
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Mike Morrow	Midcontinent ISO	2	MRO
Seattle City Light	Ginette Lacasse	1,3,4,5,6	WECC		Pawel Krupa	Seattle City Light	1	WECC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
				Seattle City Light Ballot Body	Hao Li	Seattle City Light	4	WECC
					Bud (Charles) Freeman	Seattle City Light	6	WECC
					Mike Haynes	Seattle City Light	5	WECC
					Michael Watkins	Seattle City Light	1,4	WECC
					Faz Kasraie	Seattle City Light	5	WECC
					John Clark	Seattle City Light	6	WECC
					Tuan Tran	Seattle City Light	3	WECC
					Laurrie Hammack	Seattle City Light	3	WECC
DTE Energy - Detroit Edison Company	Karie Barczak	3,4,5		DTE Energy - DTE Electric	Jeffrey Depriest	DTE Energy - DTE Electric	5	RF
					Daniel Herring	DTE Energy - DTE Electric	4	RF
					Karie Barczak	DTE Energy - DTE Electric	3	RF

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Southern Company - Southern Company Services, Inc.	Marsha Morgan	1,3,5,6	SERC	Southern Company	Katherine Prewitt	Southern Company Services, Inc	1	SERC
					Jennifer Sykes	Southern Company Generation and Energy Marketing	6	SERC
					R Scott Moore	Alabama Power Company	3	SERC
					William Shultz	Southern Company Generation	5	SERC
California ISO	Richard Vine	2		ISO/RTO Council Standards Review Committee	Ali Miremadi	California ISO	2	WECC
					Greg Campoli	NYISO	2	NPCC
					Kathleen Goodman	ISONE	2	NPCC
					Nathan Bigbee	ERCOT	2	Texas RE
					Terry Bilke	MISO	2	MRO
					Ben Li	IESO	2	NPCC
					Al DiCaprio	PJM	2	RF
					Charles Yeung	SPP	2	SPP RE

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC	Paul Malozewski	Hydro One.	1	NPCC
					Guy Zito	Northeast Power Coordinating Council	NA - Not Applicable	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Wayne Sipperly	New York Power Authority	4	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Brian Robinson	Utility Services	5	NPCC
					Bruce Metruck	New York Power Authority	6	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC
					Edward Bedder	Orange & Rockland Utilities	1	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					David Burke	Orange & Rockland Utilities	3	NPCC
					Michele Tondalo	UI	1	NPCC
					Sylvain Clermont	Hydro Quebec	1	NPCC
					Si Truc Phan	Hydro Quebec	2	NPCC
					Helen Lainis	IESO	2	NPCC
					Laura Mcleod	NB Power	1	NPCC
					Michael Forte	Con Edison	1	NPCC
					Kelly Silver	Con Edison	3	NPCC
					Peter Yost	Con Edison	4	NPCC
					Brian O'Boyle	Con Edison	5	NPCC
					Michael Schiavone	National Grid	1	NPCC
					Michael Jones	National Grid	3	NPCC
					David Ramkalawan	Ontario Power Generation Inc.	5	NPCC
					Quintin Lee	Eversource Energy	1	NPCC
					Kathleen Goodman	ISO-NE	2	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Greg Campoli	NYISO	2	NPCC
					Silvia Mitchell	NextEra Energy - Florida Power and Light Co.	6	NPCC
					Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
Southwest Power Pool, Inc. (RTO)	Shannon Mickens	2	SPP RE	SPP Standards Review Group	Shannon Mickens	Southwest Power Pool Inc.	2	SPP RE
					Lonnie Lindekugel	Southwest Power Pool Inc.	2	SPP RE
					James Nail	City of Independence Power and Light	3	SPP RE
					John Allen	City Utilities of Springfield, Missouri	4	SPP RE
					Kevin Giles	Westar Energy	1	SPP RE

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Michelle Corley	Cleco Corporation	3	SPP RE
					Mike Kidwell	Empire District Electric Company	1,3,5	SPP RE
					Robert Gray	Board of Public Utilities (Kansas City,KS-BPU)	NA - Not Applicable	SPP RE
					Brian Wood	Southwest Power Pool Inc.	2	SPP RE

1. The PRT is recommending that a clarifying footnote be added to all of the requirements in PER-003-1. The PRT is suggesting that the footnote state the following: “The certifications referenced under the standard are those under the NERC System Operator Certification Program.” Do you agree that this footnote would provide the necessary clarity? If not, please explain in the comment area below.

Thomas Foltz - AEP - 3,5

Answer No

Document Name

Comment

As stated in our previous comments related to Project 2016-EPR-01, AEP believes the standard as currently written is sufficiently clear in this regard. The current version of the standard states that its purpose is “to ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System.” This, coupled with the references to “NERC Reliability Operator certificate” within the requirements themselves, provides a clear and direct correlation to the certification specified within the NERC System Operator Certification Program Manual. As a result, we see no lack of clarity within the standard. While AEP does not entirely object to the concept of explicitly referencing the SOC Program Manual in the requirements of PER-003-1, extreme care should be taken to ensure that additional obligations aren’t unintentionally implied by generally referring to the entire manual as a whole.

Likes 0

Dislikes 0

Response

Industry response and feedback received from this posting and the PRT recommendation posting reaffirms the recommendation to add a footnote to provide clarity as to the connection between the Standard and the NERC System Operator Certification Program Manual.

The intent of the SAR DT is not to expand the standard to reflect anything more than the certifications referenced in the NERC System Operator Certification Program Manual not the manual in its entirety.

Michael Cruz-Montes - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE

Answer No

Document Name

Comment

CenterPoint Energy does not believe any clarification is needed. The Purpose states, “To ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System.” No revisions are warranted.

Likes 0

Dislikes 0

Response

Industry response and feedback received from this posting and the PRT recommendation posting reaffirms the recommendation to add a footnote to provide clarity as to the connection between the Standard and the NERC System Operator Certification Program Manual.

Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators

Answer No

Document Name

Comment

1. The language listed within this question does not currently align with what is listed within the SAR. We want to confirm that the language proposed does not identify a specific standard revision (i.e. PER-003-1). Furthermore, we propose the footnote references the NERC Personnel Certification Program, as identified within the NERC Rules of Procedure. We propose using this language instead for the footnote, “The NERC certificates referenced in this standard pertain to those identified under the NERC Personnel Certification Program (i.e. NERC System Operator Certification Program).”

2. We feel the SDT has misunderstood our previous comments regarding the Enhanced Periodic Review of the PER Reliability Standards. The scope of PER-003 is to require registered entities to staff Real-time operating positions with NERC-certified System Operators performing reliability-related tasks. Personnel are certified through an examination process that is dictated by the NERC System Operator Certification Program and governed by the NERC Personnel Certification Governance Committee (PCGC). However, with recent changes to the exam, as identified on the NERC web site (<http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx>), we no longer see a one-to-one set of minimum competencies necessary for eligible candidates to possess in order to take the NERC System Operator Certification exam. This places a compliance burden on applicable entities to demonstrate a reasonable assurance that their NERC-certified System Operators have obtained the necessary competencies, as identified within the PER-003-1 standard. We feel this “chicken-and-egg” problem could be entirely avoided by removing the minimum set of competencies from the standard and only requiring applicable entities to staff Real-time operating positions with NERC-certified System Operators performing reliability-related tasks. This would also provide the NERC PCGC more control over the NERC System Operator Certification Program and not conflict with examination and continuing education requirements posted on the NERC web site.
3. We thank you for this opportunity to provide these comments.

Likes 0

Dislikes 0

Response

1. Thank you for your comment. The language referenced is suggested language provided by the SAR DT. The actual language will be developed by the standard drafting team during the next phase of this project.
2. The SAR DT does not know of any violations of this standard that necessitates the modifications you suggested related to competencies associated with perceived compliance burden. FERC Order 693 paragraph 1396 directed the ERO to include minimum competencies in this standard. Therefore, the scope of the standard is the minimum competencies required to operate the BES as a NERC Certified System Operator (NCSO).

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

Yes

Document Name

Comment

No comment.

Likes 0

Dislikes 0

Response

Daniel Grinkevich - Con Ed - Consolidated Edison Co. of New York - 1,3,5,6

Answer Yes

Document Name

Comment

The footnote provides necessary clarity.

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer Yes

Document Name

Comment

We agree that the proposed footnote will provide the necessary clarification, but suggest to change “certifications” to certificates” to conform with the language used in the requirements.

Likes 0

Dislikes 0

Response

Thank you for your comment. The language referenced is suggested language provided by the SAR DT. The actual language will be developed by the standard drafting team during the next phase of this project.

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC, Group Name Seattle City Light Ballot Body

Answer Yes

Document Name

Comment

No Comments

Likes 0

Dislikes 0

Response

Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee

Answer Yes

Document Name

Comment

No comment	
Likes 0	
Dislikes 0	
Response	
Jamie Monette - Allete - Minnesota Power, Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Alex Ybarra - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Williams - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kristine Ward - Seminole Electric Cooperative, Inc. - 1,3,4,5,6 - FRCC	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Lauren Price - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP RE

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

sean erickson - Western Area Power Administration - 1,6

Answer Yes

Document Name

Comment

Likes 0	
Dislikes 0	
Response	
Dana Klem - Midwest Reliability Organization - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Mike Smith - Manitoba Hydro - 1,3,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michelle Amarantos - APS - Arizona Public Service Co. - 1,3,5,6	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Stephanie Burns - International Transmission Company Holdings Corporation - 1 - MRO,SPP RE,RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

2. The PRT suggests that PER-004-2 be retired based on the identified duplicate requirements. Do you agree that his standard should be retired? If not, please explain in the comment area below.

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer No

Document Name

Comment

Texas RE is concerned there could be a potential reliability gap in retiring PER-004-2 R1. The SAR argues PER-004-2 is duplicative and all requirements are covered in other reliability standards. Texas RE is concerned that without an explicit requirement to be staffed with NERC-certified operators 24/7 the RCs' control centers may not be staffed with adequately trained personnel. Is the SDT's position that

without the explicit obligation in PER-004-2 R1 that there would be a continuing explicit obligation for RCs to be staffed with NERC-certified operators 24/7? If so, please explain and indicate the specific standard requirements including such compliance responsibility.

Likes 0

Dislikes 0

Response

The SAR DT determined that a RC maintaining Reliable Operations requires staffing 24/7; which is inherent in an RC fulfilling the compliance obligations for requirements identified on pages 3, 4 and 5 of the SAR.

With regards to your comment concerning adequately trained personnel, training requirements are stated in PER-005.

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer

Yes

Document Name

Comment

We would like to thank the drafting team for their efforts of pointing out the redundancy associated with this standard.

Likes 0

Dislikes 0

Response

Thank you for your affirmative response and clarifying comment.

Dana Klem - Midwest Reliability Organization - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

Yes

Document Name

Comment

The NSRF agrees with the PRT recommendation for retirement of PER-004-2.

Likes 0

Dislikes 0

Response

Thank you for your affirmative response and clarifying comment.

Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee

Answer Yes

Document Name

Comment

No comment

Likes 0

Dislikes 0

Response

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC, Group Name Seattle City Light Ballot Body

Answer Yes

Document Name

Comment

No Comments

Likes 0

Dislikes 0	
Response	
Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Michael Cruz-Montes - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
sean erickson - Western Area Power Administration - 1,6	
Answer	Yes
Document Name	

Comment

Likes 0

Dislikes 0

Response

Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP RE

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Lauren Price - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Kristine Ward - Seminole Electric Cooperative, Inc. - 1,3,4,5,6 - FRCC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Williams - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Alex Ybarra - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Mike Smith - Manitoba Hydro - 1,3,5,6

Answer

Document Name

Comment

This Standard is not applicable to Manitoba Hydro.

Likes 0

Dislikes 0

Response

Thank you for your clarifying comment.

Jamie Monette - Allele - Minnesota Power, Inc. - 1

Answer

Document Name

Comment

We are not an RC.

Likes 0

Dislikes 0

Response

Thank you for your clarifying comment.

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

Document Name

Comment

PER-004-2 does not apply to BPA as BPA is not registered as a Reliability Coordinator.

Likes 0

Dislikes 0

Response

Thank you for your clarifying comment.

3. Do you know of any additional requirements that the PRT has not identified to justify the retirement of PER-004-2? If yes, please identify the standard and requirement in the comment area below.

Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee

Answer No

Document Name

Comment

No comment

Likes 0

Dislikes 0

Response

Alex Ybarra - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6

Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Williams - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kristine Ward - Seminole Electric Cooperative, Inc. - 1,3,4,5,6 - FRCC	
Answer	No
Document Name	
Comment	
Likes 0	

Dislikes 0	
Response	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Lauren Price - American Transmission Company, LLC - 1	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	No

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Amy Casuscelli - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC,SPP RE	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

sean erickson - Western Area Power Administration - 1,6

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Michael Cruz-Montes - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Dana Klem - Midwest Reliability Organization - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Karie Barczak - DTE Energy - Detroit Edison Company - 3,4,5, Group Name DTE Energy - DTE Electric

Answer

No

Document Name

Comment

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

No

Document Name

Comment

Likes 0

Dislikes 0

Response

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	No
Document Name	
Comment	

Likes 0	
Dislikes 0	
Response	
Brian Van Gheem - ACES Power Marketing - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Merrell - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

Elizabeth Axson - Electric Reliability Council of Texas, Inc. - 2

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Ginette Lacasse - Seattle City Light - 1,3,4,5,6 - WECC, Group Name Seattle City Light Ballot Body

Answer Yes

Document Name

Comment

No Comments

Likes 0

Dislikes 0

Response

Stephanie Burns - International Transmission Company Holdings Corporation - 1 - MRO,SPP RE,RF

Answer Yes

Document Name

Comment

Likes	0
Dislikes	0
Response	
Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	
Document Name	
Comment	
PER-004-2 does not apply to BPA as BPA is not registered as a Reliability Coordinator.	
Likes	0
Dislikes	0
Response	
Thank you for your clarifying comment.	
Jamie Monette - Allete - Minnesota Power, Inc. - 1	
Answer	
Document Name	
Comment	
We are not an RC.	
Likes	0
Dislikes	0

Response

Mike Smith - Manitoba Hydro - 1,3,5,6

Answer

Document Name

Comment

This Standard is not applicable to Manitoba Hydro.

Likes 0

Dislikes 0

Response

Thank you for your clarifying comment.

End of Report

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard is adopted by the NERC Board of Trustees (Board).

Description of Current Draft

This is the first posting of the revised draft standard.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	June 2017
SAR posted for comment	June 21, 2017 through July 24, 2017

Anticipated Actions	Date
45-day formal comment period with ballot	December 2017 – January 2017
10-day final ballot	February 2017
Board adoption	May 2017

A. Introduction

1. **Title:** Operating Personnel Credentials
2. **Number:** PER-003-1
3. **Purpose:** To ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1. Reliability Coordinator
 - 4.1.2. Transmission Operator
 - 4.1.3. Balancing Authority
5. **Effective Date:** See Implementation Plan for standard PER-003-2.

B. Requirements and Measures

- R1. Each Reliability Coordinator shall staff its Real-time operating positions performing Reliability Coordinator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining a valid NERC Reliability Operator certificate ⁽¹⁾⁽²⁾: [*Risk Factor: High*][*Time Horizon: Real-time Operations*]
 - 1.1. Areas of Competency
 - 1.1.1. Resource and demand balancing
 - 1.1.2. Transmission operations
 - 1.1.3. Emergency preparedness and operations
 - 1.1.4. System operations
 - 1.1.5. Protection and control
 - 1.1.6. Voltage and reactive

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.

1.1.7. Interchange scheduling and coordination

1.1.8. Interconnection reliability operations and coordination

M1. Each Reliability Coordinator shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:

M1.1 A list of Real-time operating positions.

M1.2 A list of System Operators assigned to its Real-time operating positions.

M1.3 A copy of each of its System Operator's NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.

M1.4 Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.

R2. Each Transmission Operator shall staff its Real-time operating positions performing Transmission Operator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates ⁽¹⁾⁽²⁾: [*Risk Factor: High*][*Time Horizon: Real-time Operations*]:

2.1. Areas of Competency

2.1.1. Transmission operations

2.1.2. Emergency preparedness and operations

2.1.3. System operations

2.1.4. Protection and control

2.1.5. Voltage and reactive

2.2. Certificates

- Reliability Operator
- Balancing, Interchange and Transmission Operator
- Transmission Operator

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.

- M2.** Each Transmission Operator shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:
- M2.1** A list of Real-time operating positions.
 - M2.2** A list of System Operators assigned to its Real-time operating positions.
 - M2.3** A copy of each of its System Operator’s NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.
 - M2.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.
- R3.** Each Balancing Authority shall staff its Real-time operating positions performing Balancing Authority reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates ⁽¹⁾⁽²⁾: [*Risk Factor: High*][*Time Horizon: Real-time Operations*]:
- 3.1.** Areas of Competency
 - 3.1.1.** Resources and demand balancing
 - 3.1.2.** Emergency preparedness and operations
 - 3.1.3.** System operations
 - 3.1.4.** Interchange scheduling and coordination
 - 3.2.** Certificates
 - Reliability Operator
 - Balancing, Interchange and Transmission Operator
 - Balancing and Interchange Operator
- M3.** Each Balancing Authority shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.

- M3.1** A list of Real-time operating positions.
- M3.2** A list of System Operators assigned to its Real-time operating positions.
- M3.3** A copy of each of its System Operator’s NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.
- M3.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention:

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- Each Reliability Coordinator, Transmission Operator and Balancing Authority shall keep data or evidence for three years or since its last compliance audit, whichever time frame is the greatest.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	N/A	The Reliability Coordinator failed to staff each Real-time operating position performing Reliability Coordinator reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R1.
R2.	N/A	N/A	N/A	The Transmission Operator failed to staff each Real-time operating position performing Transmission Operator reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R2, Part 2.2.
R3.	N/A	N/A	N/A	The Balancing Authority failed to staff each Real-time operating position performing Balancing Authority reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R3, Part 3.2.

D. Regional Variances

None.

E. Associated Documents

Implementation Plan – [Add link](#)

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
1	February 17, 2011	Complete revision under Project 2007-04	Revision
1	February 17, 2011	Adopted by Board of Trustees	
1	September 15, 2011	FERC Order issued by FERC approving PER-003-1 (effective date of the Order is September 15, 2011)	
2	TBD	Added footnote to requirements	Revision
2	TBD	Adopted by Board of Trustees	

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard is adopted by the NERC Board of Trustees (Board).

Description of Current Draft

This is the first posting of the revised draft standard.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	June 2017
SAR posted for comment	June 21, 2017 through July 24, 2017

Anticipated Actions	Date
45-day formal comment period with ballot	December 2017 – January 2017
10-day final ballot	February 2017
Board adoption	May 2017

A. Introduction

1. **Title:** Operating Personnel Credentials
2. **Number:** PER-003-1
3. **Purpose:** To ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1. Reliability Coordinator
 - 4.1.2. Transmission Operator
 - 4.1.3. Balancing Authority
5. **Effective Date:** ~~See Implementation Plan for standard PER-003-2. In those jurisdictions where regulatory approval is required, this standard shall become effective the first calendar day of the first calendar quarter twelve months after applicable regulatory approval. In those jurisdictions where no regulatory approval is required, this standard shall become effective the first calendar day of the first calendar quarter twelve months after Board of Trustees adoption.~~

B. Requirements and Measures

- R1. Each Reliability Coordinator shall staff its Real-time operating positions performing Reliability Coordinator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining a valid NERC Reliability Operator certificate ⁽¹⁾~~(2)~~: [*Risk Factor: High*][*Time Horizon: Real-time Operations*]
 - 1.1. Areas of Competency
 - 1.1.1. Resource and demand balancing
 - 1.1.2. Transmission operations
 - 1.1.3. Emergency preparedness and operations

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² [The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.](#)

1.1.4. System operations

1.1.5. Protection and control

1.1.6. Voltage and reactive

1.1.7. Interchange scheduling and coordination

1.1.8. Interconnection reliability operations and coordination

M1. Each Reliability Coordinator shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:

M1.1 A list of Real-time operating positions.

M1.2 A list of System Operators assigned to its Real-time operating positions.

M1.3 A copy of each of its System Operator's NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.

M1.4 Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.

R2. Each Transmission Operator shall staff its Real-time operating positions performing Transmission Operator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates ⁽¹⁾(2): [*Risk Factor: High*][*Time Horizon: Real-time Operations*]:

2.1. Areas of Competency

2.1.1. Transmission operations

2.1.2. Emergency preparedness and operations

2.1.3. System operations

2.1.4. Protection and control

2.1.5. Voltage and reactive

2.2. Certificates

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² [The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.](#)

- Reliability Operator
 - Balancing, Interchange and Transmission Operator
 - Transmission Operator
- M2.** Each Transmission Operator shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:
- M2.1** A list of Real-time operating positions.
- M2.2** A list of System Operators assigned to its Real-time operating positions.
- M2.3** A copy of each of its System Operator’s NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.
- M2.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.
- R3.** Each Balancing Authority shall staff its Real-time operating positions performing Balancing Authority reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates ⁽¹⁾~~(2)~~: [*Risk Factor: High*][*Time Horizon: Real-time Operations*]:
- 3.1. Areas of Competency**
- 3.1.1.** Resources and demand balancing
 - 3.1.2.** Emergency preparedness and operations
 - 3.1.3.** System operations
 - 3.1.4.** Interchange scheduling and coordination
- 3.2. Certificates**
- Reliability Operator
 - Balancing, Interchange and Transmission Operator
 - Balancing and Interchange Operator

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² [The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.](#)

- M3.** Each Balancing Authority shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:
- M3.1** A list of Real-time operating positions.
 - M3.2** A list of System Operators assigned to its Real-time operating positions.
 - M3.3** A copy of each of its System Operator’s NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.
 - M3.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention:

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- Each Reliability Coordinator, Transmission Operator and Balancing Authority shall keep data or evidence for three years or since its last compliance audit, whichever time frame is the greatest.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	N/A	The Reliability Coordinator failed to staff each Real-time operating position performing Reliability Coordinator reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R1.
R2.	N/A	N/A	N/A	The Transmission Operator failed to staff each Real-time operating position performing Transmission Operator reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R2, Part 2.2.
R3.	N/A	N/A	N/A	The Balancing Authority failed to staff each Real-time operating position performing Balancing Authority reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R3, Part 3.2.

D. Regional Variances

None.

E. Associated Documents

Implementation Plan – [Add link](#)

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
1	February 17, 2011	Complete revision under Project 2007-04	Revision
1	February 17, 2011	Adopted by Board of Trustees	
1	September 15, 2011	FERC Order issued by FERC approving PER-003-1 (effective date of the Order is September 15, 2011)	
<u>2</u>	<u>TBD</u>	<u>Added footnote to requirements</u>	<u>Revision</u>
<u>2</u>	<u>TBD</u>	<u>Adopted by Board of Trustees</u>	

Implementation Plan

Project 2017-02 Operating Personnel Credentials

Requested Approvals

- PER-003-2 Operating Personnel Credentials

Requested Retirements

- PER-003-1 Operating Personnel Credentials
- PER-004-2 Reliability Coordination - Staffing

Applicable Entities

- Reliability Coordinator
- Transmission Operator
- Balancing Authority

Effective Date

The effective date for proposed Reliability Standard PER-003-2 is provided below:

Where approval by an applicable governmental authority is required, Reliability Standard PER-003-2 shall become effective the first day of the first calendar quarter that is six (6) calendar months after the effective date of the applicable governmental authority's order approving the standards and terms, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, Reliability Standard PER-003-2 shall become effective on the first day of the first calendar quarter that is six (6) calendar months after the date the standards and terms are adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Retirement Date

Current NERC Reliability Standards

The existing standards PER-003-1 and PER-004-2 shall be retired immediately prior to the effective date of the proposed PER-003-2 standard.

Unofficial Comment Form

Project 2017-02 Modifications to Personnel Performance, Training, and Qualifications (PER) Standards

Do not use this form for submitting comments. Use the [electronic form](#) to submit comments on the **2017-02 PER** project. The electronic form must be submitted by **8 p.m. Eastern, Wednesday, March 7, 2018**.

Documents and information about this project are available on the [Project 2017-02 PER](#) page. If you have questions, contact Senior Standards Developer, [Darrel Richardson](#) or at (609) 613-1848.

Background

The periodic review project reviewed the following two PER standards.

- PER-003-1 – Operating Personnel Credentials
- PER-004-2 – Reliability Coordination - Staffing

PER-001-0.2 was not reviewed during the periodic review. This standard was approved for retirement under FERC Order 817. Therefore this project only reviewed PER-003-1 and PER-004-2.

The PER periodic review team (PER PRT) used the background information, along with any associated worksheets or reference documents (such as the Independent Expert Review Project report, and Paragraph 81 criteria) to guide a comprehensive review that would result in a recommendation from one of the following three (3) choices:

1. Recommend re-affirming the Standard;
2. Recommend revising the Standard; or
3. Recommend retirement of the standard.

The PER PRT developed this Standard Authorization Request (SAR) to implement their recommendations. The SAR proposes to make a minor modification to PER-003-1 and retire PER-004-2. The standard drafting team (SDT) modified the requirements by adding a footnote. Please provide your response to the question listed below along with any detailed comments.

Questions

1. The SDT added a clarifying footnote to all of the requirements in PER-003-1. The PRT is suggesting that the footnote state the following: “The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.” Do you agree that this footnote would provide the necessary clarity? If not, please explain in the comment area below.

Yes

No

Comments:

2. The SDT has written the implementation plan to retire PER-004-2. Do you agree that his standard should be retired? If not, please explain in the comment area below.

Yes

No

Comments:

Standards Announcement

Project 2017-02 Modifications to Personnel Performance, Training, and Qualifications Standards

Formal Comment Period Open through March 7, 2018
Ballot Pools Forming through February 20, 2018

[Now Available](#)

A 45-day formal comment period for the following is open through **8 p.m. Eastern, Wednesday, March 7, 2018**.

- PER-003-2 Operating Personnel Credentials
- PER-003-1 Operating Personnel Credentials – Retirement
- PER-004-2 Reliability Coordination-Staffing – Retirement

Commenting

Use the [electronic form](#) to submit comments on the standard. If you experience any difficulties using the electronic form, contact [Wendy Muller](#). An unofficial Word version of the comment form is posted on the [project page](#).

Join the Ballot Pools

Ballot pools are being formed through **8 p.m. Eastern, Tuesday, February 20, 2018**. Registered Ballot Body members can join the ballot pools [here](#).

- *If you are having difficulty accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out, contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern).*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS is **not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

Initial ballots for the standard and implementation plan will be conducted February 26 - March 7, 2018.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Senior Standards Developer, [Darrel Richardson](#) (via email) or at (609) 613-1848.

North American Electric Reliability Corporation
3353 Peachtree Rd, NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Comment Report

Project Name: 2017-02 Modifications to Personnel Performance, Training, and Qualifications Standards | PER-003-2 and Implementation Plan

Comment Period Start Date: 1/22/2018

Comment Period End Date: 3/7/2018

Associated Ballots: 2017-02 Modifications to Performance, Training, and Qualifications Standards Implementation Plan IN 1 OT
2017-02 Modifications to Performance, Training, and Qualifications Standards PER-003-2 IN 1 ST

There were 30 sets of responses, including comments from approximately 97 different people from approximately 76 companies representing 10 of the Industry Segments as shown in the table on the following pages.

Questions

1. The SDT added a clarifying footnote to all of the requirements in PER-003-1. The PRT is suggesting that the footnote state the following: "The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual." Do you agree that this footnote would provide the necessary clarity? If not, please explain in the comment area below.

2. The SDT has written the implementation plan to retire PER-004-2. Do you agree that this standard should be retired? If not, please explain in the comment area below.

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Portland General Electric Co.	Angela Gaines	3	WECC	PGE - Group 1	Angela Gaines	Portland General Electric Company	3	WECC
					Barbara Croas	Portland General Electric Company	5	WECC
					Scott Smith	Portland General Electric Company	1	WECC
					Adam Menendez	Portland General Electric Company	6	WECC
Duke Energy	Colby Bellville	1,3,5,6	FRCC,RF,SERC	Duke Energy	Doug Hils	Duke Energy	1	RF
					Lee Schuster	Duke Energy	3	FRCC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
DTE Energy - Detroit Edison Company	Jeffrey DePriest	5		DTE Electric	Karie Barczak	DTE Energy - Detroit Edison Company	3	RF
					Daniel Herring	DTE Energy - Detroit Edison Company	4	RF
California ISO	Richard Vine	2		ISO/RTO Council Standards Review Committee	Ali Miremadi	California ISO	2	WECC
					Greg Campoli	NYISO	2	NPCC
					Kathleen Goodman	ISONE	2	NPCC
					Nathan Bigbee	ERCOT	2	Texas RE
					Terry Bilke	MISO	2	MRO
					Ben Li	IESO	2	NPCC
					Mark Holman	PJM	2	RF
					Charles Yeung	SPP	2	SPP RE
Northeast Power	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC no ISO-NE	Guy V. Zito	Northeast Power	10	NPCC

Coordinating
Council

	Coordinating Council		
Randy MacDonald	New Brunswick Power	2	NPCC
Wayne Sipperly	New York Power Authority	4	NPCC
Glen Smith	Entergy Services	4	NPCC
Brian Robinson	Utility Services	5	NPCC
Bruce Metruck	New York Power Authority	6	NPCC
Alan Adamson	New York State Reliability Council	7	NPCC
Edward Bedder	Orange & Rockland Utilities	1	NPCC
David Burke	Orange & Rockland Utilities	3	NPCC
Michele Tondalo	UI	1	NPCC
Laura Mcleod	NB Power	1	NPCC
David Ramkalawan	Ontario Power Generation Inc.	5	NPCC
Quintin Lee	Eversource Energy	1	NPCC
Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
Helen Lainis	IESO	2	NPCC
Michael Schiafone	National Grid	1	NPCC
Michael Jones	National Grid	3	NPCC
Greg Campoli	NYISO	2	NPCC
Silvia Mitchell	NextEra Energy - Florida Power and Light Co.	6	NPCC

					Michael Forte	Con Ed - Consolidated Edison	1	NPCC
					Daniel Grinkevich	Con Ed - Consolidated Edison Co. of New York	1	NPCC
					Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
					Brian O'Boyle	Con Ed - Consolidated Edison	5	NPCC
					Sean Cavote	PSEG	4	NPCC
					Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
					Sylvain Clermont	Hydro Quebec	1	NPCC
					Chantal Mazza	Hydro Quebec	2	NPCC
Midwest Reliability Organization	Russel Mountjoy	10		MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
					Larry Heckert	Alliant Energy	4	MRO
					Amy Casucelli	Xcel Energy	1,3,5,6	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jodi Jensen	Western Area Power Administratino	1,6	MRO
					Kayleigh Wilkerson	Lincoln Electric System	1,3,5,6	MRO
					Mahmood Safi	Omaha Public Power District	1,3,5,6	MRO
					Brad Parret	Minnesota Power	1,5	MRO
					Terry Harbour	MidAmerican Energy Company	1,3	MRO
					Tom Breene	Wisconsin Public Service	3,5,6	MRO
					Jeremy Volls	Basin Electric Power Coop	1	MRO

					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Mike Morrow	Midcontinent Independent System Operator	2	MRO
Southwest Power Pool, Inc. (RTO)	Shannon Mickens	2	SPP RE	SPP Standards Review Group	Shannon Mickens	Southwest Power Pool Inc.	2	SPP RE
					Don Schmit	Nebraska Public Power District	5	SPP RE
					Deborah McEndaffer	Midwest Energy, Inc	NA - Not Applicable	SPP RE
					Mike Kidwell	Empire District Electric Company	1,3,5	SPP RE
					Michelle Corley	Cleco Corporation	3	SPP RE
					Bobby Gray	Board of Public Utilities (BPU) kanas	3	SPP RE
					Robert Hirschak	Cleco Corporation	6	SPP RE
					Tara Lightner	Sunflower Electric Power Corporation	1	SPP RE
					J. Scott Williams	City Utilities of Springfield, MO	1,4	SPP RE
					Kevin Giles	Westar Energy	1	SPP RE

1. The SDT added a clarifying footnote to all of the requirements in PER-003-1. The PRT is suggesting that the footnote state the following: “The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.” Do you agree that this footnote would provide the necessary clarity? If not, please explain in the comment area below.

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1

Answer No

Document Name

Comment

The clarification should be made in the NERC Glossary of Terms. The use of footnotes to define the terminology could result in different Standards being interpreted differently base on footnoting. Standards may eventually begin to conflict based on how different terms are used in specific context. Though not a major issue for the current project it sets a precedent that opens the door to problems down the road.

Likes 0

Dislikes 0

Response

Aimee Harris - NiSource - Northern Indiana Public Service Co. - 3

Answer No

Document Name

Comment

Adding a footnote to PER-003 to reference the certification program is short sightedness from the Standards Drafting Team. The key words in this standard as well as many others is "System Operator". It would be better to redo the System Operator definition in the NERC Glossary of Terms to include "a NERC certified individual" and add the reference to the NERC System Operator Certification Program Manual.

Likes 0

Dislikes 0

Response

Thomas Foltz - AEP - 5

Answer No

Document Name

Comment

As stated in our previous comments related to Project 2016-EPR-01, AEP believes the standard as currently written is sufficiently clear in this regard. The current version of the standard states that its purpose is “to ensure that System Operators performing the reliability-related tasks of the

Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System.” This, coupled with the references to “NERC Reliability Operator certificate” within the requirements themselves, provides a clear and direct correlation to the certification specified within the NERC System Operator Certification Program Manual. As a result, we see no lack of clarity within the standard. While AEP does not entirely object to the concept of explicitly referencing the SOC Program Manual in the requirements of PER-003-1, extreme care should be taken to ensure that additional obligations are not unintentionally implied by generally referring to the entire manual as a whole.

In response to our previously submitted comments, the drafting team states in their July 2017 consideration of comments document that “The intent of the SAR DT is not to expand the standard to reflect anything more than the certifications referenced in the NERC System Operator Certification Program Manual not the manual in its entirety.” While we are sure it is not the drafting team’s intent that additional obligations be implied, that risk nonetheless remains (say perhaps, when read by an auditor). While AEP does not believe that the proposed clarifying language and footnote is needed, if one is indeed pursued, we suggest instead using “*The NERC certificates **certified credentials** referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.*”

Likes 0

Dislikes 0

Response

Neil Swearingen - Salt River Project - 1,3,5,6 - WECC

Answer

No

Document Name

Comment

SRP believes the current standard does not require additional clarification as to the type of certification required. However, SRP does not have concerns with adding the proposed footnote.

Likes 0

Dislikes 0

Response

Theresa Allard - Minnkota Power Cooperative Inc. - 1

Answer

No

Document Name

Comment

Minnkota would like to sign on the the NERC Standards Review Forum comments as follows:

The NSRF agrees with the additional foot note but disagrees with the Areas of Competency in R1, R2 and R3. RCs, BAs and TOPs have no control over the Areas of Competency within a NERC Certificate exam. The exam is based on other mechanisms (the PCGC) that BAs, TOPs and RCs have no control over. Is “minimum competency” passing the NERC exam? Entities cannot prove that a System Operator passed with minimum

competency, the components under past 1.1, 2.1, and 3.1. The written Measures do not indicate what level of “minimum competency” only that NERC certificate (or NERC number) is required. The Areas of Competency do not support the reliability BES and is a legacy issue from years ago. The Areas of Competency are strictly within a test that Registered Entities have no control over. The NSRF recommends that the Areas of Competency within R1, R2 and R3 be removed since this Project is currently active. The NSRF agrees that no one has been found non-compliant and this is a simple item to satisfy during an audit. But we are looking to gain efficiencies everywhere we can, and this is some low hanging fruit that can be corrected with a simple stroke of the SDT pen. The NSRF agrees that NERC Certification is required for RCs, TOPs and BAs and do not wish for this Standard to be retired (PER-003-1). There is a current NERC Certification survey that asks many questions about NERC Certification. That is being attributed to the PCGC and not this SDT. The SDT has the power to gain one more efficiency for the Applicable Entities of PER-003-1. The NSRF recommends that the Areas of Competency within R1, R2 and R3 be removed since this Project is currently active. If the SDT does not move forward with this request, than time, resources and valuable funding will be wasted on opening another Project to address this simple concern.

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

No

Document Name

Comment

Alliant Energy supports the following comments from the MRO NSRF:

The NSRF agrees with the additional foot note but disagrees with the Areas of Competency in R1, R2 and R3. RCs, BAs and TOPs have no control over the Areas of Competency within a NERC Certificate exam. The exam is based on other mechanisms (the PCGC) that BAs, TOPs and RCs have no control over. Is “minimum competency” passing the NERC exam? Entities cannot prove that a System Operator passed with minimum competency, the components under past 1.1, 2.1, and 3.1. The written Measures do not indicate what level of “minimum competency” only that NERC certificate (or NERC number) is required. The Areas of Competency do not support the reliability BES and is a legacy issue from years ago. The Areas of Competency are strictly within a test that Registered Entities have no control over. The NSRF recommends that the Areas of Competency within R1, R2 and R3 be removed since this Project is currently active. The NSRF agrees that no one has been found non-compliant and this is a simple item to satisfy during an audit. But we are looking to gain efficiencies everywhere we can, and this is some low hanging fruit that can be corrected with a simple stroke of the SDT pen. The NSRF agrees that NERC Certification is required for RCs, TOPs and BAs and do not wish for this Standard to be retired (PER-003-1). There is a current NERC Certification survey that asks many questions about NERC Certification. That is being attributed to the PCGC and not this SDT. The SDT has the power to gain one more efficiency for the Applicable Entities of PER-003-1. The NSRF recommends that the Areas of Competency within R1, R2 and R3 be removed since this Project is currently active. If the SDT does not move forward with this request, then time, resources and valuable funding will be wasted on opening another Project to address this simple concern.

Likes 0

Dislikes 0

Response

Russel Mountjoy - Midwest Reliability Organization - 10, Group Name MRO NSRF

Answer

No

Document Name

Comment

The NSRF agrees with the additional foot note but disagrees with the Areas of Competency in R1, R2 and R3. RCs, BAs and TOPs have no control over the Areas of Competency within a NERC Certificate exam. The exam is based on other mechanisms (the PCGC) that BAs, TOPs and RCs have no control over. Is “minimum competency” passing the NERC exam? Entities cannot prove that a System Operator passed with minimum competency, the components under past 1.1, 2.1, and 3.1. The written Measures do not indicate what level of “minimum competency” only that NERC certificate (or NERC number) is required. The Areas of Competency do not support the reliability BES and is a legacy issue from years ago. The Areas of Competency are strictly within a test that Registered Entities have no control over. The NSRF recommends that the Areas of Competency within R1, R2 and R3 be removed since this Project is currently active. The NSRF agrees that no one has been found non-compliant and this is a simple item to satisfy during an audit. But we are looking to gain efficiencies everywhere we can, and this is some low hanging fruit that can be corrected with a simple stroke of the SDT pen. The NSRF agrees that NERC Certification is required for RCs, TOPs and BAs and do not wish for this Standard to be retired (PER-003-1). There is a current NERC Certification survey that asks many questions about NERC Certification. That is being attributed to the PCGC and not this SDT. The SDT has the power to gain one more efficiency for the Applicable Entities of PER-003-1. The NSRF recommends that the Areas of Competency within R1, R2 and R3 be removed since this Project is currently active. If the SDT does not move forward with this request, than time, resources and valuable funding will be wasted on opening another Project to address this simple concern.

Likes 0

Dislikes 0

Response**Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - WECC****Answer**

Yes

Document Name**Comment**

changes are minor for TOP's and just add clarification with a new “footnote”

Likes 0

Dislikes 0

Response**Angela Gaines - Portland General Electric Co. - 3, Group Name PGE - Group 1****Answer**

Yes

Document Name**Comment**

The footnote does provide clarity in regards to the specification of what certificates are being addressed.

However, PGE has concerns regarding the referencing of documents, in this case a manual, in a footnote, that is controlled outside of the Standard Development process.

Likes 0

Dislikes 0

Response

Kristine Ward - Seminole Electric Cooperative, Inc. - 1,3,4,5,6 - FRCC

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Laurie Williams - PNM Resources - Public Service Company of New Mexico - 1

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michelle Amarantos - APS - Arizona Public Service Co. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jeffrey DePriest - DTE Energy - Detroit Edison Company - 5, Group Name DTE Electric	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Douglas Johnson - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

Tammy Porter - Tammy Porter On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Tammy Porter

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aubrey Short - FirstEnergy - FirstEnergy Corporation - 4

Answer Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

David Ramkalawan - Ontario Power Generation Inc. - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Hien Ho - Tacoma Public Utilities (Tacoma, WA) - 4

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no ISO-NE

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Colleen Campbell - ACES Power Marketing - 6 - NA - Not Applicable

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Robert Kondziolka - Salt River Project - 3

Answer

Document Name

Comment

I support the comments submitted by Salt River Project.

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name

Comment

Texas RE does not have comments on this question.

Likes 0

Dislikes 0

Response

2. The SDT has written the implementation plan to retire PER-004-2. Do you agree that his standard should be retired? If not, please explain in the comment area below.

Neil Swearingen - Salt River Project - 1,3,5,6 - WECC

Answer No

Document Name

Comment

SRP believes in order to retire PER-004-2 R2, language should be incorporated into the proposed PER-003-2 requiring each RC to staff their Real-Time operations 24 hrs/day.

Likes 0

Dislikes 0

Response

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1

Answer No

Document Name

Comment

In reviewing the arguments for retirement of PER-004 we are not sure the issue of 24 hours staffing is adequately addressed in the other cited standards. Other standards address "Reliability Coordinator" as an entity, not "Reliability Coordinator Operating Personnel". We believe the drafting team has good reason to retire PER-004-2, and the argument seems intuitive; however, due to enhanced technology, removing the staffing requirements could introduce arguments that 24 X 7 staffing is not required by the standards. It could be further argued that certain activities do not need Certified Operating Personnel oversight because they are automated. Since Reliability Standards have been made mandatory there have been continuous arguments over business authority, Entity v. Operating Personnel, who specifically needs to be certified, and who determines staffing.

Likes 0

Dislikes 0

Response

Colleen Campbell - ACES Power Marketing - 6 - NA - Not Applicable

Answer Yes

Document Name

Comment

We thank you for the opportunity to comment.

Likes 0

Dislikes 0

Response

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - WECC

Answer Yes

Document Name

Comment

changes are minor for TOP's and just add clarification with a new "footnote"

Likes 0

Dislikes 0

Response

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no ISO-NE

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Hien Ho - Tacoma Public Utilities (Tacoma, WA) - 4

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

David Ramkalawan - Ontario Power Generation Inc. - 5

Answer	Yes
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Document Name	
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Comment

Likes 0

Dislikes 0

Response

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer	Yes
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Document Name	
----------------------	--

Comment

Likes 0

Dislikes 0

Response

Russel Mountjoy - Midwest Reliability Organization - 10, Group Name MRO NSRF

Answer	Yes
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Document Name	
----------------------	--

Comment

Likes 0

Dislikes 0

Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer	Yes
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Document Name	
----------------------	--

Comment

Likes 0

Dislikes 0

Response

Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Aubrey Short - FirstEnergy - FirstEnergy Corporation - 4

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Douglas Johnson - American Transmission Company, LLC - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

Response

Jeffrey DePriest - DTE Energy - Detroit Edison Company - 5, Group Name DTE Electric

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Theresa Allard - Minnkota Power Cooperative Inc. - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Michelle Amarantos - APS - Arizona Public Service Co. - 1

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6

Answer Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Aimee Harris - NiSource - Northern Indiana Public Service Co. - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Laurie Williams - PNM Resources - Public Service Company of New Mexico - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Kristine Ward - Seminole Electric Cooperative, Inc. - 1,3,4,5,6 - FRCC	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0

Response	
Tammy Porter - Tammy Porter On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Tammy Porter	
Answer	
Document Name	
Comment	
N/A	
Likes	0
Dislikes	0

Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	
<p>Texas RE appreciates the Standard Drafting Team’s (SDT) efforts to implement the Enhanced Periodic Review (EPR) team’s recommendations. Texas RE recognizes that there is significant overlap between PER-004-2 and other training Standards, including PER-003 and PER-005. However, Texas RE remains concerned that retiring PER-004-2 R1 could introduce unnecessary ambiguity. Specifically, while other PER and IRO requirements cited by the EPR team as overlapping with PER-004-2 R1 contain similar elements, they do not appear to be as explicit regarding NERC-certification requirements and the adequacy of training in connection with those requirements as existing PER-004-2 R1, which is proposed for retirement.</p> <p>As noted in its response, the SDT relies on PER-003-1 R1 and PER-005-2 R1 to address training issues. While both standards address aspects of training, neither provide an unambiguous obligation for applicable entities to provide adequate training to their personnel in all circumstances. For instance, PER-003-1 R1 provides that “Real-time operating positions performing Reliability Coordinator reliability-related tasks with System Operators</p>	

who have demonstrated *minimum competency* in the areas listed by obtaining and maintaining a valid NERC Reliability Operator certificate.” (emphasis added). It further specifies Areas of Competency, including “Emergency preparedness and operations.” (PER-003-1 R1.1.3).

Under PER-003-1 R1, the sole required task appears to be for System Operators to demonstrate “minimum competency” by obtaining a valid NERC Reliability Operator certificate.

While this requirement overlaps with the “adequate training” requirement set forth in PER-004-2 R1, it does not necessarily cover all training circumstances. By way of example, Texas RE has encountered at least one instance in which an entity’s operators possessed NERC certifications, but had not received adequate training for properly implementing an emergency electric curtailment plan. This lack of training exacerbated an emergency condition, prolonging an event. It is unclear whether the language in PER-003-1 R1, with its focus solely on minimal competency demonstrated through the possession of a NERC certification would be broad enough to address circumstances in which an entity’s training was demonstrably inadequate for a particular circumstance.

In addition to concerns regarding the possible narrowing of the requirement that an entity possess adequately trained operators, Texas RE remains concerned that the elimination of PER-004-2 R1 may introduce unnecessary ambiguity regarding the requirement to staff Reliability Coordinator Control Centers with NERC-certified operators on a continuous basis. In its Consideration of Comments, the SDT constructs such a requirement by combining the requirement in PER-003-1 R1 that Real-time operating positions be staffed by System Operators with various requirements in the IRO Standard family that the SDT argues requires continuous staffing. However, it is not clear that all Real-Time operating tasks must themselves be performed by a System Operator. For instance, the Real-time Assessment (RTA) definition includes a statement that a “Real-time Assessment may be provided through internal systems or through third-party services.” That is, the definition of an RTA appears to permit third-party services to perform the RTA task. As such, it is unclear whether the continuous obligation to perform an RTA correspondingly triggers an obligation to staff a Reliability Coordinator Control Center with NERC-certified System Operators. The SDT should avoid any ambiguity around this requirement by retaining PER-004-2 R1 as currently drafted.

Likes	0
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Dislikes	0
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Response

Robert Kondziolka - Salt River Project - 3

Answer

Document Name

Comment

I support the comments submitted by Salt River Project.

Likes	0
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Dislikes	0
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Response

Consideration of Comments

Project Name:	2017-02 Modifications to Personnel Performance, Training, and Qualifications Standards PER-003-2 and Implementation Plan
Comment Period Start Date:	1/22/2018
Comment Period End Date:	3/7/2018
Associated Ballots:	2017-02 Modifications to Performance, Training, and Qualifications Standards Implementation Plan IN 1 OT 2017-02 Modifications to Performance, Training, and Qualifications Standards PER-003-2 IN 1 ST

There were 30 sets of responses, including comments from approximately 97 different people from approximately 76 companies representing all 10 of the Industry Segments as shown in the table on the following pages.

All comments submitted can be reviewed in their original format on the [project page](#).

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, you can contact Senior Director, Standards and Education [Howard Gugel](#) (via email) or at (404) 446-9693.

Questions

1. The SDT added a clarifying footnote to all of the requirements in PER-003-1. The PRT is suggesting that the footnote state the following: “The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.” Do you agree that this footnote would provide the necessary clarity? If not, please explain in the comment area below.
2. The SDT has written the implementation plan to retire PER-004-2. Do you agree that his standard should be retired? If not, please explain in the comment area below.

The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Portland General Electric Co.	Angela Gaines	3	WECC	PGE - Group 1	Angela Gaines	Portland General Electric Company	3	WECC
					Barbara Croas	Portland General Electric Company	5	WECC
					Scott Smith	Portland General Electric Company	1	WECC
					Adam Menendez	Portland General Electric Company	6	WECC
Duke Energy	Colby Bellville	1,3,5,6	FRCC,RF,SERC	Duke Energy	Doug Hils	Duke Energy	1	RF
					Lee Schuster	Duke Energy	3	FRCC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	RF
DTE Energy - Detroit	Jeffrey DePriest	5		DTE Electric	Karie Barczak	DTE Energy - Detroit Edison Company	3	RF

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Edison Company					Daniel Herring	DTE Energy - Detroit Edison Company	4	RF
California ISO	Richard Vine	2		ISO/RTO Council Standards Review Committee	Ali Miremadi	California ISO	2	WECC
					Greg Campoli	NYISO	2	NPCC
					Kathleen Goodman	ISONE	2	NPCC
					Nathan Bigbee	ERCOT	2	Texas RE
					Terry Bilke	MISO	2	MRO
					Ben Li	IESO	2	NPCC
					Mark Holman	PJM	2	RF
					Charles Yeung	SPP	2	SPP RE
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC no ISO-NE	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC
					Wayne Sipperly	New York Power Authority	4	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Glen Smith	Entergy Services	4	NPCC
					Brian Robinson	Utility Services	5	NPCC
					Bruce Metruck	New York Power Authority	6	NPCC
					Alan Adamson	New York State Reliability Council	7	NPCC
					Edward Bedder	Orange & Rockland Utilities	1	NPCC
					David Burke	Orange & Rockland Utilities	3	NPCC
					Michele Tondalo	UI	1	NPCC
					Laura Mcleod	NB Power	1	NPCC
					David Ramkalawan	Ontario Power Generation Inc.	5	NPCC
					Quintin Lee	Eversource Energy	1	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
					Helen Lainis	IESO	2	NPCC
					Michael Schiavone	National Grid	1	NPCC
					Michael Jones	National Grid	3	NPCC
					Greg Campoli	NYISO	2	NPCC
					Silvia Mitchell	NextEra Energy - Florida Power and Light Co.	6	NPCC
					Michael Forte	Con Ed - Consolidated Edison	1	NPCC
					Daniel Grinkevich	Con Ed - Consolidated Edison Co. of New York	1	NPCC
					Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Brian O'Boyle	Con Ed - Consolidated Edison	5	NPCC
					Sean Cavote	PSEG	4	NPCC
					Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
					Sylvain Clermont	Hydro Quebec	1	NPCC
					Chantal Mazza	Hydro Quebec	2	NPCC
Midwest Reliability Organization	Russel Mountjoy	10		MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
					Larry Heckert	Alliant Energy	4	MRO
					Amy Casucelli	Xcel Energy	1,3,5,6	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jodi Jensen	Western Area Power Administratino	1,6	MRO
					Kayleigh Wilkerson	Lincoln Electric System	1,3,5,6	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Mahmood Safi	Omaha Public Power District	1,3,5,6	MRO
					Brad Parret	Minnesota Power	1,5	MRO
					Terry Harbour	MidAmerican Energy Company	1,3	MRO
					Tom Breene	Wisconsin Public Service	3,5,6	MRO
					Jeremy Volls	Basin Electric Power Coop	1	MRO
					Kevin Lyons	Central Iowa Power Cooperative	1	MRO
					Mike Morrow	Midcontinent Independent System Operator	2	MRO
Southwest Power Pool, Inc. (RTO)	Shannon Mickens	2	SPP RE	SPP Standards Review Group	Shannon Mickens	Southwest Power Pool Inc.	2	SPP RE
					Don Schmit	Nebraska Public Power District	5	SPP RE

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Deborah McEndaffer	Midwest Energy, Inc	NA - Not Applicable	SPP RE
					Mike Kidwell	Empire District Electric Company	1,3,5	SPP RE
					Michelle Corley	Cleco Corporation	3	SPP RE
					Bobby Gray	Board of Public Utilities (BPU) kanas	3	SPP RE
					Robert Hirschak	Cleco Corporation	6	SPP RE
					Tara Lightner	Sunflower Electric Power Corporation	1	SPP RE
					J. Scott Williams	City Utilities of Springfield, MO	1,4	SPP RE
					Kevin Giles	Westar Energy	1	SPP RE

1. The SDT added a clarifying footnote to all of the requirements in PER-003-1. The PRT is suggesting that the footnote state the following: “The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.” Do you agree that this footnote would provide the necessary clarity? If not, please explain in the comment area below.

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1

Answer No

Document Name

Comment

The clarification should be made in the NERC Glossary of Terms. The use of footnotes to define the terminology could result in different Standards being interpreted differently base on footnoting. Standards may eventually begin to conflict based on how different terms are used in specific context. Though not a major issue for the current project it sets a precedent that opens the door to problems down the road.

Likes 0

Dislikes 0

Response

Thank you for your comment. Industry response and feedback received from this posting and the PRT recommendation posting reaffirms the recommendation to add a footnote to provide clarity as to the connection between the Standard and the NERC System Operator Certification Program Manual. Footnotes are an available tool to provide clarity in several of the existing FERC approved standards.

Aimee Harris - NiSource - Northern Indiana Public Service Co. - 3

Answer No

Document Name

Comment

Adding a footnote to PER-003 to reference the certification program is short sightedness from the Standards Drafting Team. The key words in this standard as well as many others is "System Operator". It would be better to redo the System Operator definition in the NERC Glossary of Terms to include "a NERC certified individual" and add the reference to the NERC System Operator Certification Program Manual.

Likes 0

Dislikes 0

Response

Thank you for your comment. Industry response and feedback received from this posting and the PRT recommendation posting reaffirms the recommendation to add a footnote to provide clarity as to the connection between the Standard and the NERC System Operator Certification Program Manual. Footnotes are an available tool to provide clarity in several of the existing FERC approved standards. Modification of the definition of System Operator is outside the scope of this project.

Thomas Foltz - AEP - 5

Answer

No

Document Name

Comment

As stated in our previous comments related to Project 2016-EPR-01, AEP believes the standard as currently written is sufficiently clear in this regard. The current version of the standard states that its purpose is “to ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System.” This, coupled with the references to “NERC Reliability Operator certificate” within the requirements themselves, provides a clear and direct correlation to the certification specified within the NERC System Operator Certification Program Manual. As a result, we see no lack of clarity within the standard. While AEP does not entirely object to the concept of explicitly referencing the SOC Program Manual in the requirements of PER-003-1, extreme care should be taken to ensure that additional obligations are not unintentionally implied by generally referring to the entire manual as a whole.

In response to our previously submitted comments, the drafting team states in their July 2017 consideration of comments document that “The intent of the SAR DT is not to expand the standard to reflect anything more than the certifications referenced in the NERC System Operator Certification Program Manual not the manual in its entirety.” While we are sure it is not the drafting team’s intent that additional obligations be implied, that risk nonetheless remains (say perhaps, when read by an auditor). While AEP does not believe that the proposed clarifying language and footnote is needed, if one is indeed pursued, we suggest instead using “*The NERC ~~certificates~~ **certified credentials** referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.*”

Likes 0

Dislikes 0

Response

Thank you for your comment. Industry response and feedback received from this posting and the PRT recommendation posting reaffirms the recommendation to add a footnote to provide clarity as to the connection between the Standard and the NERC System Operator Certification Program Manual. The SDT does not believe that your suggested alternative language provides any additional clarity.

Neil Swearingen - Salt River Project - 1,3,5,6 - WECC

Answer

No

Document Name

Comment

SRP believes the current standard does not require additional clarification as to the type of certification required. However, SRP does not have concerns with adding the proposed footnote.

Likes 0

Dislikes 0

Response

Thank you for your comment. Industry response and feedback received from this posting and the PRT recommendation posting reaffirms the recommendation to add a footnote to provide clarity as to the connection between the Standard and the NERC System Operator Certification Program Manual.

Theresa Allard - Minnkota Power Cooperative Inc. - 1

Answer No

Document Name

Comment

Minnkota would like to sign on the the NERC Standards Review Forum comments as follows:

The NSRF agrees with the additional foot note but disagrees with the Areas of Competency in R1, R2 and R3. RCs, BAs and TOPs have no control over the Areas of Competency within a NERC Certificate exam. The exam is based on other mechanisms (the PCGC) that BAs, TOPs and RCs have no control over. Is “minimum competency” passing the NERC exam? Entities cannot prove that a System Operator passed with minimum competency, the components under past 1.1, 2.1, and 3.1. The written Measures do not indicate what level of “minimum competency” only that NERC certificate (or NERC number) is required. The Areas of Competency do not support the reliability BES and is a legacy issue from years ago. The Areas of Competency are strictly within a test that Registered Entities have no control over. The NSRF recommends that the Areas of Competency within R1, R2 and R3 be removed since this Project is currently active. The NSRF agrees that no one has been found non-compliant and this is a simple item to satisfy during an audit. But we are looking to gain efficiencies everywhere we can, and this is some low hanging fruit that can be corrected with a simple stroke of the SDT pen. The NSRF agrees that NERC Certification is required for RCs, TOPs and BAs and do not wish for this Standard to be retired (PER-003-1). There is a current NERC Certification survey that asks many questions about NERC Certification. That is being attributed to the PCGC and not this SDT. The SDT has the power to gain one more efficiency for the Applicable Entities of PER-003-1. The NSRF recommends that the Areas of Competency within R1, R2 and R3 be removed since this Project is currently active. If the SDT does not move forward with this request, than time, resources and valuable funding will be wasted on opening another Project to address this simple concern.

Likes 0

Dislikes 0

Response

Thank you for your comment. Industry response and feedback received from this posting and the PRT recommendation posting reaffirms the recommendation to add a footnote to provide clarity as to the connection between the Standard and the NERC System Operator Certification Program Manual. However, modification of the areas of competency within the standard is outside the scope of this project. The FERC Order 693 contained a directive that the PER-003 standard include minimum competencies. Areas of competency as used in this standard represent the most efficient and effective method for meeting the FERC directive.

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer No

Document Name

Comment

Alliant Energy supports the following comments from the MRO NSRF:

The NSRF agrees with the additional foot note but disagrees with the Areas of Competency in R1, R2 and R3. RCs, BAs and TOPs have no control over the Areas of Competency within a NERC Certificate exam. The exam is based on other mechanisms (the PCGC) that BAs, TOPs and RCs have no control over. Is “minimum competency” passing the NERC exam? Entities cannot prove that a System Operator passed with minimum competency, the components under past 1.1, 2.1, and 3.1. The written Measures do not indicate what level of “minimum competency” only that NERC certificate (or NERC number) is required. The Areas of Competency do not support the reliability BES and is a legacy issue from years ago. The Areas of Competency are strictly within a test that Registered Entities have no control over. The NSRF recommends that the Areas of Competency within R1, R2 and R3 be removed since this Project is currently active. The NSRF agrees that no one has been found non-compliant and this is a simple item to satisfy during an audit. But we are looking to gain efficiencies everywhere we can, and this is some low hanging fruit that can be corrected with a simple stroke of the SDT pen. The NSRF agrees that NERC Certification is required for RCs, TOPs and BAs and do not wish for this Standard to be retired (PER-003-1). There is a current NERC Certification survey that asks many questions about NERC Certification. That is being attributed to the PCGC and not this SDT. The SDT has the power to gain one more efficiency for the Applicable Entities of PER-003-1. The NSRF recommends that the Areas of Competency within R1, R2 and R3 be removed since this Project is currently active. If the SDT does not move forward with this request, then time, resources and valuable funding will be wasted on opening another Project to address this simple concern.

Likes 0

Dislikes	0
Response	
<p>Thank you for your comment. Industry response and feedback received from this posting and the PRT recommendation posting reaffirms the recommendation to add a footnote to provide clarity as to the connection between the Standard and the NERC System Operator Certification Program Manual. However, modification of the areas of competency within the standard is outside the scope of this project. The FERC Order 693 contained a directive that the PER-003 standard include minimum competencies. Areas of competency as used in this standard represent the most efficient and effective method for meeting the FERC directive.</p>	
Russel Mountjoy - Midwest Reliability Organization - 10, Group Name MRO NSRF	
Answer	No
Document Name	
Comment	
<p>The NSRF agrees with the additional foot note but disagrees with the Areas of Competency in R1, R2 and R3. RCs, BAs and TOPs have no control over the Areas of Competency within a NERC Certificate exam. The exam is based on other mechanisms (the PCGC) that BAs, TOPs and RCs have no control over. Is “minimum competency” passing the NERC exam? Entities cannot prove that a System Operator passed with minimum competency, the components under past 1.1, 2.1, and 3.1. The written Measures do not indicate what level of “minimum competency” only that NERC certificate (or NERC number) is required. The Areas of Competency do not support the reliability BES and is a legacy issue from years ago. The Areas of Competency are strictly within a test that Registered Entities have no control over. The NSRF recommends that the Areas of Competency within R1, R2 and R3 be removed since this Project is currently active. The NSRF agrees that no one has been found non-compliant and this is a simple item to satisfy during an audit. But we are looking to gain efficiencies everywhere we can, and this is some low hanging fruit that can be corrected with a simple stroke of the SDT pen. The NSRF agrees that NERC Certification is required for RCs, TOPs and BAs and do not wish for this Standard to be retired (PER-003-1). There is a current NERC Certification survey that asks many questions about NERC Certification. That is being attributed to the PCGC and not this SDT. The SDT has the power to gain one more efficiency for the Applicable Entities of PER-003-1. The NSRF recommends that the Areas of Competency within R1, R2 and R3 be removed since this Project is currently active. If the SDT does not move forward with this request, than time, resources and valuable funding will be wasted on opening another Project to address this simple concern.</p>	
Likes	0

Dislikes	0
Response	
<p>Thank you for your comment. Industry response and feedback received from this posting and the PRT recommendation posting reaffirms the recommendation to add a footnote to provide clarity as to the connection between the Standard and the NERC System Operator Certification Program Manual. However, modification of the areas of competency within the standard is outside the scope of this project. The FERC Order 693 contained a directive that the PER-003 standard include minimum competencies. Areas of competency as used in this standard represent the most efficient and effective method for meeting the FERC directive.</p>	
Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
<p>changes are minor for TOP's and just add clarification with a new "footnote"</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your affirmative response and clarifying comment.</p>	
Angela Gaines - Portland General Electric Co. - 3, Group Name PGE - Group 1	
Answer	Yes
Document Name	
Comment	
<p>The footnote does provide clarity in regards to the specification of what certificates are being addressed.</p>	

However, PGE has concerns regarding the referencing of documents, in this case a manual, in a footnote, that is controlled outside of the Standard Development process.

Likes 0

Dislikes 0

Response

Thank you for your affirmative response and clarifying comment.

Kristine Ward - Seminole Electric Cooperative, Inc. - 1,3,4,5,6 - FRCC

Answer

Yes

Document Name

Comment

Thank you for your affirmative response.

Likes 0

Dislikes 0

Response

Laurie Williams - PNM Resources - Public Service Company of New Mexico - 1

Answer

Yes

Document Name

Comment

Thank you for your affirmative response.

Likes 0

Dislikes 0

Response

Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	Yes
Document Name	
Comment	
Thank you for your affirmative response.	
Likes	0
Dislikes	0
Response	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	Yes
Document Name	
Comment	
Thank you for your affirmative response.	
Likes	0
Dislikes	0
Response	
Michelle Amarantos - APS - Arizona Public Service Co. - 1	
Answer	Yes
Document Name	
Comment	

Thank you for your affirmative response.

Likes 0

Dislikes 0

Response

Jeffrey DePriest - DTE Energy - Detroit Edison Company - 5, Group Name DTE Electric

Answer Yes

Document Name

Comment

Thank you for your affirmative response.

Likes 0

Dislikes 0

Response

Douglas Johnson - American Transmission Company, LLC - 1

Answer Yes

Document Name

Comment

Thank you for your affirmative response.

Likes 0

Dislikes 0

Response

Tammy Porter - Tammy Porter On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Tammy Porter

Answer Yes

Document Name

Comment

Thank you for your affirmative response.

Likes 0

Dislikes 0

Response

Laura Nelson - IDACORP - Idaho Power Company - 1

Answer Yes

Document Name

Comment

Thank you for your affirmative response.

Likes 0

Dislikes 0

Response

Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF

Answer Yes

Document Name

Comment

Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Aubrey Short - FirstEnergy - FirstEnergy Corporation - 4	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Leonard Kula - Independent Electricity System Operator - 2	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy	

Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes
Document Name	
Comment	
Likes	0

Dislikes	0
Response	
Thank you for your affirmative response.	
David Ramkalawan - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Hien Ho - Tacoma Public Utilities (Tacoma, WA) - 4	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no ISO-NE	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Colleen Campbell - ACES Power Marketing - 6 - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
Thank you for your affirmative response.	
Likes 0	
Dislikes 0	
Response	
Robert Kondziolka - Salt River Project - 3	
Answer	
Document Name	
Comment	
I support the comments submitted by Salt River Project.	
Likes 0	

Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, Inc. - 10	
Answer	
Document Name	
Comment	
Texas RE does not have comments on this question.	
Likes 0	
Dislikes 0	
Response	

2. The SDT has written the implementation plan to retire PER-004-2. Do you agree that his standard should be retired? If not, please explain in the comment area below.

Neil Swearingen - Salt River Project - 1,3,5,6 - WECC

Answer No

Document Name

Comment

SRP believes in order to retire PER-004-2 R2, language should be incorporated into the proposed PER-003-2 requiring each RC to staff their Real-Time operations 24 hrs/day.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT does not believe that it is necessary to include specific language in PER-003 requiring an RC to staff 24/7 as it is inherent for an RC to fulfill its compliance obligations for requirements identified on pages 3, 4 and 5 of the SAR.

Kevin Conway - Public Utility District No. 1 of Pend Oreille County - 1

Answer No

Document Name

Comment

In reviewing the arguments for retirement of PER-004 we are not sure the issue of 24 hours staffing is adequately addressed in the other cited standards. Other standards address "Reliability Coordinator" as an entity, not "Reliability Coordinator Operating Personnel". We believe the drafting team has good reason to retire PER-004-2, and the argument seems intuitive; however, due to enhanced technology,

removing the staffing requirements could introduce arguments that 24 X 7 staffing is not required by the standards. It could be further argued that certain activities do not need Certified Operating Personnel oversight because they are automated. Since Reliability Standards have been made mandatory there have been continuous arguments over business authority, Entity v. Operating Personnel, who specifically needs to be certified, and who determines staffing.

Likes 0

Dislikes 0

Response

Thank you for your comment. The SDT believes that it is not necessary to maintain PER-004 that specifically requires an RC to staff 24/7 as it is inherent for an RC to fulfill its compliance obligations for requirements identified on pages 3, 4 and 5 of the SAR.

Colleen Campbell - ACES Power Marketing - 6 - NA - Not Applicable

Answer

Yes

Document Name

Comment

We thank you for the opportunity to comment.

Likes 0

Dislikes 0

Response

Thank you for your affirmative response and clarifying comment.

Maryanne Darling-Reich - Black Hills Corporation - 1,3,5,6 - WECC

Answer

Yes

Document Name

Comment

changes are minor for TOP's and just add clarification with a new "footnote"

Likes 0

Dislikes 0

Response

Thank you for your affirmative response and clarifying comment.

Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no ISO-NE

Answer

Yes

Document Name

Comment

Thank you for your affirmative response.

Likes 0

Dislikes 0

Response

Hien Ho - Tacoma Public Utilities (Tacoma, WA) - 4

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

David Ramkalawan - Ontario Power Generation Inc. - 5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Russel Mountjoy - Midwest Reliability Organization - 10, Group Name MRO NSRF

Answer Yes

Document Name

Comment

Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Larry Heckert - Alliant Energy Corporation Services, Inc. - 4	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Richard Vine - California ISO - 2, Group Name ISO/RTO Council Standards Review Committee	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	

Colby Bellville - Duke Energy - 1,3,5,6 - FRCC,SERC,RF, Group Name Duke Energy

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Leonard Kula - Independent Electricity System Operator - 2

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Aubrey Short - FirstEnergy - FirstEnergy Corporation - 4

Answer Yes

Document Name

Comment

Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Preston Walker - PJM Interconnection, L.L.C. - 2 - SERC,RF	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Douglas Johnson - American Transmission Company, LLC - 1	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Jeffrey DePriest - DTE Energy - Detroit Edison Company - 5, Group Name DTE Electric	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Theresa Allard - Minnkota Power Cooperative Inc. - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes	0
Response	
Thank you for your affirmative response.	
Michelle Amaranantos - APS - Arizona Public Service Co. - 1	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
Thank you for your affirmative response.	
Aaron Cavanaugh - Bonneville Power Administration - 1,3,5,6 - WECC	
Answer	Yes

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Aimee Harris - NiSource - Northern Indiana Public Service Co. - 3	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response.	
Laurie Williams - PNM Resources - Public Service Company of New Mexico - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response

Thank you for your affirmative response.

Kristine Ward - Seminole Electric Cooperative, Inc. - 1,3,4,5,6 - FRCC

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Thank you for your affirmative response.

Tammy Porter - Tammy Porter On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Tammy Porter

Answer

Document Name

Comment

N/A

Likes 0

Dislikes 0

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer

Document Name**Comment**

Texas RE appreciates the Standard Drafting Team's (SDT) efforts to implement the Enhanced Periodic Review (EPR) team's recommendations. Texas RE recognizes that there is significant overlap between PER-004-2 and other training Standards, including PER-003 and PER-005. However, Texas RE remains concerned that retiring PER-004-2 R1 could introduce unnecessary ambiguity. Specifically, while other PER and IRO requirements cited by the EPR team as overlapping with PER-004-2 R1 contain similar elements, they do not appear to be as explicit regarding NERC-certification requirements and the adequacy of training in connection with those requirements as existing PER-004-2 R1, which is proposed for retirement.

As noted in its response, the SDT relies on PER-003-1 R1 and PER-005-2 R1 to address training issues. While both standards address aspects of training, neither provide an unambiguous obligation for applicable entities to provide adequate training to their personnel in all circumstances. For instance, PER-003-1 R1 provides that "Real-time operating positions performing Reliability Coordinator reliability-related tasks with System Operators who have demonstrated *minimum competency* in the areas listed by obtaining and maintaining a valid NERC Reliability Operator certificate." (emphasis added). It further specifies Areas of Competency, including "Emergency preparedness and operations." (PER-003-1 R1.1.3).

Under PER-003-1 R1, the sole required task appears to be for System Operators to demonstrate "minimum competency" by obtaining a valid NERC Reliability Operator certificate.

While this requirement overlaps with the "adequate training" requirement set forth in PER-004-2 R1, it does not necessarily cover all training circumstances. By way of example, Texas RE has encountered at least one instance in which an entity's operators possessed NERC certifications, but had not received adequate training for properly implementing an emergency electric curtailment plan. This lack of training exacerbated an emergency condition, prolonging an event. It is unclear whether the language in PER-003-1 R1, with its focus solely on minimal competency demonstrated through the possession of a NERC certification would be broad enough to address circumstances in which an entity's training was demonstrably inadequate for a particular circumstance.

In addition to concerns regarding the possible narrowing of the requirement that an entity possess adequately trained operators, Texas RE remains concerned that the elimination of PER-004-2 R1 may introduce unnecessary ambiguity regarding the requirement to staff Reliability Coordinator Control Centers with NERC-certified operators on a continuous basis. In its Consideration of Comments, the SDT constructs such a requirement by combining the requirement in PER-003-1 R1 that Real-time operating positions by staffed by System

Operators with various requirements in the IRO Standard family that the SDT argues requires continuous staffing. However, it is not clear that all Real-Time operating tasks must themselves be performed by a System Operator. For instance, the Real-time Assessment (RTA) definition includes a statement that a “Real-time Assessment may be provided through internal systems or through third-party services.” That is, the definition of an RTA appears to permit third-party services to perform the RTA task. As such, it is unclear whether the continuous obligation to perform an RTA correspondingly triggers an obligation to staff a Reliability Coordinator Control Center with NERC-certified System Operators. The SDT should avoid any ambiguity around this requirement by retaining PER-004-2 R1 as currently drafted.

Likes 0

Dislikes 0

Response

The SDT believes that it is not necessary to maintain PER-004 that specifically requires an RC to staff 24/7 as it is inherent for an RC to fulfill its compliance obligations for requirements identified on pages 3, 4 and 5 of the SAR.

The FERC Order 693 contained a directive that the PER-003 standard include minimum competencies. Areas of competency as used in this standard represent the most efficient and effective method for meeting the FERC directive.

PER-005 requires individuals to receive training and verification of competency.

Robert Kondziolka - Salt River Project - 3

Answer

Document Name

Comment

I support the comments submitted by Salt River Project.

Likes 0

Dislikes 0

Response

End of Report

Standards Announcement

Reminder

Project 2017-02 Modifications to Personnel Performance, Training, and Qualifications Standards

Initial Ballots Open through March 7, 2018

[Now Available](#)

The initial ballots for **PER-003-2 Operating Personnel Credentials** and the associated implementation plan are open through **8 p.m. Eastern, Wednesday, March 7, 2018**.

Balloting

Members of the ballot pools associated with this project can log in and submit their votes by accessing the Standards Balloting and Commenting System (SBS) [here](#). If you experience difficulties navigating the SBS, contact [Wendy Muller](#).

- *If you are having difficulty accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out, contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern).*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS **is not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

The ballot results will be announced and posted on the project page. The drafting team will review all responses received during the comment period and determine the next steps of the project.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Senior Standards Developer, [Darrel Richardson](#) (via email) or at (609) 613-1848.

North American Electric Reliability Corporation
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Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

Standards Announcement

Project 2017-02 Modifications to Personnel Performance, Training, and Qualifications Standards

Formal Comment Period Open through March 7, 2018
Ballot Pools Forming through February 20, 2018

[Now Available](#)

A 45-day formal comment period for the following is open through **8 p.m. Eastern, Wednesday, March 7, 2018**.

- PER-003-2 Operating Personnel Credentials
- PER-003-1 Operating Personnel Credentials – Retirement
- PER-004-2 Reliability Coordination-Staffing – Retirement

Commenting

Use the [electronic form](#) to submit comments on the standard. If you experience any difficulties using the electronic form, contact [Wendy Muller](#). An unofficial Word version of the comment form is posted on the [project page](#).

Join the Ballot Pools

Ballot pools are being formed through **8 p.m. Eastern, Tuesday, February 20, 2018**. Registered Ballot Body members can join the ballot pools [here](#).

- *If you are having difficulty accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out, contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern).*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS is **not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

Initial ballots for the standard and implementation plan will be conducted February 26 - March 7, 2018.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Senior Standards Developer, [Darrel Richardson](#) (via email) or at (609) 613-1848.

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BALLOT RESULTS

Comment: View Comment Results (/CommentResults/Index/126)

Ballot Name: 2017-02 Modifications to Performance, Training, and Qualifications Standards PER-003-2 IN 1 ST

Voting Start Date: 2/26/2018 12:01:00 AM

Voting End Date: 3/7/2018 8:00:00 PM

Ballot Type: ST

Ballot Activity: IN

Ballot Series: 1

Total # Votes: 208

Total Ballot Pool: 257

Quorum: 80.93

Weighted Segment Value: 97.5

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	70	1	52	0.963	2	0.037	0	2	14
Segment: 2	7	0.4	4	0.4	0	0	0	0	3
Segment: 3	55	1	43	0.956	2	0.044	0	2	8
Segment: 4	13	1	10	1	0	0	0	0	3
Segment: 5	59	1	40	0.952	2	0.048	0	3	14
Segment: 6	43	1	34	0.971	1	0.029	0	1	7
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment: 1	1	0.1	1	0.1	0	0	0	0	0

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 10	7	0.6	6	0.6	0	0	0	1	0
Totals:	257	6.3	192	6.142	7	0.158	0	9	49

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Negative	Comments Submitted
1	Allete - Minnesota Power, Inc.	Jamie Monette		None	N/A
1	Ameren - Ameren Services	Eric Scott		Abstain	N/A
1	American Transmission Company, LLC	Douglas Johnson		Affirmative	N/A
1	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	John Shaver		Affirmative	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	BC Hydro and Power Authority	Patricia Robertson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Black Hills Corporation	Wes Wingen		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		Affirmative	N/A
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	Cleco Corporation	John Lindsey	Louis Guidry	Affirmative	N/A
1	CMS Energy - Consumers Energy Company	James Anderson		Affirmative	N/A
1	Colorado Springs Utilities	Devin Elverdi		None	N/A
1	Con Ed - Consolidated Edison Co. of New York	Daniel Grinkevich		Affirmative	N/A
1	Corn Belt Power Cooperative	larry brusseau		None	N/A
1	Dairyland Power Cooperative	Robert Roddy		Affirmative	N/A
1	Duke Energy	Laura Lee		Affirmative	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Eversource Energy	Quintin Lee		Affirmative	N/A
1	Exelon	Chris Scanlon		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Karen Yoder		Affirmative	N/A
1	Great Plains Energy - Kansas City Power and Light Co.	James McBee	Douglas Webb	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Hydro One Networks, Inc.	Payam Farahbakhsh	Oshani Pathirane	Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Affirmative	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Stephanie Burns	Affirmative	N/A
1	JEA	Ted Hobson		None	N/A
1	Lakeland Electric	Larry Watt		Affirmative	N/A
1	Lincoln Electric System	Danny Pudenz		None	N/A
1	Long Island Power Authority	Robert Ganley		Affirmative	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		Affirmative	N/A
1	Manitoba Hydro	Mike Smith		None	N/A
1	MEAG Power	David Weekley	Scott Miller	Abstain	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard		Affirmative	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Affirmative	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Omaha Public Power District	Doug Peterchuck		None	N/A
1	Oncor Electric Delivery	Lee Maurer	Tammy Porter	None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
1	Peak Reliability	Scott Downey		None	N/A
1	Platte River Power Authority	Matt Thompson		Affirmative	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		Affirmative	N/A
1	PPL Electric Utilities Corporation	Brenda Truhe		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Affirmative	N/A
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
1	Public Utility District No. 1 of Snohomish County	Long Duong		Affirmative	N/A
1	Puget Sound Energy, Inc.	Theresa Rakowsky		None	N/A
1	Sacramento Municipal Utility District	Arthur Starkovich	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Steven Cobb		Negative	Comments Submitted
1	Santee Cooper	Shawn Abrams		Affirmative	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		None	N/A
1	Seattle City Light	Pawel Krupa		Affirmative	N/A
1	Seminole Electric Cooperative, Inc.	Mark Churilla		Affirmative	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Katherine Prewitt		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Southern Indiana Gas and Electric Co.	Steve Rawlinson		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Affirmative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell		Affirmative	N/A
1	Tennessee Valley Authority	Howell Scott		Affirmative	N/A
1	Tri-State G and T Association, Inc.	Tracy Sliman		Affirmative	N/A
1	Westar Energy	Kevin Giles		Affirmative	N/A
1	Western Area Power Administration	sean erickson		None	N/A
1	Xcel Energy, Inc.	Dean Schiro		None	N/A
2	California ISO	Richard Vine		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	Midcontinent ISO, Inc.	Ellen Oswald		None	N/A
2	New York Independent System Operator	Gregory Campoli		None	N/A
2	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		None	N/A
3	AEP	Aaron Austin		Negative	Comments Submitted
3	Ameren - Ameren Services	David Jendras		Abstain	N/A
3	APS - Arizona Public Service Co.	Vivian Vo		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Associated Electric Cooperative, Inc.	Todd Bennett		None	N/A
3	Austin Energy	W. Dwayne Preston		None	N/A
3	BC Hydro and Power Authority	Hootan Jarollahi		Affirmative	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Annette Johnston	Darnez Gresham	Affirmative	N/A
3	Black Hills Corporation	Eric Egge		Affirmative	N/A
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
3	City of Vero Beach	Ginny Beigel	Brandon McCormick	Affirmative	N/A
3	Clark Public Utilities	Jack Stamper		None	N/A
3	Cleco Corporation	Michelle Corley	Louis Guidry	Affirmative	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Affirmative	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Eversource Energy	Mark Kenny		None	N/A
3	Exelon	John Bee		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Great Plains Energy - Kansas City Power and Light Co.	John Carlson	Douglas Webb	Affirmative	N/A
3	Great River Energy	Brian Glover		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski	Oshani Pathirane	None	N/A
3	Lincoln Electric System	Jason Fortik		Affirmative	N/A
3	Manitoba Hydro	Karim Abdel-Hadi		None	N/A
3	MEAG Power	Roger Brand	Scott Miller	Abstain	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Affirmative	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Aimee Harris		Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	OTP - Otter Tail Power Company	Wendi Olson		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Affirmative	N/A
3	Platte River Power Authority	Jeff Landis		Affirmative	N/A
3	PNM Resources - Public Service Company of New Mexico	Lynn Goldstein		Affirmative	N/A
3	Portland General Electric Co.	Angela Gaines		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Affirmative	N/A
3	Puget Sound Energy, Inc.	Lynda Kupfer		None	N/A
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Robert Kondziolka		Negative	Comments Submitted
3	Santee Cooper	James Poston		Affirmative	N/A
3	SCANA - South Carolina Electric and Gas Co.	Clay Young		None	N/A
3	Seattle City Light	Tuan Tran		Affirmative	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Snohomish County PUD No. 1	Mark Oens		Affirmative	N/A
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Fred Frederick		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Affirmative	N/A
3	Tennessee Valley Authority	Ian Grant		Affirmative	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
3	Westar Energy	Bo Jones		Affirmative	N/A
3	Xcel Energy, Inc.	Michael Ibold		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Affirmative	N/A
4	Austin Energy	Esther Weekes		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	CMS Energy - Consumers Energy Company	Theresa Martinez		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Aubrey Short		Affirmative	N/A
4	Florida Municipal Power Agency	Carol Chinn		None	N/A
4	Georgia System Operations Corporation	Guy Andrews		Affirmative	N/A
4	Illinois Municipal Electric Agency	Mary Ann Todd		None	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Affirmative	N/A
4	Sacramento Municipal Utility District	Beth Tincher	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Affirmative	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Affirmative	N/A
5	AEP	Thomas Foltz		Negative	Comments Submitted
5	Ameren - Ameren Missouri	Sam Dwyer		Abstain	N/A
5	APS - Arizona Public Service Co.	Kelsi Rigby		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		None	N/A
5	Berkshire Hathaway - NV Energy	Kevin Salsbury	Jamie Lynn Bussin	Affirmative	N/A
5	Black Hills Corporation	George Tatar		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Affirmative	N/A
5	Bonneville Power Administration	Scott Winner		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Affirmative	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		None	N/A
5	City of Independence, Power and Light Department	Jim Nail		None	N/A
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	Affirmative	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		None	N/A
5	Con Ed - Consolidated Edison Co. of New York	William Winters	Alyson Slanover	Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Lou Oberski		Affirmative	N/A
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Exelon	Ruth Miller		Affirmative	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Affirmative	N/A
5	Florida Municipal Power Agency	Chris Gowder	Brandon McCormick	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Great Plains Energy - Kansas City Power and Light Co.	Harold Wyble	Douglas Webb	Affirmative	N/A
5	Great River Energy	Preston Walsh		Affirmative	N/A
5	JEA	John Babik		None	N/A
5	Kissimmee Utility Authority	Mike Blough		None	N/A
5	Lakeland Electric	Jim Howard		Affirmative	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		None	N/A
5	Lower Colorado River Authority	Teresa Cantwell		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A
5	MEAG Power	Steven Grego	Scott Miller	Abstain	N/A
5	Muscatine Power and Water	Neal Nelson		None	N/A
5	Nebraska Public Power District	Don Schmit		Affirmative	N/A
5	New York Power Authority	Erick Barrios		Affirmative	N/A
5	NextEra Energy	Allen Schriver		None	N/A
5	NiSource - Northern Indiana Public Service Co.	Dmitriy Bazylyuk		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	John Rhea		Affirmative	N/A
5	Ontario Power Generation Inc.	David Ramkalawan		Affirmative	N/A
5	OTP - Otter Tail Power Company	Cathy Fogale		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	Portland General Electric Co.	Ryan Olson		Affirmative	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		Affirmative	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		None	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Affirmative	N/A
5	Puget Sound Energy, Inc.	Eleanor Ewry		None	N/A
5	Sacramento Municipal Utility District	Susan Oto	Joe Tarantino	Affirmative	N/A
5	Salt River Project	Kevin Nielsen		Negative	Comments Submitted
5	SCANA - South Carolina Electric and Gas Co.	Alyssa Hubbard		None	N/A
5	Seattle City Light	Mike Haynes		Affirmative	N/A
5	Seminole Electric Cooperative, Inc.	Brenda Atkins		Affirmative	N/A
5	Sempra - San Diego Gas and Electric	Daniel Frank		Affirmative	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Mark McDonald		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Affirmative	N/A
5	U.S. Bureau of Reclamation	Wendy Center		None	N/A
5	WEC Energy Group, Inc.	Linda Horn		Affirmative	N/A
5	Westar Energy	Laura Cox		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
6	AEP - AEP Marketing	Yee Chou		Negative	Comments Submitted
6	Ameren - Ameren Services	Robert Quinlivan		Abstain	N/A
6	APS - Arizona Public Service Co.	Jonathan Aragon		Affirmative	N/A
6	Berkshire Hathaway - PacifiCorp	Sandra Shaffer		Affirmative	N/A
6	Black Hills Corporation	Eric Scherr		Affirmative	N/A
6	Bonneville Power Administration	Andrew Meyers		Affirmative	N/A
6	Cleco Corporation	Robert Hirschak	Louis Guidry	Affirmative	N/A
6	Colorado Springs Utilities	Shannon Fair		None	N/A
6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Affirmative	N/A
6	Duke Energy	Greg Cecil		Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Affirmative	N/A
6	Great Plains Energy - Kansas City Power and Light Co.	Jennifer Flandermeyer	Douglas Webb	Affirmative	N/A
6	Great River Energy	Donna Stephenson	Michael Brytowski	Affirmative	N/A
6	Lakeland Electric	Paul Shipps		Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Affirmative	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Luminant - Luminant Energy	Brenda Hampton		None	N/A
6	Manitoba Hydro	Blair Mukanik		None	N/A
6	Modesto Irrigation District	James McFall	Nick Braden	Affirmative	N/A
6	Muscatine Power and Water	Ryan Streck		Affirmative	N/A
6	New York Power Authority	Shivaz Chopra		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Affirmative	N/A
6	Portland General Electric Co.	Daniel Mason		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Karla Barton		Affirmative	N/A
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		None	N/A
6	Sacramento Municipal Utility District	Jamie Cutlip	Joe Tarantino	Affirmative	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Michael Brown		Affirmative	N/A
6	SCANA - South Carolina Electric and Gas Co.	John Folsom		None	N/A
6	Seattle City Light	Charles Freeman		Affirmative	N/A
6	Seminole Electric Cooperative, Inc.	Judy Novak		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Snohomish County PUD No. 1	Franklin Lu		Affirmative	N/A
6	Southern Company - Southern Company Generation and Energy Marketing	Jennifer Sykes		Affirmative	N/A
6	Southern Indiana Gas and Electric Co.	Brad Lisembee		Affirmative	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Affirmative	N/A
6	WEC Energy Group, Inc.	Scott Hoggatt		Affirmative	N/A
6	Westar Energy	Megan Wagner		None	N/A
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Roger Zaklukiewicz	Roger Zaklukiewicz		Affirmative	N/A
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Drew Slabaugh		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Abstain	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Affirmative	N/A

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BALLOT RESULTS

Comment: [View Comment Results \(/CommentResults/Index/126\)](/CommentResults/Index/126)

Ballot Name: 2017-02 Modifications to Performance, Training, and Qualifications Standards Implementation Plan IN 1 OT

Voting Start Date: 2/26/2018 12:01:00 AM

Voting End Date: 3/7/2018 8:00:00 PM

Ballot Type: OT

Ballot Activity: IN

Ballot Series: 1

Total # Votes: 204

Total Ballot Pool: 251

Quorum: 81.27

Weighted Segment Value: 98.91

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	68	1	49	0.98	1	0.02	0	4	14
Segment: 2	7	0.4	4	0.4	0	0	0	0	3
Segment: 3	53	1	40	0.976	1	0.024	0	4	8
Segment: 4	13	1	10	1	0	0	0	0	3
Segment: 5	57	1	40	0.976	1	0.024	0	4	12
Segment: 6	43	1	34	1	0	0	0	2	7
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment: 1	1	0.1	1	0.1	0	0	0	0	0

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 10	7	0.6	6	0.6	0	0	0	1	0
Totals:	251	6.3	186	6.231	3	0.069	0	15	47

BALLOT POOL MEMBERS

Show entries

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Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Abstain	N/A
1	Allete - Minnesota Power, Inc.	Jamie Monette		None	N/A
1	Ameren - Ameren Services	Eric Scott		Abstain	N/A
1	American Transmission Company, LLC	Douglas Johnson		Affirmative	N/A
1	APS - Arizona Public Service Co.	Michelle Amaranos		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	John Shaver		Affirmative	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	BC Hydro and Power Authority	Patricia Robertson		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		Affirmative	N/A
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	Cleco Corporation	John Lindsey	Louis Guidry	Affirmative	N/A
1	CMS Energy - Consumers Energy Company	James Anderson		Affirmative	N/A
1	Colorado Springs Utilities	Devin Elverdi		None	N/A
1	Con Ed - Consolidated Edison Co. of New York	Daniel Grinkevich		Affirmative	N/A
1	Corn Belt Power Cooperative	larry brusseau		None	N/A
1	Dairyland Power Cooperative	Robert Roddy		Affirmative	N/A
1	Duke Energy	Laura Lee		Affirmative	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Eversource Energy	Quintin Lee		Affirmative	N/A
1	Exelon	Chris Scanlon		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Karen Yoder		Affirmative	N/A
1	Great Plains Energy - Kansas City Power and Light Co.	James McBee	Douglas Webb	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Hydro One Networks, Inc.	Payam Farahbakhsh	Oshani Pathirane	Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Affirmative	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Stephanie Burns	Affirmative	N/A
1	JEA	Ted Hobson		None	N/A
1	Lakeland Electric	Larry Watt		Affirmative	N/A
1	Lincoln Electric System	Danny Pudenz		None	N/A
1	Long Island Power Authority	Robert Ganley		Affirmative	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		Affirmative	N/A
1	Manitoba Hydro	Mike Smith		None	N/A
1	MEAG Power	David Weekley	Scott Miller	Abstain	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard		Affirmative	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Affirmative	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Omaha Public Power District	Doug Peterchuck		None	N/A
1	Oncor Electric Delivery	Lee Maurer	Tammy Porter	None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
1	Peak Reliability	Scott Downey		None	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		Affirmative	N/A
1	PPL Electric Utilities Corporation	Brenda Truhe		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Affirmative	N/A
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
1	Public Utility District No. 1 of Snohomish County	Long Duong		Affirmative	N/A
1	Puget Sound Energy, Inc.	Theresa Rakowsky		None	N/A
1	Sacramento Municipal Utility District	Arthur Starkovich	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Steven Cobb		Negative	Comments Submitted
1	Santee Cooper	Shawn Abrams		Affirmative	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		None	N/A
1	Seattle City Light	Pawel Krupa		Affirmative	N/A
1	Seminole Electric Cooperative, Inc.	Mark Churilla		Affirmative	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Katherine Prewitt		Affirmative	N/A
1	Southern Indiana Gas and Electric Co.	Steve Rawlinson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Affirmative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell		Affirmative	N/A
1	Tennessee Valley Authority	Howell Scott		Affirmative	N/A
1	Tri-State G and T Association, Inc.	Tracy Sliman		Affirmative	N/A
1	Westar Energy	Kevin Giles		Affirmative	N/A
1	Western Area Power Administration	sean erickson		None	N/A
1	Xcel Energy, Inc.	Dean Schiro		None	N/A
2	California ISO	Richard Vine		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	Midcontinent ISO, Inc.	Ellen Oswald		None	N/A
2	New York Independent System Operator	Gregory Campoli		None	N/A
2	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		None	N/A
3	AEP	Aaron Austin		Abstain	N/A
3	Ameren - Ameren Services	David Jendras		Abstain	N/A
3	APS - Arizona Public Service Co.	Vivian Vo		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		None	N/A
3	Austin Energy	W. Dwayne Preston		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	BC Hydro and Power Authority	Hootan Jarollahi		Abstain	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Annette Johnston	Darnez Gresham	Affirmative	N/A
3	Black Hills Corporation	Eric Egge		Affirmative	N/A
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
3	City of Vero Beach	Ginny Beigel	Brandon McCormick	Affirmative	N/A
3	Clark Public Utilities	Jack Stamper		None	N/A
3	Cleco Corporation	Michelle Corley	Louis Guidry	Affirmative	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Affirmative	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Eversource Energy	Mark Kenny		None	N/A
3	Exelon	John Bee		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Affirmative	N/A
3	Great Plains Energy - Kansas City Power and Light Co.	John Carlson	Douglas Webb	Affirmative	N/A
3	Great River Energy	Brian Glover		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Hydro One Networks, Inc.	Paul Malozewski	Oshani Pathirane	None	N/A
3	Lincoln Electric System	Jason Fortik		Affirmative	N/A
3	Manitoba Hydro	Karim Abdel-Hadi		None	N/A
3	MEAG Power	Roger Brand	Scott Miller	Abstain	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Affirmative	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Aimee Harris		Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	OTP - Otter Tail Power Company	Wendi Olson		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Affirmative	N/A
3	Platte River Power Authority	Jeff Landis		Affirmative	N/A
3	PNM Resources - Public Service Company of New Mexico	Lynn Goldstein		Affirmative	N/A
3	Portland General Electric Co.	Angela Gaines		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Affirmative	N/A
3	Puget Sound Energy, Inc.	Lynda Kupfer		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Robert Kondziolka		Negative	Comments Submitted
3	Santee Cooper	James Poston		Affirmative	N/A
3	SCANA - South Carolina Electric and Gas Co.	Clay Young		None	N/A
3	Seattle City Light	Tuan Tran		Affirmative	N/A
3	Snohomish County PUD No. 1	Mark Oens		Affirmative	N/A
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Affirmative	N/A
3	Tennessee Valley Authority	Ian Grant		Affirmative	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
3	Westar Energy	Bo Jones		Affirmative	N/A
3	Xcel Energy, Inc.	Michael Ibold		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Affirmative	N/A
4	Austin Energy	Esther Weekes		None	N/A
4	CMS Energy - Consumers Energy Company	Theresa Martinez		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Aubrey Short		Affirmative	N/A
4	Florida Municipal Power Agency	Carol Chinn		None	N/A
4	Georgia System Operations Corporation	Guy Andrews		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	Illinois Municipal Electric Agency	Mary Ann Todd		None	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Affirmative	N/A
4	Sacramento Municipal Utility District	Beth Tincher	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Affirmative	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Affirmative	N/A
5	AEP	Thomas Foltz		Abstain	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Abstain	N/A
5	APS - Arizona Public Service Co.	Kelsi Rigby		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		None	N/A
5	Berkshire Hathaway - NV Energy	Kevin Salsbury	Jamie Lynn Bussin	Affirmative	N/A
5	Black Hills Corporation	George Tatar		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Affirmative	N/A
5	Bonneville Power Administration	Scott Winner		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Affirmative	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	City of Independence, Power and Light Department	Jim Nail		None	N/A
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	Affirmative	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		None	N/A
5	Con Ed - Consolidated Edison Co. of New York	William Winters	Alyson Slanover	Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Lou Oberski		Affirmative	N/A
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Exelon	Ruth Miller		Affirmative	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Affirmative	N/A
5	Florida Municipal Power Agency	Chris Gowder	Brandon McCormick	Affirmative	N/A
5	Great Plains Energy - Kansas City Power and Light Co.	Harold Wyble	Douglas Webb	Affirmative	N/A
5	Great River Energy	Preston Walsh		Affirmative	N/A
5	JEA	John Babik		None	N/A
5	Kissimmee Utility Authority	Mike Blough		None	N/A
5	Lakeland Electric	Jim Howard		Affirmative	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Lower Colorado River Authority	Teresa Cantwell		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A
5	MEAG Power	Steven Grego	Scott Miller	Abstain	N/A
5	Nebraska Public Power District	Don Schmit		Affirmative	N/A
5	New York Power Authority	Erick Barrios		Affirmative	N/A
5	NextEra Energy	Allen Schriver		None	N/A
5	NiSource - Northern Indiana Public Service Co.	Dmitriy Bazylyuk		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	John Rhea		Affirmative	N/A
5	Ontario Power Generation Inc.	David Ramkalawan		Affirmative	N/A
5	OTP - Otter Tail Power Company	Cathy Fogale		Affirmative	N/A
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	Portland General Electric Co.	Ryan Olson		Affirmative	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		Affirmative	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		None	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Affirmative	N/A
5	Puget Sound Energy, Inc.	Eleanor Ewry		None	N/A
5	Sacramento Municipal Utility District	Susan Oto	Joe Tarantino	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Salt River Project	Kevin Nielsen		Negative	Comments Submitted
5	SCANA - South Carolina Electric and Gas Co.	Alyssa Hubbard		None	N/A
5	Seattle City Light	Mike Haynes		Affirmative	N/A
5	Seminole Electric Cooperative, Inc.	Brenda Atkins		Affirmative	N/A
5	Sempra - San Diego Gas and Electric	Daniel Frank		Affirmative	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Affirmative	N/A
5	U.S. Bureau of Reclamation	Wendy Center		None	N/A
5	WEC Energy Group, Inc.	Linda Horn		Affirmative	N/A
5	Westar Energy	Laura Cox		Affirmative	N/A
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
6	AEP - AEP Marketing	Yee Chou		Abstain	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Abstain	N/A
6	APS - Arizona Public Service Co.	Jonathan Aragon		Affirmative	N/A
6	Berkshire Hathaway - PacifiCorp	Sandra Shaffer		Affirmative	N/A
6	Black Hills Corporation	Eric Scherr		Affirmative	N/A
6	Bonneville Power Administration	Andrew Meyers		Affirmative	N/A
6	Cleco Corporation	Robert Hirschak	Louis Guidry	Affirmative	N/A
6	Colorado Springs Utilities	Shannon Fair		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Affirmative	N/A
6	Duke Energy	Greg Cecil		Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Affirmative	N/A
6	Great Plains Energy - Kansas City Power and Light Co.	Jennifer Flandermeyer	Douglas Webb	Affirmative	N/A
6	Great River Energy	Donna Stephenson	Michael Brytowski	Affirmative	N/A
6	Lakeland Electric	Paul Shipps		Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Affirmative	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Affirmative	N/A
6	Luminant - Luminant Energy	Brenda Hampton		None	N/A
6	Manitoba Hydro	Blair Mukanik		None	N/A
6	Modesto Irrigation District	James McFall	Nick Braden	Affirmative	N/A
6	Muscatine Power and Water	Ryan Streck		Affirmative	N/A
6	New York Power Authority	Shivaz Chopra		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Portland General Electric Co.	Daniel Mason		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Karla Barton		Affirmative	N/A
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		None	N/A
6	Sacramento Municipal Utility District	Jamie Cutlip	Joe Tarantino	Affirmative	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Michael Brown		Affirmative	N/A
6	SCANA - South Carolina Electric and Gas Co.	John Folsom		None	N/A
6	Seattle City Light	Charles Freeman		Affirmative	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Affirmative	N/A
6	Snohomish County PUD No. 1	Franklin Lu		Affirmative	N/A
6	Southern Company - Southern Company Generation and Energy Marketing	Jennifer Sykes		Affirmative	N/A
6	Southern Indiana Gas and Electric Co.	Brad Lisembee		Affirmative	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Affirmative	N/A
6	WEC Energy Group, Inc.	Scott Hoggatt		Affirmative	N/A
6	Westar Energy	Megan Wagner		None	N/A
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
8	Roger Zaklukiewicz	Roger Zaklukiewicz		Affirmative	N/A
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Drew Slabaugh		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Abstain	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Affirmative	N/A

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Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard is adopted by the NERC Board of Trustees (Board).

Description of Current Draft

This is the first posting of the revised draft standard.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	June 2017
SAR posted for comment	June 21, 2017 through July 24, 2017

Anticipated Actions	Date
45-day formal comment period with ballot	December 2017 – January 2017
10-day final ballot	February 2017
Board adoption	May 2017

A. Introduction

1. **Title:** Operating Personnel Credentials
2. **Number:** PER-003-1
3. **Purpose:** To ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1. Reliability Coordinator
 - 4.1.2. Transmission Operator
 - 4.1.3. Balancing Authority
5. **Effective Date:** See Implementation Plan for standard PER-003-2.

B. Requirements and Measures

- R1. Each Reliability Coordinator shall staff its Real-time operating positions performing Reliability Coordinator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining a valid NERC Reliability Operator certificate ⁽¹⁾⁽²⁾: [*Risk Factor: High*][*Time Horizon: Real-time Operations*]
 - 1.1. Areas of Competency
 - 1.1.1. Resource and demand balancing
 - 1.1.2. Transmission operations
 - 1.1.3. Emergency preparedness and operations
 - 1.1.4. System operations
 - 1.1.5. Protection and control
 - 1.1.6. Voltage and reactive

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.

1.1.7. Interchange scheduling and coordination

1.1.8. Interconnection reliability operations and coordination

M1. Each Reliability Coordinator shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:

M1.1 A list of Real-time operating positions.

M1.2 A list of System Operators assigned to its Real-time operating positions.

M1.3 A copy of each of its System Operator's NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.

M1.4 Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.

R2. Each Transmission Operator shall staff its Real-time operating positions performing Transmission Operator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates ⁽¹⁾⁽²⁾: [*Risk Factor: High*][*Time Horizon: Real-time Operations*]:

2.1. Areas of Competency

2.1.1. Transmission operations

2.1.2. Emergency preparedness and operations

2.1.3. System operations

2.1.4. Protection and control

2.1.5. Voltage and reactive

2.2. Certificates

- Reliability Operator
- Balancing, Interchange and Transmission Operator
- Transmission Operator

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.

- M2.** Each Transmission Operator shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:
- M2.1** A list of Real-time operating positions.
 - M2.2** A list of System Operators assigned to its Real-time operating positions.
 - M2.3** A copy of each of its System Operator’s NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.
 - M2.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.
- R3.** Each Balancing Authority shall staff its Real-time operating positions performing Balancing Authority reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates ⁽¹⁾⁽²⁾: [*Risk Factor: High*][*Time Horizon: Real-time Operations*]:
- 3.1.** Areas of Competency
 - 3.1.1.** Resources and demand balancing
 - 3.1.2.** Emergency preparedness and operations
 - 3.1.3.** System operations
 - 3.1.4.** Interchange scheduling and coordination
 - 3.2.** Certificates
 - Reliability Operator
 - Balancing, Interchange and Transmission Operator
 - Balancing and Interchange Operator
- M3.** Each Balancing Authority shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.

- M3.1** A list of Real-time operating positions.
- M3.2** A list of System Operators assigned to its Real-time operating positions.
- M3.3** A copy of each of its System Operator’s NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.
- M3.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority:

“Compliance Enforcement Authority” means NERC or the Regional Entity, or any entity as otherwise designated by an Applicable Governmental Authority, in their respective roles of monitoring and/or enforcing compliance with mandatory and enforceable Reliability Standards in their respective jurisdictions.

1.2. Evidence Retention:

The following evidence retention period(s) identify the period of time an entity is required to retain specific evidence to demonstrate compliance. For instances where the evidence retention period specified below is shorter than the time since the last audit, the Compliance Enforcement Authority may ask an entity to provide other evidence to show that it was compliant for the full-time period since the last audit.

The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- Each Reliability Coordinator, Transmission Operator and Balancing Authority shall keep data or evidence for three years or since its last compliance audit, whichever time frame is the greatest.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	N/A	The Reliability Coordinator failed to staff each Real-time operating position performing Reliability Coordinator reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R1.
R2.	N/A	N/A	N/A	The Transmission Operator failed to staff each Real-time operating position performing Transmission Operator reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R2, Part 2.2.
R3.	N/A	N/A	N/A	The Balancing Authority failed to staff each Real-time operating position performing Balancing Authority reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R3, Part 3.2.

D. Regional Variances

None.

E. Associated Documents

Implementation Plan – [Add link](#)

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
1	February 17, 2011	Complete revision under Project 2007-04	Revision
1	February 17, 2011	Adopted by Board of Trustees	
1	September 15, 2011	FERC Order issued by FERC approving PER-003-1 (effective date of the Order is September 15, 2011)	
2	TBD	Added footnote to requirements	Revision
2	TBD	Adopted by Board of Trustees	

Standard Development Timeline

This section is maintained by the drafting team during the development of the standard and will be removed when the standard is adopted by the NERC Board of Trustees (Board).

Description of Current Draft

This is the first posting of the revised draft standard.

Completed Actions	Date
Standards Committee approved Standard Authorization Request (SAR) for posting	June 2017
SAR posted for comment	June 21, 2017 through July 24, 2017

Anticipated Actions	Date
45-day formal comment period with ballot	December 2017 – January 2017
10-day final ballot	February 2017
Board adoption	May 2017

A. Introduction

1. **Title:** Operating Personnel Credentials
2. **Number:** PER-003-1
3. **Purpose:** To ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System.
4. **Applicability:**
 - 4.1. **Functional Entities:**
 - 4.1.1. Reliability Coordinator
 - 4.1.2. Transmission Operator
 - 4.1.3. Balancing Authority
5. **Effective Date:** ~~See Implementation Plan for standard PER-003-2. In those jurisdictions where regulatory approval is required, this standard shall become effective the first calendar day of the first calendar quarter twelve months after applicable regulatory approval. In those jurisdictions where no regulatory approval is required, this standard shall become effective the first calendar day of the first calendar quarter twelve months after Board of Trustees adoption.~~

B. Requirements and Measures

- R1. Each Reliability Coordinator shall staff its Real-time operating positions performing Reliability Coordinator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining a valid NERC Reliability Operator certificate ⁽¹⁾~~(2)~~: [*Risk Factor: High*][*Time Horizon: Real-time Operations*]
 - 1.1. Areas of Competency
 - 1.1.1. Resource and demand balancing
 - 1.1.2. Transmission operations
 - 1.1.3. Emergency preparedness and operations

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² [The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.](#)

- 1.1.4. System operations
- 1.1.5. Protection and control
- 1.1.6. Voltage and reactive
- 1.1.7. Interchange scheduling and coordination
- 1.1.8. Interconnection reliability operations and coordination

M1. Each Reliability Coordinator shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:

- M1.1** A list of Real-time operating positions.
- M1.2** A list of System Operators assigned to its Real-time operating positions.
- M1.3** A copy of each of its System Operator's NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.
- M1.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.

R2. Each Transmission Operator shall staff its Real-time operating positions performing Transmission Operator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates ⁽¹⁾(2): [*Risk Factor: High*][*Time Horizon: Real-time Operations*]:

2.1. Areas of Competency

- 2.1.1. Transmission operations
- 2.1.2. Emergency preparedness and operations
- 2.1.3. System operations
- 2.1.4. Protection and control
- 2.1.5. Voltage and reactive

2.2. Certificates

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² [The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.](#)

- Reliability Operator
 - Balancing, Interchange and Transmission Operator
 - Transmission Operator
- M2.** Each Transmission Operator shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:
- M2.1** A list of Real-time operating positions.
- M2.2** A list of System Operators assigned to its Real-time operating positions.
- M2.3** A copy of each of its System Operator’s NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.
- M2.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.
- R3.** Each Balancing Authority shall staff its Real-time operating positions performing Balancing Authority reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates ⁽¹⁾~~(2)~~: [*Risk Factor: High*][*Time Horizon: Real-time Operations*]:
- 3.1. Areas of Competency**
- 3.1.1.** Resources and demand balancing
 - 3.1.2.** Emergency preparedness and operations
 - 3.1.3.** System operations
 - 3.1.4.** Interchange scheduling and coordination
- 3.2. Certificates**
- Reliability Operator
 - Balancing, Interchange and Transmission Operator
 - Balancing and Interchange Operator

¹ Non-NERC certified personnel performing any reliability-related task of a real-time operating position must be under the direct supervision of a NERC Certified System Operator stationed at that operating position; the NERC Certified System Operator at that operating position has ultimate responsibility for the performance of the reliability-related tasks.

² [The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual.](#)

- M3.** Each Balancing Authority shall have the following evidence to show that it staffed its Real-time operating positions performing reliability-related tasks with System Operators who have demonstrated the applicable minimum competency by obtaining and maintaining the appropriate, valid NERC certificate:
- M3.1** A list of Real-time operating positions.
 - M3.2** A list of System Operators assigned to its Real-time operating positions.
 - M3.3** A copy of each of its System Operator’s NERC certificate or NERC certificate number with expiration date which demonstrates compliance with the applicable Areas of Competency.
 - M3.4** Work schedules, work logs, or other equivalent evidence showing which System Operators were assigned to work in Real-time operating positions.

C. Compliance

1. Compliance Monitoring Process

1.1. Compliance Enforcement Authority:

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The applicable entity shall keep data or evidence to show compliance as identified below unless directed by its Compliance Enforcement Authority to retain specific evidence for a longer period of time as part of an investigation.

- Each Reliability Coordinator, Transmission Operator and Balancing Authority shall keep data or evidence for three years or since its last compliance audit, whichever time frame is the greatest.

1.3. Compliance Monitoring and Enforcement Program

As defined in the NERC Rules of Procedure, “Compliance Monitoring and Enforcement Program” refers to the identification of the processes that will be used to evaluate data or information for the purpose of assessing performance or outcomes with the associated Reliability Standard.

Violation Severity Levels

R #	Violation Severity Levels			
	Lower VSL	Moderate VSL	High VSL	Severe VSL
R1.	N/A	N/A	N/A	The Reliability Coordinator failed to staff each Real-time operating position performing Reliability Coordinator reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R1.
R2.	N/A	N/A	N/A	The Transmission Operator failed to staff each Real-time operating position performing Transmission Operator reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R2, Part 2.2.
R3.	N/A	N/A	N/A	The Balancing Authority failed to staff each Real-time operating position performing Balancing Authority reliability-related tasks with a System Operator having a valid NERC certificate as defined in Requirement R3, Part 3.2.

D. Regional Variances

None.

E. Associated Documents

Implementation Plan – [Add link](#)

Version History

Version	Date	Action	Change Tracking
0	April 1, 2005	Effective Date	New
1	February 17, 2011	Complete revision under Project 2007-04	Revision
1	February 17, 2011	Adopted by Board of Trustees	
1	September 15, 2011	FERC Order issued by FERC approving PER-003-1 (effective date of the Order is September 15, 2011)	
<u>2</u>	<u>TBD</u>	<u>Added footnote to requirements</u>	<u>Revision</u>
<u>2</u>	<u>TBD</u>	<u>Adopted by Board of Trustees</u>	

Implementation Plan

Project 2017-02 Operating Personnel Credentials

Requested Approvals

- PER-003-2 Operating Personnel Credentials

Requested Retirements

- PER-003-1 Operating Personnel Credentials
- PER-004-2 Reliability Coordination - Staffing

Applicable Entities

- Reliability Coordinator
- Transmission Operator
- Balancing Authority

Effective Date

The effective date for proposed Reliability Standard PER-003-2 is provided below:

Where approval by an applicable governmental authority is required, Reliability Standard PER-003-2 shall become effective the first day of the first calendar quarter that is six (6) calendar months after the effective date of the applicable governmental authority's order approving the standards and terms, or as otherwise provided for by the applicable governmental authority.

Where approval by an applicable governmental authority is not required, Reliability Standard PER-003-2 shall become effective on the first day of the first calendar quarter that is six (6) calendar months after the date the standards and terms are adopted by the NERC Board of Trustees, or as otherwise provided for in that jurisdiction.

Retirement Date

Current NERC Reliability Standards

The existing standards PER-003-1 and PER-004-2 shall be retired immediately prior to the effective date of the proposed PER-003-2 standard.

Standards Announcement

Project 2017-02 Modifications to Personnel Performance, Training, and Qualifications Standards

Final Ballots Open through April 12, 2018

Now Available

Final ballots for the following are open through **8 p.m. Eastern, Thursday, April 12, 2018**.

- PER-003-2 Operating Personnel Credentials
- PER-003-1 Operating Personnel Credentials – Retirement
- PER-004-2 Reliability Coordination-Staffing – Retirement

Balloting

In the final ballot, votes are counted by exception. Votes from the previous ballot are automatically carried over in the final ballot. Only members of the applicable ballot pools can cast a vote. Ballot pool members who previously voted have the option to change their vote in the final ballot. Ballot pool members who did not cast a vote during the previous ballot can vote in the final ballot.

Members of the ballot pool associated with this project can log in and submit their votes by accessing the Standards Balloting & Commenting System (SBS) [here](#). If you experience difficulties navigating the SBS, contact [Wendy Muller](#).

- *If you are having difficulty accessing the SBS due to a forgotten password, incorrect credential error messages, or system lock-out, contact NERC IT support directly at <https://support.nerc.net/> (Monday – Friday, 8 a.m. - 5 p.m. Eastern).*
- *Passwords expire every **6 months** and must be reset.*
- *The SBS is **not** supported for use on mobile devices.*
- *Please be mindful of ballot and comment period closing dates. We ask to **allow at least 48 hours** for NERC support staff to assist with inquiries. Therefore, it is recommended that users try logging into their SBS accounts **prior to the last day** of a comment/ballot period.*

Next Steps

The voting results will be posted and announced after the ballots close. If approved, the standard will be submitted to the Board of Trustees for adoption and then filed with the appropriate regulatory authorities.

For information on the Standards Development Process, refer to the [Standard Processes Manual](#).

For more information or assistance, contact Principal Technical Advisor, [Darrel Richardson](#) (via email), or at (609) 613-1848.

North American Electric Reliability Corporation
3353 Peachtree Rd, NE
Suite 600, North Tower
Atlanta, GA 30326
404-446-2560 | www.nerc.com

BALLOT RESULTS

Ballot Name: 2017-02 Modifications to Performance, Training, and Qualifications Standards PER-003-2 FN 2 ST

Voting Start Date: 4/3/2018 9:59:08 AM

Voting End Date: 4/12/2018 8:00:00 PM

Ballot Type: ST

Ballot Activity: FN

Ballot Series: 2

Total # Votes: 218

Total Ballot Pool: 257

Quorum: 84.82

Weighted Segment Value: 96.64

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	70	1	54	0.947	3	0.053	0	1	12
Segment: 2	7	0.4	4	0.4	0	0	0	0	3
Segment: 3	55	1	44	0.936	3	0.064	0	1	7
Segment: 4	13	1	10	1	0	0	0	0	3
Segment: 5	59	1	45	0.957	2	0.043	0	3	9
Segment: 6	43	1	36	0.947	2	0.053	0	0	5
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment: 9	1	0.1	1	0.1	0	0	0	0	0

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 10	7	0.6	6	0.6	0	0	0	1	0
Totals:	257	6.3	202	6.088	10	0.212	0	6	39

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Negative	N/A
1	Allete - Minnesota Power, Inc.	Jamie Monette		None	N/A
1	Ameren - Ameren Services	Eric Scott		Negative	N/A
1	American Transmission Company, LLC	Douglas Johnson		Affirmative	N/A
1	APS - Arizona Public Service Co.	Michelle Amaranos		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	John Shaver		Affirmative	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	BC Hydro and Power Authority	Patricia Robertson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Black Hills Corporation	Wes Wingen		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		Affirmative	N/A
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	Cleco Corporation	John Lindsey	Louis Guidry	Affirmative	N/A
1	CMS Energy - Consumers Energy Company	James Anderson		Affirmative	N/A
1	Colorado Springs Utilities	Devin Elverdi		None	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	Corn Belt Power Cooperative	larry brusseau		None	N/A
1	Dairyland Power Cooperative	Robert Roddy		Affirmative	N/A
1	Duke Energy	Laura Lee		Affirmative	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Eversource Energy	Quintin Lee		Affirmative	N/A
1	Exelon	Chris Scanlon		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Karen Yoder		Affirmative	N/A
1	Great Plains Energy - Kansas City Power and Light Co.	James McBee	Douglas Webb	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Hydro One Networks, Inc.	Payam Farahbakhsh	Oshani Pathirane	Affirmative	N/A
1	IDACORP - Idaho Power Company	Laura Nelson		Affirmative	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Stephanie Burns	Affirmative	N/A
1	JEA	Ted Hobson		None	N/A
1	Lakeland Electric	Larry Watt		Affirmative	N/A
1	Lincoln Electric System	Danny Pudenz		None	N/A
1	Long Island Power Authority	Robert Ganley		Affirmative	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		Affirmative	N/A
1	Manitoba Hydro	Mike Smith		None	N/A
1	MEAG Power	David Weekley	Scott Miller	Abstain	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard		Affirmative	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Affirmative	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Omaha Public Power District	Doug Peterchuck		None	N/A
1	Oncor Electric Delivery	Lee Maurer	Tammy Porter	None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
1	Peak Reliability	Scott Downey		None	N/A
1	Platte River Power Authority	Matt Thompson		Affirmative	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		Affirmative	N/A
1	PPL Electric Utilities Corporation	Brenda Truhe		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Affirmative	N/A
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
1	Public Utility District No. 1 of Snohomish County	Long Duong		Affirmative	N/A
1	Puget Sound Energy, Inc.	Theresa Rakowsky		None	N/A
1	Sacramento Municipal Utility District	Arthur Starkovich	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Steven Cobb		Negative	N/A
1	Santee Cooper	Shawn Abrams		Affirmative	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		Affirmative	N/A
1	Seattle City Light	Pawel Krupa		Affirmative	N/A
1	Seminole Electric Cooperative, Inc.	Mark Churilla		Affirmative	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Katherine Prewitt		Affirmative	N/A
1	Southern Indiana Gas and Electric Co.	Steve Rawlinson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Affirmative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell		Affirmative	N/A
1	Tennessee Valley Authority	Howell Scott		Affirmative	N/A
1	Tri-State G and T Association, Inc.	Tracy Sliman		Affirmative	N/A
1	Westar Energy	Kevin Giles		Affirmative	N/A
1	Western Area Power Administration	sean erickson		Affirmative	N/A
1	Xcel Energy, Inc.	Dean Schiro		None	N/A
2	California ISO	Richard Vine		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	Midcontinent ISO, Inc.	Ellen Oswald		None	N/A
2	New York Independent System Operator	Gregory Campoli		None	N/A
2	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		None	N/A
3	AEP	Aaron Austin		Negative	N/A
3	Ameren - Ameren Services	David Jendras		Negative	N/A
3	APS - Arizona Public Service Co.	Vivian Vo		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		None	N/A
3	Austin Energy	W. Dwayne Preston		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	BC Hydro and Power Authority	Hootan Jarollahi		Affirmative	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Annette Johnston	Darnez Gresham	Affirmative	N/A
3	Black Hills Corporation	Eric Egge		Affirmative	N/A
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
3	City of Vero Beach	Ginny Beigel	Brandon McCormick	Affirmative	N/A
3	Clark Public Utilities	Jack Stamper		None	N/A
3	Cleco Corporation	Michelle Corley	Louis Guidry	Affirmative	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Affirmative	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Eversource Energy	Mark Kenny		None	N/A
3	Exelon	John Bee		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Affirmative	N/A
3	Great Plains Energy - Kansas City Power and Light Co.	John Carlson	Douglas Webb	Affirmative	N/A
3	Great River Energy	Brian Glover		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski	Oshani Pathirane	None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Lincoln Electric System	Jason Fortik		Affirmative	N/A
3	Manitoba Hydro	Karim Abdel-Hadi		None	N/A
3	MEAG Power	Roger Brand	Scott Miller	Abstain	N/A
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Affirmative	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Aimee Harris		Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	OTP - Otter Tail Power Company	Wendi Olson		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Affirmative	N/A
3	Platte River Power Authority	Jeff Landis		Affirmative	N/A
3	PNM Resources - Public Service Company of New Mexico	Lynn Goldstein		Affirmative	N/A
3	Portland General Electric Co.	Angela Gaines		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Affirmative	N/A
3	Puget Sound Energy, Inc.	Lynda Kupfer		None	N/A
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Robert Kondziolka		Negative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Santee Cooper	James Poston		Affirmative	N/A
3	SCANA - South Carolina Electric and Gas Co.	Clay Young		Affirmative	N/A
3	Seattle City Light	Tuan Tran		Affirmative	N/A
3	Sempra - San Diego Gas and Electric	Bridget Silvia		Affirmative	N/A
3	Snohomish County PUD No. 1	Mark Oens		Affirmative	N/A
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Southern Indiana Gas and Electric Co.	Fred Frederick		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Affirmative	N/A
3	Tennessee Valley Authority	Ian Grant		Affirmative	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
3	Westar Energy	Bo Jones		Affirmative	N/A
3	Xcel Energy, Inc.	Michael Ibold		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Affirmative	N/A
4	Austin Energy	Esther Weekes		None	N/A
4	CMS Energy - Consumers Energy Company	Theresa Martinez		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Aubrey Short		Affirmative	N/A
4	Florida Municipal Power Agency	Carol Chinn		None	N/A
4	Georgia System Operations Corporation	Guy Andrews		Affirmative	N/A
4	Illinois Municipal Electric Agency	Mary Ann Todd		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Affirmative	N/A
4	Sacramento Municipal Utility District	Beth Tincher	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Affirmative	N/A
4	WEC Energy Group, Inc.	Anthony Jankowski		Affirmative	N/A
5	AEP	Thomas Foltz		Negative	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Abstain	N/A
5	APS - Arizona Public Service Co.	Kelsi Rigby		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Affirmative	N/A
5	Berkshire Hathaway - NV Energy	Kevin Salsbury	Jamie Lynn Bussin	Affirmative	N/A
5	Black Hills Corporation	George Tatar		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Affirmative	N/A
5	Bonneville Power Administration	Scott Winner		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Affirmative	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		None	N/A
5	City of Independence, Power and Light Department	Jim Nail		None	N/A
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		Affirmative	N/A
5	Con Ed - Consolidated Edison Co. of New York	William Winters	Alyson Slanover	Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Lou Oberski		Affirmative	N/A
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Exelon	Ruth Miller		Affirmative	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Affirmative	N/A
5	Florida Municipal Power Agency	Chris Gowder	Brandon McCormick	Affirmative	N/A
5	Great Plains Energy - Kansas City Power and Light Co.	Harold Wyble	Douglas Webb	Affirmative	N/A
5	Great River Energy	Preston Walsh		Affirmative	N/A
5	JEA	John Babik		Affirmative	N/A
5	Kissimmee Utility Authority	Mike Blough		None	N/A
5	Lakeland Electric	Jim Howard		Affirmative	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		None	N/A
5	Lower Colorado River Authority	Teresa Cantwell		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	MEAG Power	Steven Grego	Scott Miller	Abstain	N/A
5	Muscatine Power and Water	Neal Nelson		None	N/A
5	Nebraska Public Power District	Don Schmit		Affirmative	N/A
5	New York Power Authority	Erick Barrios		Affirmative	N/A
5	NextEra Energy	Allen Schriver		None	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	John Rhea		Affirmative	N/A
5	Ontario Power Generation Inc.	David Ramkalawan		Affirmative	N/A
5	OTP - Otter Tail Power Company	Cathy Fogale		Affirmative	N/A
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	Portland General Electric Co.	Ryan Olson		Affirmative	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		Affirmative	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Affirmative	N/A
5	Puget Sound Energy, Inc.	Eleanor Ewry		None	N/A
5	Sacramento Municipal Utility District	Susan Oto	Joe Tarantino	Affirmative	N/A
5	Salt River Project	Kevin Nielsen		Negative	N/A
5	SCANA - South Carolina Electric and Gas Co.	Alyssa Hubbard		Affirmative	N/A
5	Seattle City Light	Mike Haynes		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Seminole Electric Cooperative, Inc.	Brenda Atkins		Affirmative	N/A
5	Sempra - San Diego Gas and Electric	Daniel Frank		Affirmative	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Southern Indiana Gas and Electric Co.	Mark McDonald		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Affirmative	N/A
5	U.S. Bureau of Reclamation	Wendy Center		None	N/A
5	WEC Energy Group, Inc.	Linda Horn		Affirmative	N/A
5	Westar Energy	Laura Cox		Affirmative	N/A
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
6	AEP - AEP Marketing	Yee Chou		Negative	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Negative	N/A
6	APS - Arizona Public Service Co.	Jonathan Aragon		Affirmative	N/A
6	Berkshire Hathaway - PacifiCorp	Sandra Shaffer		Affirmative	N/A
6	Black Hills Corporation	Eric Scherr		Affirmative	N/A
6	Bonneville Power Administration	Andrew Meyers		Affirmative	N/A
6	Cleco Corporation	Robert Hirchak	Louis Guidry	Affirmative	N/A
6	Colorado Springs Utilities	Shannon Fair		Affirmative	N/A
6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Affirmative	N/A
6	Duke Energy	Greg Cecil		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Affirmative	N/A
6	Great Plains Energy - Kansas City Power and Light Co.	Jennifer Flandermeyer	Douglas Webb	Affirmative	N/A
6	Great River Energy	Donna Stephenson	Michael Brytowski	Affirmative	N/A
6	Lakeland Electric	Paul Shipps		Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Affirmative	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Affirmative	N/A
6	Luminant - Luminant Energy	Brenda Hampton		None	N/A
6	Manitoba Hydro	Blair Mukanik		None	N/A
6	Modesto Irrigation District	James McFall	Nick Braden	Affirmative	N/A
6	Muscatine Power and Water	Ryan Streck		Affirmative	N/A
6	New York Power Authority	Shivaz Chopra		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Affirmative	N/A
6	Portland General Electric Co.	Daniel Mason		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Karla Barton		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		None	N/A
6	Sacramento Municipal Utility District	Jamie Cutlip	Joe Tarantino	Affirmative	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Michael Brown		Affirmative	N/A
6	SCANA - South Carolina Electric and Gas Co.	John Folsom		Affirmative	N/A
6	Seattle City Light	Charles Freeman		Affirmative	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Affirmative	N/A
6	Snohomish County PUD No. 1	Franklin Lu		Affirmative	N/A
6	Southern Company - Southern Company Generation and Energy Marketing	Jennifer Sykes		Affirmative	N/A
6	Southern Indiana Gas and Electric Co.	Brad Lisembee		Affirmative	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Affirmative	N/A
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
6	Westar Energy	Megan Wagner		None	N/A
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Roger Zaklukiewicz	Roger Zaklukiewicz		Affirmative	N/A
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Drew Slabaugh		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Abstain	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Affirmative	N/A

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BALLOT RESULTS

Ballot Name: 2017-02 Modifications to Performance, Training, and Qualifications Standards Implementation Plan FN 2 OT

Voting Start Date: 4/3/2018 10:00:31 AM

Voting End Date: 4/12/2018 8:00:00 PM

Ballot Type: OT

Ballot Activity: FN

Ballot Series: 2

Total # Votes: 213

Total Ballot Pool: 251

Quorum: 84.86

Weighted Segment Value: 97.88

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 1	68	1	50	0.962	2	0.038	0	3	13
Segment: 2	7	0.4	4	0.4	0	0	0	0	3
Segment: 3	53	1	41	0.953	2	0.047	0	3	7
Segment: 4	13	1	10	1	0	0	0	0	3
Segment: 5	57	1	45	0.978	1	0.022	0	4	7
Segment: 6	43	1	36	0.973	1	0.027	0	1	5
Segment: 7	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment: 9	1	0.1	1	0.1	0	0	0	0	0

Segment	Ballot Pool	Segment Weight	Affirmative Votes	Affirmative Fraction	Negative Votes w/ Comment	Negative Fraction w/ Comment	Negative Votes w/o Comment	Abstain	No Vote
Segment: 10	7	0.6	6	0.6	0	0	0	1	0
Totals:	251	6.3	195	6.166	6	0.134	0	12	38

BALLOT POOL MEMBERS

Show entries

Search:

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	AEP - AEP Service Corporation	Dennis Sauriol		Abstain	N/A
1	Allete - Minnesota Power, Inc.	Jamie Monette		None	N/A
1	Ameren - Ameren Services	Eric Scott		Negative	N/A
1	American Transmission Company, LLC	Douglas Johnson		Affirmative	N/A
1	APS - Arizona Public Service Co.	Michelle Amarantos		Affirmative	N/A
1	Arizona Electric Power Cooperative, Inc.	John Shaver		Affirmative	N/A
1	Balancing Authority of Northern California	Kevin Smith	Joe Tarantino	Affirmative	N/A
1	BC Hydro and Power Authority	Patricia Robertson		Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Berkshire Hathaway Energy - MidAmerican Energy Co.	Terry Harbour		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers-Holliday		Affirmative	N/A
1	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A
1	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
1	Cleco Corporation	John Lindsey	Louis Guidry	Affirmative	N/A
1	CMS Energy - Consumers Energy Company	James Anderson		Affirmative	N/A
1	Colorado Springs Utilities	Devin Elverdi		None	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
1	Corn Belt Power Cooperative	larry brusseau		None	N/A
1	Dairyland Power Cooperative	Robert Roddy		Affirmative	N/A
1	Duke Energy	Laura Lee		Affirmative	N/A
1	Edison International - Southern California Edison Company	Steven Mavis		Affirmative	N/A
1	Entergy - Entergy Services, Inc.	Oliver Burke		Affirmative	N/A
1	Eversource Energy	Quintin Lee		Affirmative	N/A
1	Exelon	Chris Scanlon		Affirmative	N/A
1	FirstEnergy - FirstEnergy Corporation	Karen Yoder		Affirmative	N/A
1	Great Plains Energy - Kansas City Power and Light Co.	James McBee	Douglas Webb	Affirmative	N/A
1	Hydro One Networks, Inc.	Pavam Farahbakhsh	Oshani Pathirane	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	IDACORP - Idaho Power Company	Laura Nelson		Affirmative	N/A
1	International Transmission Company Holdings Corporation	Michael Moltane	Stephanie Burns	Affirmative	N/A
1	JEA	Ted Hobson		None	N/A
1	Lakeland Electric	Larry Watt		Affirmative	N/A
1	Lincoln Electric System	Danny Pudenz		None	N/A
1	Long Island Power Authority	Robert Ganley		Affirmative	N/A
1	Los Angeles Department of Water and Power	faranak sarbaz		Affirmative	N/A
1	Manitoba Hydro	Mike Smith		None	N/A
1	MEAG Power	David Weekley	Scott Miller	Abstain	N/A
1	Minnkota Power Cooperative Inc.	Theresa Allard		Affirmative	N/A
1	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
1	National Grid USA	Michael Jones		Affirmative	N/A
1	Nebraska Public Power District	Jamison Cawley		Affirmative	N/A
1	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
1	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Affirmative	N/A
1	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
1	Omaha Public Power District	Doug Peterchuck		None	N/A
1	Oncor Electric Delivery	Lee Maurer	Tammy Porter	None	N/A
1	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Peak Reliability	Scott Downey		None	N/A
1	PNM Resources - Public Service Company of New Mexico	Laurie Williams		Affirmative	N/A
1	PPL Electric Utilities Corporation	Brenda Truhe		Affirmative	N/A
1	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Affirmative	N/A
1	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
1	Public Utility District No. 1 of Snohomish County	Long Duong		Affirmative	N/A
1	Puget Sound Energy, Inc.	Theresa Rakowsky		None	N/A
1	Sacramento Municipal Utility District	Arthur Starkovich	Joe Tarantino	Affirmative	N/A
1	Salt River Project	Steven Cobb		Negative	N/A
1	Santee Cooper	Shawn Abrams		Affirmative	N/A
1	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		None	N/A
1	Seattle City Light	Pawel Krupa		Affirmative	N/A
1	Seminole Electric Cooperative, Inc.	Mark Churilla		Affirmative	N/A
1	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
1	Southern Company - Southern Company Services, Inc.	Katherine Prewitt		Affirmative	N/A
1	Southern Indiana Gas and Electric Co.	Steve Rawlinson		Affirmative	N/A
1	Sunflower Electric Power Corporation	Paul Mehlhaff		Affirmative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	John Merrell		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
1	Tennessee Valley Authority	Howell Scott		Affirmative	N/A
1	Tri-State G and T Association, Inc.	Tracy Sliman		Affirmative	N/A
1	Westar Energy	Kevin Giles		Affirmative	N/A
1	Western Area Power Administration	sean erickson		Affirmative	N/A
1	Xcel Energy, Inc.	Dean Schiro		None	N/A
2	California ISO	Richard Vine		Affirmative	N/A
2	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Affirmative	N/A
2	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
2	Midcontinent ISO, Inc.	Ellen Oswald		None	N/A
2	New York Independent System Operator	Gregory Campoli		None	N/A
2	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
2	Southwest Power Pool, Inc. (RTO)	Charles Yeung		None	N/A
3	AEP	Aaron Austin		Abstain	N/A
3	Ameren - Ameren Services	David Jendras		Negative	N/A
3	APS - Arizona Public Service Co.	Vivian Vo		Affirmative	N/A
3	Associated Electric Cooperative, Inc.	Todd Bennett		None	N/A
3	Austin Energy	W. Dwayne Preston		None	N/A
3	BC Hydro and Power Authority	Hootan Jarollahi		Abstain	N/A
3	Berkshire Hathaway Energy - MidAmerican Energy Co.	Annette Johnston	Darnez Gresham	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Black Hills Corporation	Eric Egge		Affirmative	N/A
3	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
3	City of Vero Beach	Ginny Beigel	Brandon McCormick	Affirmative	N/A
3	Clark Public Utilities	Jack Stamper		None	N/A
3	Cleco Corporation	Michelle Corley	Louis Guidry	Affirmative	N/A
3	CMS Energy - Consumers Energy Company	Karl Blaszkowski		Affirmative	N/A
3	Con Ed - Consolidated Edison Co. of New York	Peter Yost		Affirmative	N/A
3	Dominion - Dominion Resources, Inc.	Connie Lowe		Affirmative	N/A
3	DTE Energy - Detroit Edison Company	Karie Barczak		Affirmative	N/A
3	Duke Energy	Lee Schuster		Affirmative	N/A
3	Eversource Energy	Mark Kenny		None	N/A
3	Exelon	John Bee		Affirmative	N/A
3	FirstEnergy - FirstEnergy Corporation	Aaron Ghodooshim		Affirmative	N/A
3	Georgia System Operations Corporation	Scott McGough		Affirmative	N/A
3	Great Plains Energy - Kansas City Power and Light Co.	John Carlson	Douglas Webb	Affirmative	N/A
3	Great River Energy	Brian Glover		Affirmative	N/A
3	Hydro One Networks, Inc.	Paul Malozewski	Oshani Pathirane	None	N/A
3	Lincoln Electric System	Jason Fortik		Affirmative	N/A
3	Manitoba Hydro	Karim Abdel-Hadi		None	N/A
3	MEAG Power	Roger Brand	Scott Miller	Abstain	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Muscatine Power and Water	Seth Shoemaker		Affirmative	N/A
3	National Grid USA	Brian Shanahan		Affirmative	N/A
3	Nebraska Public Power District	Tony Eddleman		Affirmative	N/A
3	New York Power Authority	David Rivera		Affirmative	N/A
3	NiSource - Northern Indiana Public Service Co.	Aimee Harris		Affirmative	N/A
3	OGE Energy - Oklahoma Gas and Electric Co.	Donald Hargrove		Affirmative	N/A
3	OTP - Otter Tail Power Company	Wendi Olson		Affirmative	N/A
3	Owensboro Municipal Utilities	Thomas Lyons		Affirmative	N/A
3	Platte River Power Authority	Jeff Landis		Affirmative	N/A
3	PNM Resources - Public Service Company of New Mexico	Lynn Goldstein		Affirmative	N/A
3	Portland General Electric Co.	Angela Gaines		Affirmative	N/A
3	PPL - Louisville Gas and Electric Co.	Charles Freibert		Affirmative	N/A
3	PSEG - Public Service Electric and Gas Co.	Jeffrey Mueller		Affirmative	N/A
3	Puget Sound Energy, Inc.	Lynda Kupfer		None	N/A
3	Sacramento Municipal Utility District	Nicole Looney	Joe Tarantino	Affirmative	N/A
3	Salt River Project	Robert Kondziolka		Negative	N/A
3	Santee Cooper	James Poston		Affirmative	N/A
3	SCANA - South Carolina Electric and Gas Co.	Clay Young		Affirmative	N/A
3	Seattle City Light	Tuan Tran		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
3	Snohomish County PUD No. 1	Mark Oens		Affirmative	N/A
3	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
3	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Affirmative	N/A
3	Tennessee Valley Authority	Ian Grant		Affirmative	N/A
3	WEC Energy Group, Inc.	Thomas Breene		Affirmative	N/A
3	Westar Energy	Bo Jones		Affirmative	N/A
3	Xcel Energy, Inc.	Michael Ibold		Affirmative	N/A
4	Alliant Energy Corporation Services, Inc.	Larry Heckert		Affirmative	N/A
4	Austin Energy	Esther Weekes		None	N/A
4	CMS Energy - Consumers Energy Company	Theresa Martinez		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Aubrey Short		Affirmative	N/A
4	Florida Municipal Power Agency	Carol Chinn		None	N/A
4	Georgia System Operations Corporation	Guy Andrews		Affirmative	N/A
4	Illinois Municipal Electric Agency	Mary Ann Todd		None	N/A
4	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
4	Public Utility District No. 1 of Snohomish County	John Martinsen		Affirmative	N/A
4	Sacramento Municipal Utility District	Beth Tincher	Joe Tarantino	Affirmative	N/A
4	Seattle City Light	Hao Li		Affirmative	N/A
4	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
4	WEC Energy Group, Inc.	Anthony Jankowski		Affirmative	N/A
5	AEP	Thomas Foltz		Abstain	N/A
5	Ameren - Ameren Missouri	Sam Dwyer		Abstain	N/A
5	APS - Arizona Public Service Co.	Kelsi Rigby		Affirmative	N/A
5	Avista - Avista Corporation	Glen Farmer		Affirmative	N/A
5	Berkshire Hathaway - NV Energy	Kevin Salsbury	Jamie Lynn Bussin	Affirmative	N/A
5	Black Hills Corporation	George Tatar		Affirmative	N/A
5	Boise-Kuna Irrigation District - Lucky Peak Power Plant Project	Mike Kukla		Affirmative	N/A
5	Bonneville Power Administration	Scott Winner		Affirmative	N/A
5	Brazos Electric Power Cooperative, Inc.	Shari Heino		Affirmative	N/A
5	Choctaw Generation Limited Partnership, LLLP	Rob Watson		None	N/A
5	City of Independence, Power and Light Department	Jim Nail		None	N/A
5	Cleco Corporation	Stephanie Huffman	Louis Guidry	Affirmative	N/A
5	CMS Energy - Consumers Energy Company	David Greyerbiehl		Affirmative	N/A
5	Colorado Springs Utilities	Jeff Icke		Affirmative	N/A
5	Con Ed - Consolidated Edison Co. of New York	William Winters	Alyson Slanover	Affirmative	N/A
5	Dairyland Power Cooperative	Tommy Drea		Affirmative	N/A
5	Dominion - Dominion Resources, Inc.	Lou Oberski		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	DTE Energy - Detroit Edison Company	Jeffrey DePriest		Affirmative	N/A
5	Duke Energy	Dale Goodwine		Affirmative	N/A
5	Exelon	Ruth Miller		Affirmative	N/A
5	FirstEnergy - FirstEnergy Solutions	Robert Loy		Affirmative	N/A
5	Florida Municipal Power Agency	Chris Gowder	Brandon McCormick	Affirmative	N/A
5	Great Plains Energy - Kansas City Power and Light Co.	Harold Wyble	Douglas Webb	Affirmative	N/A
5	Great River Energy	Preston Walsh		Affirmative	N/A
5	JEA	John Babik		Affirmative	N/A
5	Kissimmee Utility Authority	Mike Blough		None	N/A
5	Lakeland Electric	Jim Howard		Affirmative	N/A
5	Lincoln Electric System	Kayleigh Wilkerson		Affirmative	N/A
5	Lower Colorado River Authority	Teresa Cantwell		Affirmative	N/A
5	Manitoba Hydro	Yuguang Xiao		None	N/A
5	Massachusetts Municipal Wholesale Electric Company	David Gordon		Abstain	N/A
5	MEAG Power	Steven Grego	Scott Miller	Abstain	N/A
5	Nebraska Public Power District	Don Schmit		Affirmative	N/A
5	New York Power Authority	Erick Barrios		Affirmative	N/A
5	NextEra Energy	Allen Schriver		None	N/A
5	NiSource - Northern Indiana Public Service Co.	Kathryn Tackett		Affirmative	N/A
5	OGE Energy - Oklahoma Gas and Electric Co.	John Rhea		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Ontario Power Generation Inc.	David Ramkalawan		Affirmative	N/A
5	OTP - Otter Tail Power Company	Cathy Fogale		Affirmative	N/A
5	Platte River Power Authority	Tyson Archie		Affirmative	N/A
5	Portland General Electric Co.	Ryan Olson		Affirmative	N/A
5	PPL - Louisville Gas and Electric Co.	JULIE HOSTRANDER		Affirmative	N/A
5	PSEG - PSEG Fossil LLC	Tim Kucey		Affirmative	N/A
5	Public Utility District No. 1 of Snohomish County	Sam Nietfeld		Affirmative	N/A
5	Puget Sound Energy, Inc.	Eleanor Ewry		None	N/A
5	Sacramento Municipal Utility District	Susan Oto	Joe Tarantino	Affirmative	N/A
5	Salt River Project	Kevin Nielsen		Negative	N/A
5	SCANA - South Carolina Electric and Gas Co.	Alyssa Hubbard		Affirmative	N/A
5	Seattle City Light	Mike Haynes		Affirmative	N/A
5	Seminole Electric Cooperative, Inc.	Brenda Atkins		Affirmative	N/A
5	Sempra - San Diego Gas and Electric	Daniel Frank		Affirmative	N/A
5	Southern Company - Southern Company Generation	William D. Shultz		Affirmative	N/A
5	Tennessee Valley Authority	M Lee Thomas		Affirmative	N/A
5	U.S. Bureau of Reclamation	Wendy Center		None	N/A
5	WEC Energy Group, Inc.	Linda Horn		Affirmative	N/A
5	Westar Energy	Laura Cox		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
6	AEP - AEP Marketing	Yee Chou		Abstain	N/A
6	Ameren - Ameren Services	Robert Quinlivan		Negative	N/A
6	APS - Arizona Public Service Co.	Jonathan Aragon		Affirmative	N/A
6	Berkshire Hathaway - PacifiCorp	Sandra Shaffer		Affirmative	N/A
6	Black Hills Corporation	Eric Scherr		Affirmative	N/A
6	Bonneville Power Administration	Andrew Meyers		Affirmative	N/A
6	Cleco Corporation	Robert Hirschak	Louis Guidry	Affirmative	N/A
6	Colorado Springs Utilities	Shannon Fair		Affirmative	N/A
6	Con Ed - Consolidated Edison Co. of New York	Robert Winston		Affirmative	N/A
6	Dominion - Dominion Resources, Inc.	Sean Bodkin		Affirmative	N/A
6	Duke Energy	Greg Cecil		Affirmative	N/A
6	Exelon	Becky Webb		Affirmative	N/A
6	FirstEnergy - FirstEnergy Solutions	Ann Ivanc		Affirmative	N/A
6	Great Plains Energy - Kansas City Power and Light Co.	Jennifer Flandermeyer	Douglas Webb	Affirmative	N/A
6	Great River Energy	Donna Stephenson	Michael Brytowski	Affirmative	N/A
6	Lakeland Electric	Paul Shipps		Affirmative	N/A
6	Lincoln Electric System	Eric Ruskamp		Affirmative	N/A
6	Los Angeles Department of Water and Power	Anton Vu		Affirmative	N/A
6	Luminant - Luminant Energy	Brenda Hampton		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Manitoba Hydro	Blair Mukanik		None	N/A
6	Modesto Irrigation District	James McFall	Nick Braden	Affirmative	N/A
6	Muscatine Power and Water	Ryan Streck		Affirmative	N/A
6	New York Power Authority	Shivaz Chopra		Affirmative	N/A
6	NextEra Energy - Florida Power and Light Co.	Silvia Mitchell		Affirmative	N/A
6	NiSource - Northern Indiana Public Service Co.	Joe O'Brien		Affirmative	N/A
6	OGE Energy - Oklahoma Gas and Electric Co.	Sing Tay		Affirmative	N/A
6	Portland General Electric Co.	Daniel Mason		Affirmative	N/A
6	PPL - Louisville Gas and Electric Co.	Linn Oelker		Affirmative	N/A
6	PSEG - PSEG Energy Resources and Trade LLC	Karla Barton		Affirmative	N/A
6	Public Utility District No. 2 of Grant County, Washington	LeRoy Patterson		None	N/A
6	Sacramento Municipal Utility District	Jamie Cutlip	Joe Tarantino	Affirmative	N/A
6	Salt River Project	Bobby Olsen		None	N/A
6	Santee Cooper	Michael Brown		Affirmative	N/A
6	SCANA - South Carolina Electric and Gas Co.	John Folsom		Affirmative	N/A
6	Seattle City Light	Charles Freeman		Affirmative	N/A
6	Seminole Electric Cooperative, Inc.	Trudy Novak		Affirmative	N/A
6	Snohomish County PUD No. 1	Franklin Lu		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
6	Southern Company - Southern Company Generation and Energy Marketing	Jennifer Sykes		Affirmative	N/A
6	Southern Indiana Gas and Electric Co.	Brad Lisembee		Affirmative	N/A
6	Tennessee Valley Authority	Marjorie Parsons		Affirmative	N/A
6	WEC Energy Group, Inc.	David Hathaway		Affirmative	N/A
6	Westar Energy	Megan Wagner		None	N/A
6	Xcel Energy, Inc.	Carrie Dixon		Affirmative	N/A
8	David Kiguel	David Kiguel		Affirmative	N/A
8	Roger Zaklukiewicz	Roger Zaklukiewicz		Affirmative	N/A
9	Commonwealth of Massachusetts Department of Public Utilities	Donald Nelson		Affirmative	N/A
10	Midwest Reliability Organization	Russel Mountjoy		Affirmative	N/A
10	New York State Reliability Council	ALAN ADAMSON		Affirmative	N/A
10	Northeast Power Coordinating Council	Guy V. Zito		Affirmative	N/A
10	ReliabilityFirst	Anthony Jablonski		Affirmative	N/A
10	SERC Reliability Corporation	Drew Slabaugh		Affirmative	N/A
10	Texas Reliability Entity, Inc.	Rachel Coyne		Abstain	N/A
10	Western Electricity Coordinating Council	Steven Rueckert		Affirmative	N/A

Exhibit E

Standard Drafting Team Roster for Project 2017-02

Drafting Team Roster

Project 2017-02 Modifications to Personnel Performance, Training, and Qualifications Standards

	Name	Entity
Members	Patty Metro	National Rural Electric Cooperative Association
	Lauri Jones	Pacific Gas and Electric Company
	Heather Morgan	EDP Renewables North America LLC
	Jeffrey Sunvick	Western Area Power Administration
	Jimmy Womack	Southwest Power Pool
	Brad Perrett	Minnesota Power
	Carolyn White-Wilson	Duke Energy
	Donald Wallin	PJM Interconnection
	Danny W. Johnson	Excel Energy
	NERC Staff	Darrel Richardson, Principal Technical Advisor
Nina Jenkins-Johnston, Senior Counsel		North American Electric Reliability Corporation