## UNITED STATES OF AMERICA BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

North American Electric Reliability	)	Docket No
Corporation	)	

# PETITION OF THE NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION FOR APPROVAL OF PROPOSED RELIABILITY STANDARD PER-003-2 AND RETIREMENT OF RELIABILITY STANDARD PER-004-2

Nina Jenkins-Johnston
Senior Counsel
North American Electric Reliability
Corporation
3353 Peachtree Road, N.E.
Suite 600, North Tower
Atlanta, GA 30326
(404) 446-9650
nina.johnston@nerc.net

Counsel for the North American Electric Reliability Corporation

July 23, 2018

#### TABLE OF CONTENTS

I.	BACKG	ROUND	3
A	A. Regi	ulatory Framework	3
E	B. NER	RC Reliability Standards Development Procedure	4
II. III.		CATION FOR PROPOSED RELIABILITY STANDARD PER-003-2 CATION FOR THE RETIREMENT OF RELIABILITY STANDARD PER-004-2	
	A. The	Requirement for Adequately Trained and NERC-Certified Operators is Redundant Reliability Standards	
S L	Seven Days Limits, Inte	Requirements for Reliability Coordinators to Staff Operators 24 Hours a Day, so Per Week and to Have the Best Available Information around System Operating erconnection Reliability Operating Limits, and Inter-Tie Facility Limits are with other Reliability Standards.	7
IV.		TVE DATE	
V.	CONCL	USION	9
Exl	nibit A	Proposed Reliability Standard PER-003-2 – Personnel Credentials	
Exl	nibit B	Implementation Plan for Proposed Reliability Standard PER-003-2	
Exl	nibit C	Order No. 672 Criteria for Proposed Reliability Standard PER-003-2	
Exl	nibit D	Summary of Development History and Complete Record of Development	
Exl	nibit E	Standard Drafting Team Roster for Project 2017-02	

# UNITED STATES OF AMERICA BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

North American Electric Reliability	)	<b>Docket No.</b>
Corporation	)	

# PETITION OF THE NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION FOR APPROVAL OF PROPOSED RELIABILITY STANDARD PER-003-2 AND RETIREMENT OF RELIABILITY STANDARD PER-004-2

Pursuant to Section 215(d)(1) of the Federal Power Act ("FPA")<sup>1</sup> and Section 39.5<sup>2</sup> of the Federal Energy Regulatory Commission's ("FERC" or "Commission") regulations, the North American Electric Reliability Corporation ("NERC")<sup>3</sup> hereby submits for Commission approval proposed Reliability Standard PER-003-2 (*Operating Personnel Credentials*). NERC requests that the Commission approve the proposed Reliability Standard (**Exhibit A**) as just, reasonable, not unduly discriminatory or preferential, and in the public interest. NERC also proposes that the Commission approve the associated implementation plan (**Exhibit B**) and the retirement of the currently-effective Reliability Standards PER-003-1 and PER-004-2, upon Commission approval of the proposed Reliability Standard.

Pursuant to Section 39.5(a) of the Commission's regulations,<sup>4</sup> this Petition presents the technical basis and purpose of proposed Reliability Standard PER-003-2, a summary of the development history (**Exhibit D**), and a demonstration that the proposed Reliability Standard

<sup>&</sup>lt;sup>1</sup> 16 U.S.C. § 824o (2012).

<sup>&</sup>lt;sup>2</sup> 18 C.F.R. § 39.5 (2018).

The Commission certified NERC as the electric reliability organization ("ERO") in accordance with Section 215 of the FPA on July 20, 2006. *N. Am. Elec. Reliability Corp.*, 116 FERC ¶ 61,062 (2006).

<sup>&</sup>lt;sup>4</sup> 18 C.F.R. § 39.5(a).

meets the criteria identified by the Commission in Order No. 672 (**Exhibit C**).<sup>5</sup> The NERC Board of Trustees ("Board") adopted the proposed PER-003-2 Reliability Standard on May 10, 2018.

The purpose of proposed Reliability Standard PER-003-2 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 ("BES"). The proposed Reliability Standard was developed following a periodic review of currently effective Reliability Standard PER-003-1. The proposed revision reflects the recommendation of the Project 2016 EPR-01 PER Periodic Review Team 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.

NERC also proposes to implement the recommendation of the Enhanced Periodic Review of Personnel, Performance, Training, and Qualifications Standards Team in Project 2016-EPR-01 ("PER PRT") to retire Reliability Standard PER-004-2. This Reliability Standard falls within Paragraph 81 Criterion B7, because its Requirements are redundant with Requirements in other FERC-approved Reliability Standards that are in effect or that will soon take effect.

For reasons discussed more fully in this Petition, NERC respectfully requests that the Commission approve proposed Reliability Standard PER-003-2 and the retirement of PER-003-1

2

The Commission specified in Order No. 672 certain general factors it would consider when assessing whether a particular Reliability Standard is just and reasonable. *See Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672, FERC Stats. & Regs. ¶ 31,204, at PP 262, 321-37, *order on reh'g*, Order No. 672-A, FERC Stats. & Regs. ¶ 31,212 (2006).

and PER-004-2 as just, reasonable, not unduly discriminatory or preferential, and in the public interest.

#### I. <u>BACKGROUND</u>

#### A. Regulatory Framework

In the Energy Policy Act of 2005,<sup>6</sup> Congress entrusted the Commission with the duties of approving and enforcing rules to ensure the reliability of the Bulk Power System ("BPS"). Congress also entrusted the Commission with certifying an Electric Reliability Organization ("ERO") charged with developing and enforcing mandatory Reliability Standards, subject to Commission approval. Section 215(b)(1) of the FPA states that all users, owners, and operators of the BPS in the United States will be subject to Commission-approved Reliability Standards.<sup>7</sup> Section 215(d)(5) of the FPA authorizes the Commission to order the ERO to submit a new or modified Reliability Standard.<sup>8</sup> Section 39.5(a) of the Commission's regulations requires the ERO to file with the Commission for its approval each Reliability Standard that the ERO proposes should become mandatory and enforceable in the United States and each modification to a Reliability Standard that the ERO proposes should be made effective.<sup>9</sup>

The Commission is vested with the regulatory responsibility to approve Reliability Standards that protect the reliability of the BPS and to ensure that such Reliability Standards are just, reasonable, not unduly discriminatory or preferential, and in the public interest. Pursuant to Section 215(d)(2) of the FPA <sup>10</sup> and Section 39.5(c) of the Commission's regulations, "the

<sup>6 16</sup> U.S.C. § 824o.

<sup>&</sup>lt;sup>7</sup> *Id.* § 824o(b)(1).

<sup>8</sup> *Id.* § 824o(d)(5).

<sup>&</sup>lt;sup>9</sup> 18 C.F.R. § 39.5(a).

<sup>&</sup>lt;sup>10</sup> 16 U.S.C. § 824o(d)(2).

Commission will give due weight to the technical expertise of the Electric Reliability Organization" with respect to the content of a Reliability Standard.<sup>11</sup>

#### **B.** NERC Reliability Standards Development Procedure

The proposed Reliability Standard was developed in an open and fair manner and in accordance with the Commission-approved Reliability Standard development process. <sup>12</sup> NERC develops Reliability Standards in accordance with Section 300 (Reliability Standards Development) of its Rules of Procedure and the NERC Standard Processes Manual. <sup>13</sup>

In its order certifying NERC as the Commission's ERO, the Commission found that NERC's proposed rules provide for reasonable notice and opportunity for public comment, due process, openness, and a balance of interests in developing Reliability Standards, <sup>14</sup> and thus satisfy certain of the criteria for approving Reliability Standards. <sup>15</sup> The development process is open to any person or entity with a legitimate interest in the reliability of the BPS. NERC considers the comments of all stakeholders, and stakeholders must approve, and the NERC Board must adopt, a Reliability Standard before the standard is submitted to the Commission for approval.

#### II. JUSTIFICATION FOR PROPOSED RELIABILITY STANDARD PER-003-2

As discussed below and in **Exhibit C**, proposed Reliability Standard PER-003-2 satisfies the Commission's criteria in Order No. 672 and is just, reasonable, not unduly discriminatory or preferential, and in the public interest.

<sup>18</sup> C.F.R. § 39.5(c)(1).

Order No. 672, Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards, at P 334, FERC Stats. & Regs. ¶ 31,204, order on reh'g, Order No. 672-A, FERC Stats. & Regs. ¶ 31,212 (2006).

The ROP is available at http://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx. The NERC Standard Processes Manual is available at

 $http://www.nerc.com/comm/SC/Documents/Appendix\_3A\_StandardsProcessesManual.pdf.$ 

<sup>&</sup>lt;sup>14</sup> N. Am. Elec. Reliability Corp., 116 FERC ¶ 61,062 at P 250 (2006).

Order No. 672 at PP 268, 270.

The requirements in proposed Reliability Standard PER-003-2 remain unchanged from currently effective Reliability Standard PER-003-1. The only proposed modification to the PER-003 standard is to add the following footnote to each requirements: "The NERC certificates referenced in this standard pertain to those certificates identified in the NERC System Operator Certification Program Manual." The intent of the Standard Drafting Team is to reflect the certifications referenced in the NERC System Operator Certification Program Manual. This proposed footnote provides context for the references to NERC "certificates" in Requirements R1, R2, and R3. No other components of the manual are incorporated into the proposed standard. This clarification aligns with the PER-003 Reliability Standards Audit Worksheet auditor guidance, which provides that the "...Audit Team may contact NERC to confirm the certification information is valid."

## III. <u>JUSTIFICATION FOR THE RETIREMENT OF RELIABILITY STANDARD PER-004-2</u>

On March 16, 2007, the Commission issued Order No. 693, approving 83 of the 107 Reliability Standards filed by NERC<sup>16</sup>, including the four PER Reliability Standards: PER-001-0, PER-002-0, PER-003-0, and PER-004-1. <sup>17</sup> In Order No. 742, the Commission approved currently-effective Reliability Standard PER-004-2, which includes two requirements. <sup>18</sup> Requirement R1 provides that, [e]ach Reliability Coordinator shall be staffed with adequately trained and NERC-certified Reliability Coordinator operators, 24 hours per day, seven days per week. Requirement R2 provides that, Reliability Coordinator operating personnel shall place particular attention on [System Operating Limits] and [Interconnection Reliability Operating

Order No. 693, Mandatory Reliability Standards for the Bulk-Power System, 72 Fed. Reg. 16415 (2007), FERC Stats. & Regs. ¶ 31,242, order on reh'g, Order No. 693-A, 120 FERC ¶ 61,053 (2007).

Order No. 693, FERC Stats. & Regs. ¶ 31,242 at P 1330-1417.

Order No. 742, System Personnel Training Reliability Standards, 75 Fed. Reg. 72664 (2010).

Limits] and inter-tie facility limits. . .[and] shall ensure protocols are in place to allow Reliability Coordinator operating personnel to have the best available information at all times. NERC proposes to implement the PER PRT recommendation to retire Reliability Standard PER-004-2. This Reliability Standard falls within Paragraph 81 Criterion B7, because its requirements are redundant with requirements in other FERC-approved Reliability Standards that are in effect or that will soon take effect.

## A. The Requirement for Adequately Trained and NERC-Certified Operators is Redundant with other Reliability Standards.

PER-004-2 Requirement R1's provision to have "NERC-certified Reliability Coordinator Operators" is addressed in the currently-effective Reliability Standard PER-003-1 (*Operating Personnel Credentials*) Requirement R1, which 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. These System Operators include Reliability Coordinators.

PER-004-2 Requirement R1's provision to have "adequately trained .Reliability Coordinator Operators" is addressed in Reliability Standard PER-005-2 (*Operations Personnel Training*) Requirement R1, which states that each Reliability Coordinator shall design, develop and deliver training to its System Operators based on a list of BES company-specific Real-time reliability-related tasks. Additionally, PER-005-2 Requirement R3 states that Reliability Coordinators have to verify that their personnel are capable of performing each of those tasks. The training mandated by PER-005-2 incorporates reliability-related tasks tailored to the company needs of a given Reliability Coordinator.

B. The Requirements for Reliability Coordinators to Staff Operators 24 Hours a Day, Seven Days Per Week and to Have the Best Available Information around System Operating Limits, Interconnection Reliability Operating Limits, and Inter-Tie Facility Limits are Redundant with other Reliability Standards.

PER-004-2 Requirement R1 calls for staffing 24 hours per day, and seven days per week. Requirement R2 requires Reliability Coordinator operating personnel to examine System Operating Limits ("SOLs"), Interconnection Reliability Operating Limits ("IROLs") and inter-tie facility limit. These staffing and continuous monitoring requirements enable the Reliability Coordinator to maintain a Wide Area view of the BES and to prevent or mitigate emergency operating situations in real-time operations. Pursuant to a suite of requirements under Emergency Preparedness and Operations ("EOP") and Interconnection Reliability Operations and Coordination ("IRO") Reliability Standards, Reliability Coordinators must be continuously staffed with NERC certified Reliability operators, consistent with PER-004-2, to monitor facilities and analyze SOL and IROL. Failure to be continuously staffed with adequately trained NERC certified operators would result in a Reliability Coordinator's inability to meet their obligations under the EOP and IRO Reliability Standards, as discussed below.

Continuous monitoring is required under Reliability Standard EOP-004-3 (*Event Reporting*) to enable Reliability Coordinators to detect a complete loss of monitoring capability affecting a BES control center for 30 continuous minutes or more such that analysis capability is rendered inoperable. Any complete loss of monitoring for such period of time is a reportable event pursuant to EOP-004-3.

Reliability Standard IRO-002-5 (*Reliability Coordination – Monitoring and Analysis*) also requires Reliability Coordinators to continuously monitor and analyze data necessary to perform their function. Requirement R5 provides that each Reliability Coordinator must monitor Facilities, the status of Remedial Action Schemes, and non-BES facilities identified as necessary by the

Reliability Coordinator, within its Reliability Coordinator Area and neighboring Reliability Coordinator Areas. This monitoring enables Reliability Coordinators to identify any SOL and IROL exceedances within its Reliability Coordination Area.

Reliability Standard IRO 008-2 (*Reliability Coordinator Operational Analyses and Real-time Assessments*) similarly identifies the analyses that Reliability Coordinators must perform while monitoring the system to prevent instability, uncontrolled separation or cascading outages. Pursuant to Requirements R1, R2, and R4, the Reliability Coordinator must perform an Operational Planning Analysis to: (a) assess whether the planned operations for the next-day will exceed SOLs and IROLs within its Wide Area, (b) ensure that coordinated plans are developed for the next-day operations to address these exceedances, and (c) execute Real-time Assessments at least once every 30 minutes. Finally, Reliability Standard IRO-009-2 (*Reliability Coordinator Actions to Operate within IROLs*) requires Reliability Coordinators to have processes in place to take action, to direct others and to take action, or to mitigate the magnitude and duration of an IROL exceedance. A Reliability Coordinator would not be able to meet these obligations without being continuously staffed with NERC-certified operators on a 24/7 basis, consistent with PER-004-3.

Other Reliability Standards emphasize the need for a Reliability Coordinator to receive quality information, consistent with Requirement R2 of PER-004-2, to perform its function. Reliability Standard IRO-010-2 (*Reliability Coordinator Data Specification and Collection*) requires the Reliability Coordinator to collect data from specified entities to ensure it has the data necessary to perform Operational Planning Analyses, Real-time monitoring and Real-time Assessments. To maintain the validity of this data, the Reliability Coordinator must establish a protocol to resolve data conflicts. Reliability Standard IRO-018-1 (*Reliability Coordinator Real-*

time Reliability Monitoring and Analysis) also emphasizes the need to implement processes and procedures for evaluating the quality of Real-time data and to provide assurance that any action taken addresses data quality issues for Real-time monitoring and Real-time Assessments at all times. Finally, Reliability Standard IRO-014-3 (Coordination among Reliability Coordinators) 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.

#### IV. <u>EFFECTIVE DATE</u>

NERC respectfully requests that the Commission approve proposed Reliability Standard PER-003-2 to become effective as set forth in the proposed implementation plan, provided in Exhibit B hereto. The proposed implementation plan provide that the proposed Reliability Standard shall become effective on the first day of the first calendar quarter that is six calendar months after the effective date of the Commission's order approving the proposed Reliability Standard, or as otherwise provided for by the Commission.

#### V. <u>CONCLUSION</u>

For the reasons set forth above, NERC respectfully requests that the Commission approve proposed Reliability Standard PER-003-2 and associated elements, the proposed implementation plan, and the retirement of currently-effective Reliability Standards PER-003-1 and PER-004-2 as discussed herein.

#### Respectfully submitted,

#### /s/ Nina H. Jenkins-Johnston

Nina H. Jenkins-Johnston
Senior Counsel
North American Electric Reliability
Corporation
3353 Peachtree Road N.E.
Suite 600, North Tower
Atlanta, GA 30326
(404) 446-9650
nina.johnston@nerc.net

Counsel for the North American Electric Reliability Corporation

Date: July 23, 2018

#### 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

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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 <sup>(1)(2)</sup>: [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:

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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 <sup>(1)(2)</sup>: [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.

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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** 

D "	Violation Severity Levels				
R #	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-003-12

**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 guarter 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

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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:

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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)	
2	January 22, 2018	Added footnote to requirements	Revision
2	May 10, 2018	Adopted by Board of Trustees	Revision

#### 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 C**

Order No. 672 Criteria for Proposed Reliability Standard PER-003-2

#### Order No. 672 Criteria

In Order No. 672,<sup>1</sup> the Commission identified a number of criteria it will use to analyze Reliability Standards proposed for approval to ensure they are just, reasonable, not unduly discriminatory or preferential, and in the public interest. The discussion below identifies these factors and explains how the proposed Reliability Standard has met or exceeded the criteria:

## 1. Proposed Reliability Standards must be designed to achieve a specified reliability goal and must contain a technically sound means to achieve that goal.<sup>2</sup>

The purpose of proposed Reliability Standard PER-003-2, which is unchanged from currently-effective Reliability Standard PER-003-1, 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 ("BES"). Specifically, proposed Reliability Standard PER-003-2 requires System Operators who are filling a Real-time operating position for a Reliability Coordinator, Balancing Authority or Transmission Operator to be NERC Certified through the NERC System Operator Certification Program. The proposed standard also requires that System Operators demonstrate minimum competencies necessary for their particular operating position.

Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards, Order No. 672, FERC Stats. & Regs. ¶ 31,204, order on reh'g, Order No. 672-A, FERC Stats. & Regs. ¶ 31,212 (2006).

Order No. 672 at P 321, 324.

2. Proposed Reliability Standards must be applicable only to users, owners and operators of the bulk power system, and must be clear and unambiguous as to what is required and who is required to comply.<sup>3</sup>

The proposed Reliability Standard is applicable only to users, owners, and operators of the bulk power system and is clear and unambiguous as to what is required and who is to comply, in accordance with Order No. 672. The proposed Reliability Standard applies to Reliability Coordinators, Transmission Operators and Balancing Authorities. The proposed Reliability Standard clearly articulates the actions that such entities must take to comply with the standard, each of which are triggered by articulated actions and situations.

3. A proposed Reliability Standard must include clear and understandable consequences and a range of penalties (monetary and/or non-monetary) for a violation.<sup>4</sup>

The Violation Severity Levels ("VSLs") for the proposed Reliability Standard, comport with NERC and Commission guidelines related to their assignment. The assignment of the severity level of each VSL is consistent with the corresponding Requirement and will ensure uniformity and consistency in the determination of penalties. The VSLs do not use any ambiguous terminology, thereby supporting uniformity and consistency in the determination of similar penalties for similar violations. For these reasons, the proposed Reliability Standard includes clear an understandable consequences in accordance with Order No. 672.

4. A proposed Reliability Standard must identify clear and objective criterion or measure for compliance, so that it can be enforced in a consistent and non-preferential manner.<sup>5</sup>

The proposed Reliability Standard includes a Measure that support the proposed standard's sole Requirement by clearly identifying what is required and how the Requirement will be enforced. This Measure, which remains substantively unchanged from the Measure in currently-

Order No. 672 at P 322, 325.

<sup>&</sup>lt;sup>4</sup> Order No. 672 at P 326.

<sup>&</sup>lt;sup>5</sup> Order No. 672 at P 327.

effective Reliability Standard PER-003-2, helps provide clarity regarding how the Requirement will be enforced, and helps ensure that the Requirement will be enforced in a clear, consistent, and non-preferential manner and without prejudice to any party.

5. Proposed Reliability Standards should achieve a reliability goal effectively and efficiently — but do not necessarily have to reflect "best practices" without regard to implementation cost or historical regional infrastructure design.<sup>6</sup>

The proposed Reliability Standard achieves its reliability goals effectively and efficiently in accordance with Order No. 672. The proposed revisions reflected in proposed Reliability Standard PER-003-2 effectively address the recommendation of the Project 2016 EPR-01 PER Periodic Review Team 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 currently-effective Reliability Standard PER-003-1 are those under the NERC System Operator Certification Program.

6. Proposed Reliability Standards cannot be "lowest common denominator," *i.e.*, cannot reflect a compromise that does not adequately protect Bulk-Power System reliability. Proposed Reliability Standards can consider costs to implement for smaller entities, but not at consequences of less than excellence in operating system reliability.<sup>7</sup>

The proposed Reliability Standard does not reflect a "lowest common denominator" approach. To the contrary, proposed PER-003-2 represents a significant improvement over the previous version as described herein.

<sup>&</sup>lt;sup>6</sup> Order No. 672 at P 328.

<sup>&</sup>lt;sup>7</sup> Order No. 672 at PP 329, 330.

7. Proposed Reliability Standards must be designed to apply throughout North America to the maximum extent achievable with a single Reliability Standard while not favoring one geographic area or regional model. It should take into account regional variations in the organization and corporate structures of transmission owners and operators, variations in generation fuel type and ownership patterns, and regional variations in market design if these affect the proposed Reliability Standard.<sup>8</sup>

The proposed Reliability Standard applies throughout North America and does not favor one geographic area or regional model.

8. Proposed Reliability Standards should cause no undue negative effect on competition or restriction of the grid beyond any restriction necessary for reliability.<sup>9</sup>

The proposed Reliability Standard has no undue negative effect on competition. The proposed Reliability Standard requires the same performance by each of applicable entity. The proposed Reliability Standard does not unreasonably restrict the available generation or transmission capability or limit use of the Bulk-Power System in a preferential manner.

#### 9. The implementation time for the proposed Reliability Standard is reasonable. 10

The proposed effective date for the PER-003-2 is just and reasonable and appropriately balances the urgency in the need to implement the standard against the reasonableness of the time allowed for those who must comply to develop necessary procedures, software, facilities, staffing or other relevant capability. NERC proposes an effective date for the proposed Reliability Standard on the first day of the first calendar quarter that is six months after the effective date of the applicable regulatory approval. The proposed implementation period are designed to allow sufficient time for the applicable entities to make any changes in their internal process necessary to implement the proposed revisions. The proposed effective date is explained in the proposed Implementation Plan, attached as **Exhibit B**.

<sup>8</sup> Order No. 672 at P 331.

<sup>&</sup>lt;sup>9</sup> Order No. 672 at P 332.

Order No. 672 at P 333.

## 10. The Reliability Standard was developed in an open and fair manner and in accordance with the Commission-approved Reliability Standard development process.<sup>11</sup>

The proposed Reliability Standard was developed in accordance with NERC's Commission-approved, ANSI-accredited processes for developing and approving Reliability Standards. <sup>12</sup> **Exhibit E** includes a summary of the proposed standard development proceedings, and details the processes followed to develop the proposed Reliability Standard. These processes included, among other things, comment periods, pre-ballot review periods, and balloting periods. Additionally, all meetings of the standard drafting team were properly noticed and open to the public.

## 11. NERC must explain any balancing of vital public interests in the development of proposed Reliability Standards. <sup>13</sup>

NERC has identified no competing public interests regarding the request for approval of the proposed Reliability Standard PER-003-2. No comments were received indicating the proposed Reliability Standard is in conflict with other vital public interests.

#### 12. Proposed Reliability Standards must consider any other appropriate factors. 14

No other factors relevant to whether the proposed Reliability Standard is just, reasonable, not unduly discriminatory or preferential were identified.

Order No. 672 at P 334.

See NERC Rules of Procedure, Section 300 (Reliability Standards Development) and Appendix 3A (Standard Processes Manual).

Order No. 672 at P 335.

<sup>&</sup>lt;sup>14</sup> Order No. 672 at P 323.

#### **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.<sup>1</sup> 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.<sup>2</sup> 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.

http://www.nerc.com/comm/SC/Documents/Appendix 3A StandardsProcessesManual.pdf.

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

The NERC Standard Processes Manual is available at

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.<sup>3</sup>

#### 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.<sup>4</sup> The final ballot for proposed Implementation Plan reached quorum at

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

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* <a href="https://www.nerc.com/pa/Stand/201702">https://www.nerc.com/pa/Stand/201702</a> Modifications to PER Standards DL/2017-

<sup>02</sup> Mod PER Standards Consideration of Comments 04032018.pdf.

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.<sup>5</sup>

### **D.** Board of Trustees Adoption

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

\_

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

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.

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

	Join Ballot Pools	01/22/18 - 02/20/18		
Standards Authorization Request (7)  Supporting Materials  Periodic Review Templates  PER-003-1 (8)	Comment Period Info (11)	06/21/17 - 07/24/17	Comments Received	Consideration of Comments
PER-003-1 (8)  PER-004-2 (9)  Unofficial Comment Form (Word) (10)	Submit Comments	07/24/17	(12)	(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-003-7 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. 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. 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	The Standards Committee
	Standing Committees <sup>3</sup> :	will appoint stakeholder
	<ul> <li>Standards Committee</li> </ul>	subject matter experts for
	(Also, the SC chair or	the particular standard(s)
	his/her delegate from the	being reviewed. The SMEs
		will work together with the

<sup>&</sup>lt;sup>1</sup>NERC Standard Processes Manual 45 (2013), posted at

http://www.nerc.com/pa/Stand/Documents/Appendix 3A StandardsProcessesManual.pdf.

<sup>&</sup>lt;sup>2</sup> 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).

<sup>&</sup>lt;sup>3</sup>Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.



	SC will chair the Standing Review Team) <sup>4</sup> • Planning Committee • Operating Committee The Standing Review Team will meet with SMEs and help to ensure a consistent strategy and approach across all of the reviews.	Standing Review Team to conduct its review of the standard(s) and complete the template below.
CIP Standards	Chairs of the following NERC Standing Committees <sup>5</sup> :  • Standards Committee (Also, the SC chair or his/her delegate from the SC will chair the Standing Review Team)  • CIPC	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.

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 <a href="mailto:darrel.richardson@nerc.net">darrel.richardson@nerc.net</a>.

<sup>&</sup>lt;sup>4</sup> 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).

<sup>&</sup>lt;sup>5</sup> Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.



7	Applicable Reliability Standard: PER-003-1	
f	Team Members (include name and organization):	
	Patti Metro, Nation Rural Electric Cooperative Association     Lauri Jones, Pacific Cas and Electric Company	
	<ol> <li>Lauri Jones, Pacific Gas and Electric Company</li> <li>Heather Morgan, EDP Renewables North America LLC</li> </ol>	
	4. Jeffrey Sunvick, Western Area Power Administration  Output  Description:	
	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	
	12. Michael Brytowski, Great River Ellergy Pivios Representative	
ŀ	Date Review Completed:	
Ľ	Date Neview Completed.	
	ackground Information (to be completed initially by NERC staff)	ملعاني بالممعم
1.	Are there any outstanding Federal Energy Regulatory Commission (FERC) directives associ 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 (outstand progress, or approved) Interpretation or Compliance Application Notice (CAN)? (If there as staff will include a list of the Interpretation(s), CAN(s), or other stakeholder-identified issue apply to the Reliability Standard.)	re, NERC
	☐ Yes	
	⊠ No	
	Please explain:	

Periodic Review Template (template revised September 2014) – PER-003-1

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:
Qı	uestions for the Review Team
rev ref a g	NERC staff answered "Yes" to any of the questions above, the Reliability Standard probably requires vision. The questions below are intended to further guide your review. Some of the questions ference documents provided by NERC staff as indicated in the Background questions above. Either as guide to help answer the ensuing questions or as a final check, the Review Team is to use Attachment Independent Expert Evaluation Process.
<u>I.</u>	Quality
1.	<b>Reliability Need, Paragraph 81:</b> Do any of the requirements in the Reliability Standard meet criteria for retirement or modification based on Paragraph 81 concepts? <i>Use Attachment 2: Paragraph 81 Criteria to make this determination.</i>
	Yes
	⊠ No
	Please summarize your application of Paragraph 81 Criteria, if any:
2.	<b>Clarity:</b> 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
- 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: 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.	<b>Definitions</b> : Do any of the defined terms used within the Reliability Standard need to be refined?
	Yes
	No
	Please explain:
1.	<b>Compliance Elements:</b> 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.	<b>Consistency with Other Reliability Standards:</b> 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.	<b>Changes in Technology, System Conditions, or other Factors:</b> 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 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? <b>N/A to this standard.</b>
	□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.	Res	ults Based Standard: Is the Reliability Standard drafted as a results-based standard?
		∑ Yes
		□ No
	If	not, please summarize your assessment:
	Gu	iding 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 Standard <sup>6</sup> ?
		⊠ Yes
		□ No
<u>II</u>	•	Content

<sup>&</sup>lt;sup>6</sup> 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. <b>Applicability:</b> 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. <b>Reliability Gaps:</b> 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. <b>Technical Quality:</b> 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. <b>Related Regional Reliability Standards</b> : 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



$\boxtimes$ 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. 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.

<sup>&</sup>lt;sup>7</sup> 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 order 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**

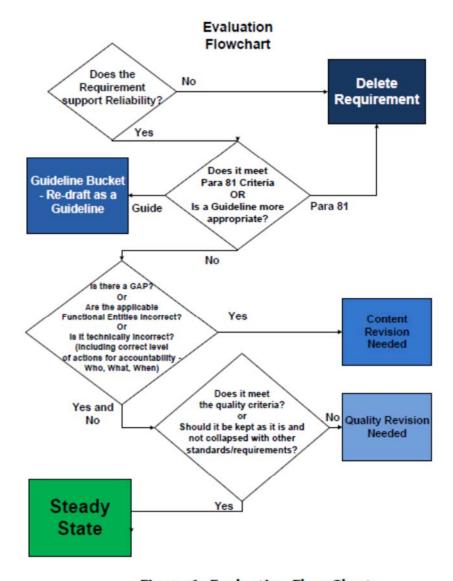


Figure 1: Evaluation Flow Chart



# 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. 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. 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	The Standards Committee
	Standing Committees <sup>3</sup> :	will appoint stakeholder
	<ul> <li>Standards Committee</li> </ul>	subject matter experts for
	(Also, the SC chair or	the particular standard(s)
	his/her delegate from the	being reviewed. The SMEs
		will work together with the

<sup>&</sup>lt;sup>1</sup>NERC Standard Processes Manual 45 (2013), posted at

http://www.nerc.com/pa/Stand/Documents/Appendix 3A StandardsProcessesManual.pdf.

<sup>&</sup>lt;sup>2</sup> 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).

<sup>&</sup>lt;sup>3</sup>Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.



	SC will chair the Standing Review Team) <sup>4</sup> • Planning Committee • Operating Committee The Standing Review Team will meet with SMEs and help to ensure a consistent strategy and approach across all of the reviews.	Standing Review Team to conduct its review of the standard(s) and complete the template below.
CIP Standards	Chairs of the following NERC Standing Committees <sup>5</sup> :  • Standards Committee (Also, the SC chair or his/her delegate from the SC will chair the Standing Review Team)  • CIPC	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.

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 <a href="mailto:darrel.richardson@nerc.net">darrel.richardson@nerc.net</a>.

<sup>&</sup>lt;sup>4</sup> 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).

<sup>&</sup>lt;sup>5</sup> Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.



F	Applicable Reliability Standard: PER-004-2	
- 1	Team Members (include name and organization):	
	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:	
•	Are there any outstanding Federal Energy Regulatory Commission (FERC) directives associated FERC orders for inclusion in a SAR.)	
•	the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations	
	the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations associated FERC orders for inclusion in a SAR.) Yes	to nding, in are, NERC
	the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations associated FERC orders for inclusion in a SAR.)  Yes  No  Have stakeholders requested clarity on the Reliability Standard in the form of an (outstar progress, or approved) Interpretation or Compliance Application Notice (CAN)? (If there extends the will include a list of the Interpretation(s), CAN(s), or other stakeholder-identified issues.	to nding, in are, NERC
	the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations associated FERC orders for inclusion in a SAR.)  Yes  No  Have stakeholders requested clarity on the Reliability Standard in the form of an (outstar progress, or approved) Interpretation or Compliance Application Notice (CAN)? (If there estaff will include a list of the Interpretation(s), CAN(s), or other stakeholder-identified issuapply to the Reliability Standard.)	to nding, in are, NERC
	the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations associated FERC orders for inclusion in a SAR.)  Yes  No  Have stakeholders requested clarity on the Reliability Standard in the form of an (outstar progress, or approved) Interpretation or Compliance Application Notice (CAN)? (If there extaff will include a list of the Interpretation(s), CAN(s), or other stakeholder-identified issuapply to the Reliability Standard.)	to nding, in are, NERC

Periodic Review Template (template revised September 2014) – PER-004-2

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. <b>Reliability Need, Paragraph 81:</b> Do any of the requirements in the Reliability Standard meet criteria for retirement or modification based on Paragraph 81 concepts? <i>Use Attachment 2: Paragraph 81 Criteria to make this determination.</i>
⊠ 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:
o PER-003-1, R1
o PER-005-2, R2 and R3
o IRO-002-4, R3 and R4
<ul> <li>EOP-004-2, R2</li> <li>IRO-008-2, R1, R2, and R4</li> </ul>
<ul> <li>IRO-008-2, R1, R2, and R4</li> <li>IRO-009-2, R1 – R4</li> </ul>
- ···, ··- ···



IRO-010-2, R1 – R3IRO-014-3, generally

	o 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.	<b>Definitions</b> : Do any of the defined terms used within the Reliability Standard need to be refined?
	☐ Yes ☑ No Please explain:
4.	<b>Compliance Elements:</b> 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.	<b>Consistency with Other Reliability Standards:</b> 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.	<b>Changes in Technology, System Conditions, or other Factors:</b> 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.	<b>Consideration of Generator and Transmission Interconnection Facilities:</b> Is responsibility for generator interconnection Facilities and Transmission Interconnection Facilities appropriately accounted for in the Reliability Standard? <b>Not Applicable.</b>
	☐ 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.	Res	ults Based Standard: Is the Reliability Standard drafted as a results-based standard?
		∑ Yes
		□ No
	If	not, please summarize your assessment:
	Gu	iding 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



Yes
11. Content  10. Technical accuracy: Is the content of the Requirements technically correct, including identifying who does what and when?    Yes
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:
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:
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:
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:
<ul> <li>No</li> <li>If not, please summarize your assessment:</li> <li>11. Functional Model: Are the correct functional entities assigned to perform the requirements, consistent with the Functional Model?</li> <li>✓ Yes</li> <li>✓ No</li> <li>If not, please summarize your assessment:</li> </ul>
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:
<ul> <li>11. Functional Model: Are the correct functional entities assigned to perform the requirements, consistent with the Functional Model?</li> <li>Yes</li> <li>No</li> <li>If not, please summarize your assessment:</li> </ul>
consistent with the Functional Model?  Yes  No  If not, please summarize your assessment:
consistent with the Functional Model?  Yes  No  If not, please summarize your assessment:
No If not, please summarize your assessment:
If not, please summarize your assessment:
12. <b>Applicability:</b> 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 No
If so, please summarize your assessment:
13. <b>Reliability Gaps:</b> Are the appropriate actions for which there should be accountability included, or is there a gap?

<sup>&</sup>lt;sup>6</sup> 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. <b>Related Regional Reliability Standards</b> : 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

**Date submitted to Standards Committee:** 

SAR must be included and the technical justification included in the SAR):



### 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. 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.

<sup>&</sup>lt;sup>7</sup> 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 order 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**

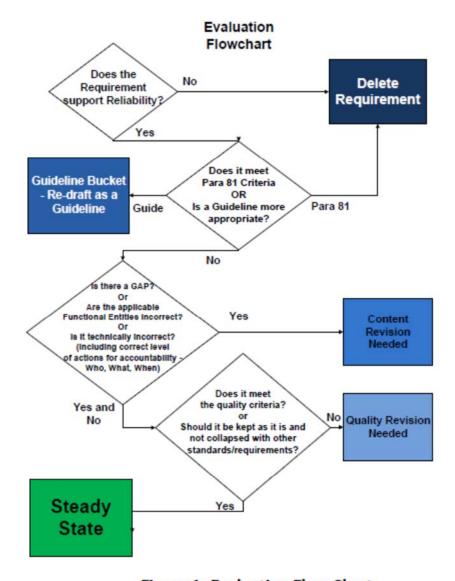


Figure 1: Evaluation Flow Chart



### **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 <u>electronic form</u> 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 <u>Project 2016-EPR-01 PER</u> page. If you have questions, contact Senior Standards Developer, <u>Darrel Richardson</u> (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.	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 <u>electronic form</u> to submit comments on the templates. If you experience any difficulties using the electronic form, contact <u>Wendy Muller</u>. An unofficial Word version of the comment form is posted on the <u>project page</u>.

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 <a href="https://support.nerc.net/">https://support.nerc.net/</a> (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, <u>Darrel Richardson</u> (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	Applicable S	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	
					Greg Cecil	Duke Energy	6	RF	
Southern Company - Southern	Marsha Morgan		SERC	Southern Company	Katherine Prewitt	Southern Company Services, Inc	1	SERC	
Company Services, Inc.					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	Ali Miremadi	California ISO	2	WECC
				Council Standards	Greg Campoli	NYISO	2	NPCC
				Review Committee	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	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		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

			Heuguette Bostic	Santee	1	SERC	
				Cooper			

I. 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 I	No. 2 of Grant County, Washington - 1,4,5,6				
Answer No					
Document Name					
Comment					
This recommendation may be suitable if the this recommendation is unwarranted. The for standard applies.	e standard was being revised for a substantive reason, but to make a change to the standard to implement potnote is unnecessary for any RC, TOP, and/or BA stakeholder worthy of performing functions to which this				
Reliability Coordinator, Balancing Authority	fically states the standard is "To ensure that System Operators performing the reliability-related tasks of the and Transmission Operator are certified through the NERC System Operator Certification Program when sible for control of the Bulk Electric System."				
	ences a "valid NERC Reliability Operator certificate", while requirements 2 and 3 specifically references owing valid NERC certificates" and specifically lists applicable NERC certifications for each requirement.				
	uidance that the "Audit Team may contact NERC to confirm the certification information is valid." This rator Certification Program and associated manual. It would require a tortured argument to point these program other than NERC.				
TOPs, and RCs "understand (i) the connect	with historic precedent from previous audits, there should be no need to include a footnote to ensure BAs, ion between the Standard and the NERC System Operator Certification Program Manual; and (ii) that the are those under the NERC System Operator Certification Program."				
Likes 0					
Dislikes 0					
Response					
Thomas Foltz - AEP - 3,5					
Answer	No				
Document Name					
Comment					
AFD haliavas the standard is sufficiently cla	ar in this regard as currently written. The current version of these requirements all specify NERC				

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 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 Coordinati	ng 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 I	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 Ad	Iministration - 1,3,5,6 - WECC			
Answer	Yes			
Document Name				
Comment				
BPA has no objections to this proposed edit	t for clarification.			
Likes 0				
Dislikes 0				
Response				
Oliver Burke - Entergy - Entergy Services	s, Inc 1,5			
Answer	Yes			
Document Name				
Comment				
Entergy Agrees with adding a footnote to PI	ER-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				
Resnonse				

Rachel Coyne - Texas Reliability Entity, I	Rachel Coyne - Texas Reliability Entity, Inc 10						
Answer	Yes						
Document Name							
Comment							
The suggested clarification to highlight that light of the proposed retirement of PER-004	certifications required under PER-003-1 must be NERC certifications appears reasonable, particularly in -2.						
Likes 0							
Dislikes 0							
Response							
Shannon Mickens - Southwest Power Po	ol, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group						
Answer	Yes						
Document Name							
Comment							
Standard. Additionally, we suggest the draft reference to the Requirements. Also, we su	with the Periodic Review Team's (PRT) recommendation for adding a footnote to provide more clarity in the ing team add a Guideline and Technical Basis (GTB) Section to the Standard to help provide clarity in ggest reformatting the Measurements in the current Standard. We feel this will help provide consistency with nd revised Standards in reference to the Requirement and Measurement Process. The best example of the strated in the IRO-002-4 Standard.						
Likes 0							
Dislikes 0							
Response							
Brian Van Gheem - ACES Power Marketin	ng - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators						
Answer	Yes						
Document Name	NERC 2012 Exam Study Guide.pdf						
Comment							
(4) We see a floor feet of a little of	La La NEDO Ballat III. Ota a la LEED 200 A lla cala III. de la cala de NEDO O atras O calaba						

(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 ( <a href="http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx">http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx</a> ). 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.	g					
(3) The current approach to the interdeper	ndencies between this reliability standard and the NERC Continuing Education Program relies on the					
assumption that all registered entities are al	so NERC Continuing Education Providers. We find this is not always the case. We believe the minimum					
	st maintain are already addressed by the systematic training approach required by their employers in NERC num, we ask the PRT to document in its recommendations that further coordination with the NERC Personnel					
	essary to update the list of Recognized Operator Training Topics, as identified in Appendix A of the NERC					
System Operator Certification Program Mar	nual. We feel this list needs to be revised with current industry concerns, situation awareness and human					
performance-centric themes, and available	technologies.					
	endation to include a footnote reference to the NERC Personnel Certification Governance Committee					
(PCGC) and the importance of its role in mo	onitoring 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						

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

Likes 1

Answer

Comment

Likes 0
Dislikes 0

**Document Name** 

Dislikes 0

Response

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

Yes

Response				
Daniel Herring - DTE Energy - Detroit Ed	ison Company - 3,4,5			
Answer	Yes			
Document Name				
Comment				
Likes 0				
Dislikes 0				
Response				
Karie Barczak - DTE Energy - Detroit Edi	son Company - 3,4,5			
Answer	Yes			
Document Name				
Comment				
Likes 0				
Dislikes 0				
Response				
Jeffrey DePriest - DTE Energy - Detroit E				
Answer	Yes			
Document Name				
Comment				
Likes 0				
Dislikes 0				
Response				
Rick Applegate - Tacoma Public Utilities				
Answer	Yes			
Document Name				

Comment				
Likes 0				
Dislikes 0				
Response				
Glen Farmer - Avista - Avista Corporation	n - 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 - S	outhern 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 - Ka	ansas 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 Res	ources, 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 - F	RCC,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	
24 hours per day, seven days per week. Th	mendation that PER-004-2 be retired. PER-004-2 R1 states that each Reliability Coordinator shall be staffed its requirement is not adequately captured in other standards outlined in the PER-004-2 EPR template. Peak rating 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 Po	ool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group
Answer	Yes
Document Name	
Comment	
	lic Review Team (PRT) on identifying the Paragraph 81 Criteria associated with this particular Standard. The nee with the recommendation of retirement of this Standard.
Likes 0	

Dislikes 0	
Response	
Rachel Coyne - Texas Reliability Entity, I	nc 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	s, 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 Adr	ministration - 1,6
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Colby Bellville - Duke Energy - 1,3,5,6 - F	RCC,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 Res	sources, Inc 3,5,6
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Lauren Price - American Transmission C	Company, LLC - 1
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Douglas Webb - Great Plains Energy - Ka	ansas 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 E	dison 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 (Cit	y 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, <a href="Steve Noess">Steve Noess</a> (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 Brian Van Marketing Gheem		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
Ouke Energy	Energy Colby Bellville 1,3,5,6 F	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



Southern Marsha Company - Morgan	1,3,5,6		Southern Company	Katherine Prewitt	Southern Company Services, Inc	1	SERC	
Southern Company Services, Inc.	ompany				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	chard Vine 2	Council Standards Review Committee	Ali Miremadi	California ISO	2	WECC		
			Greg Campoli	NYISO	2	NPCC		
			Review	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		
	Ruida Shu	uida Shu 1,2,3,4,5,6,7,	,6,7, NPCC RSC n	RSC no	Paul Malozewski	Hydro One.	1	NPCC
	8,9,10 Dominion and Eversource	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,	Shannon Mickens	2	SPP RE	SPP Standards Review Group	Shannon Mickens	Southwest Power Pool Inc.	2	SPP RE
Inc. (RTO)			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	Shawn	1,3,5,6		Santee Cooper	Tom Abrams	Santee Cooper	1	SERC
Cooper Abrams	orams		Rene' Free	Santee Cooper	1	SERC		
			Diana Scott	Santee Cooper	1	SERC		
			Heuguette Bostic	Santee Cooper	1	SERC		



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 Syystem 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.



	•
ensure BAs, TOPs, and RCs "understan	upled with historic precedent from previous audits, there should be no need to include a footnote to do (i) the connection between the Standard and the NERC System Operator Certification Program referenced under PER-003-1 are those under the NERC System Operator Certification Program."
Likes 0	
Dislikes 0	
Response	
Standard and the Program Manual; an Certification Program. Therefore the I	It further clarity was needed for the industry to understand (i) the connection between the d (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator PRT determined that adding the footnote provided the needed clarity. In addition, based on the the majority of the industry agrees with the PRT's recommendation.
Thomas Foltz - AEP - 3,5	
Answer	No
Document Name	
Comment	
NERC certificates, so a direct correlation does not entirely object to the concept	ly clear in this regard as currently written. The current version of these requirements all specify on to the NERC System Operator Certification Program Manual should already be clear. While AEP t of explicitly referencing the SOC Program Manual in PER-003-1, care should taken to ensure that onally 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	e and clarifying comment.	
Oliver Burke - Entergy - Entergy Service	es, 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	e 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.	
Standard and the Program Manual; and	t further clarity was needed for the industry to understand (i) the connection between the d (ii) that the certifications referenced under PER-003-1 are those under the NERC System Operator RT 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 particularly in light of the proposed ret	that certifications required under PER-003-1 must be NERC certifications appears reasonable, irement 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

# NERC

(<a href="http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx">http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx</a>). 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.



, ,	esumption that all registered entities are NERC Continuing Education Providers nor is it required for eviews the System Operator Certification Manual and Appendix A on an annual basis. The PCGC is that should address your concern.
(4) The NERC Rules of Procedure address	ss 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	e.
Likes 0	
Dislikes 0	
Response	
Daniel Herring - DTE Energy - Detroit Edison Company - 3,4,5	



Answer	Yes
<b>Document Name</b>	
Comment	
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response	e.
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
<b>Document Name</b>	
Comment	
Likes 0	



Dislikes 0		
Response		
Thank you for your affirmative response.		
Rick Applegate - Tacoma Public Utilitie	s (Tacoma, WA) - 1,3,4,5,6	
Answer	Yes	
Document Name		
Comment		
Likes 0		
Dislikes 0		
Response		
Thank you for your affirmative response	е.	
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	Comment	
Likes 0		
Dislikes 0		
Response		
Thank you for your affirmative response	e.	
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	e.	
Douglas Webb - Great Plains Energy - k	Cansas 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	e.	
Sean Bodkin - Dominion - Dominion Re	esources, 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	
<b>Document Name</b>		
Comment		
Likes 0		
Dislikes 0		
Response		
Thank you for your affirmative response.		
sean erickson - Western Area Power Administration - 1,6		
Answer	Yes	
<b>Document Name</b>		
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	e.



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	2.	
Shannon Mickens - Southwest Power P	ool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes	
Document Name		
Comment		
	eriodic Review Team (PRT) on identifying the Paragraph 81 Criteria associated with this particular oup is in agreeance with the recommendation of retirement of this Standard.	
Likes 0		
Dislikes 0		
Response		
Thank you for your affirmative response	e 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	e and clarifying comment.	
Quintin Lee - Eversource Energy - 1,3,5		
Answer	Yes	
<b>Document Name</b>		
Comment		
We agree that the requirements of PER	R-004-2 are duplicative and that it can be retired	
Likes 0		
Dislikes 0		
Response		
Thank you for your affirmative respons	e and clarifying comment.	
Oliver Burke - Entergy - Entergy Services, Inc 1,5		
Answer	Yes	
<b>Document Name</b>		
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 Relia	ability Coordinator so PER-004 does not apply to us.	
Likes 0		
Dislikes 0		
Response		
Thank you for your affirmative response	e 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	
<b>Document Name</b>		
Comment		
Likes 0		
Dislikes 0		
Response		
Thank you for your affirmative response	e.	
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	
<b>Document Name</b>		
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 respons	e.	
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	e.	
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	e.	
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 respons	e.	
Glen Farmer - Avista - Avista Corporati	on - 1,3,5	
Answer	Yes	
Document Name		
Comment		
Likes 0		
Dislikes 0		
Response		
Thank you for your affirmative respons	e.	
Rick Applegate - Tacoma Public Utilitie	s (Tacoma, WA) - 1,3,4,5,6	
Answer	Yes	
<b>Document Name</b>		
Comment		
Likes 0		
Dislikes 0		
Response		



Thank you for your affirmative response.		
Jeffrey DePriest - DTE Energy - Detroit Edison Company - 3,4,5		
Answer	Yes	
<b>Document Name</b>		
Comment		
Likes 0		
Dislikes 0		
Response		
Thank you for your affirmative respons	e.	
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	Tallahassee Electric (City of Tallahassee, FL), 5, Webb Karen				
Dislikes 0					
Response					
Thank you for your affirmative response.					



**End of Report** 



# Standards Authorization Request Form

When completed, please email this form to: <a href="mailto:sarcomm@nerc.com">sarcomm@nerc.com</a>

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) 907-58	317	Email: patti.metro@nreca.coop		
SAR Type (Check as many as applicable)					
New Standard		⊠ w	/ithdrawal of Existing Standard		
Revision to Existing Standard		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.



Purpose or Goal (How does this request propose to address the problem described above?):

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.

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.)

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.

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:

- 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



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



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.

Reliability Functions					
The S	The Standard will Apply to the Following Functions (Check each one that applies.)				
	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.			
	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.			
	Interchange Authority	Ensures communication of interchange transactions for reliability evaluation purposes and coordinates implementation of valid and balanced interchange schedules between Balancing Authority Areas.			
	Planning Coordinator	Assesses the longer-term reliability of its Planning Coordinator Area.			
	Resource Planner	Develops a one year plan for the resource adequacy of its specific loads within a Planning Coordinator area.			



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

	Reliability and Market Interface Principles				
Appl	Applicable Reliability Principles (Check all that apply).				
	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.			



	Reliability and Market Interface Principles				
	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.				
	<ol><li>The security of the interconnected bulk power systems shall be assessed, monito maintained on a wide area basis.</li></ol>	ored and			
	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	Enter			
Princ	Principles?				
1	. A reliability standard shall not give any market participant an unfair competitive advantage.	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-003-7 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. 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. 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	The Standards Committee
	Standing Committees <sup>3</sup> :	will appoint stakeholder
	<ul> <li>Standards Committee</li> </ul>	subject matter experts for
	(Also, the SC chair or the particular standard(s	
	his/her delegate from the being reviewed. The SMEs	
		will work together with the

<sup>&</sup>lt;sup>1</sup>NERC Standard Processes Manual 45 (2013), posted at

http://www.nerc.com/pa/Stand/Documents/Appendix 3A StandardsProcessesManual.pdf.

<sup>&</sup>lt;sup>2</sup> 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).

<sup>&</sup>lt;sup>3</sup>Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.



	SC will chair the Standing Review Team) <sup>4</sup> • Planning Committee • Operating Committee The Standing Review Team will meet with SMEs and help to ensure a consistent strategy and approach across all of the reviews.	Standing Review Team to conduct its review of the standard(s) and complete the template below.
CIP Standards	Chairs of the following NERC Standing Committees <sup>5</sup> :  • Standards Committee (Also, the SC chair or his/her delegate from the SC will chair the Standing Review Team)  • CIPC	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.

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 <a href="mailto:darrel.richardson@nerc.net">darrel.richardson@nerc.net</a>.

<sup>&</sup>lt;sup>4</sup> 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).

<sup>&</sup>lt;sup>5</sup> Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.



7	Applicable Reliability Standard: PER-003-1	
f	Team Members (include name and organization):	
	Patti Metro, Nation Rural Electric Cooperative Association     Lauri Jones, Pacific Cas and Electric Company	
	<ol> <li>Lauri Jones, Pacific Gas and Electric Company</li> <li>Heather Morgan, EDP Renewables North America LLC</li> </ol>	
	4. Jeffrey Sunvick, Western Area Power Administration  Output  Description:	
	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	
	12. Michael Brytowski, Great River Ellergy Pivios Representative	
ŀ	Date Review Completed:	
Ľ	Date Neview Completed.	
	ackground Information (to be completed initially by NERC staff)	ملعاني بالممعم
1.	Are there any outstanding Federal Energy Regulatory Commission (FERC) directives associ 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 (outstand progress, or approved) Interpretation or Compliance Application Notice (CAN)? (If there as staff will include a list of the Interpretation(s), CAN(s), or other stakeholder-identified issue apply to the Reliability Standard.)	re, NERC
	☐ Yes	
	⊠ No	
	Please explain:	

Periodic Review Template (template revised September 2014) – PER-003-1

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:
Qı	uestions for the Review Team
rev ref a g	NERC staff answered "Yes" to any of the questions above, the Reliability Standard probably requires vision. The questions below are intended to further guide your review. Some of the questions ference documents provided by NERC staff as indicated in the Background questions above. Either as guide to help answer the ensuing questions or as a final check, the Review Team is to use Attachment Independent Expert Evaluation Process.
<u>I.</u>	Quality
1.	<b>Reliability Need, Paragraph 81:</b> Do any of the requirements in the Reliability Standard meet criteria for retirement or modification based on Paragraph 81 concepts? <i>Use Attachment 2: Paragraph 81 Criteria to make this determination.</i>
	Yes
	⊠ No
	Please summarize your application of Paragraph 81 Criteria, if any:
2.	<b>Clarity:</b> 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
- 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?



	☐ 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.	<b>Definitions</b> : Do any of the defined terms used within the Reliability Standard need to be refined?
	Yes
	No
	Please explain:
1.	<b>Compliance Elements:</b> 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.	<b>Consistency with Other Reliability Standards:</b> 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.	<b>Changes in Technology, System Conditions, or other Factors:</b> 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.	Res	ults Based Standard: Is the Reliability Standard drafted as a results-based standard?
		∑ Yes
		□ No
	If	not, please summarize your assessment:
	Gu	iding 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 Standard <sup>6</sup> ?
		⊠ Yes
		□ No
<u>II</u>	•	Content

<sup>&</sup>lt;sup>6</sup> 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. <b>Applicability:</b> 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. <b>Reliability Gaps:</b> 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. <b>Technical Quality:</b> 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. <b>Related Regional Reliability Standards</b> : 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. 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.

<sup>&</sup>lt;sup>7</sup> 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 order 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**

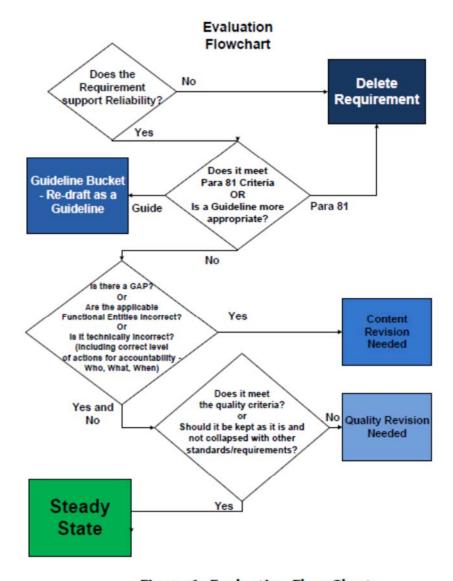


Figure 1: Evaluation Flow Chart



## 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. 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. 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	The Standards Committee
	Standing Committees <sup>3</sup> :	will appoint stakeholder
	<ul> <li>Standards Committee</li> </ul>	subject matter experts for
	(Also, the SC chair or	the particular standard(s)
	his/her delegate from the	being reviewed. The SMEs
		will work together with the

<sup>&</sup>lt;sup>1</sup>NERC Standard Processes Manual 45 (2013), posted at

http://www.nerc.com/pa/Stand/Documents/Appendix 3A StandardsProcessesManual.pdf.

<sup>&</sup>lt;sup>2</sup> 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).

<sup>&</sup>lt;sup>3</sup>Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.



	SC will chair the Standing Review Team) <sup>4</sup> • Planning Committee • Operating Committee The Standing Review Team will meet with SMEs and help to ensure a consistent strategy and approach across all of the reviews.	Standing Review Team to conduct its review of the standard(s) and complete the template below.
CIP Standards	Chairs of the following NERC Standing Committees  Standards Committee (Also, the SC chair or his/her delegate from the SC will chair the Standing Review Team)  CIPC	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.

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 <a href="mailto:darrel.richardson@nerc.net">darrel.richardson@nerc.net</a>.

<sup>&</sup>lt;sup>4</sup> 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).

<sup>&</sup>lt;sup>5</sup> 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	
T	Feam Members (include name and organization):	
	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	
		1
C	Date Review Completed:	
	ckground Information (to be completed initially by NERC staff)	
	Are there any outstanding Federal Energy Regulatory Commission (FERC) directives asso the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations associated FERC orders for inclusion in a SAR.)	
	Are there any outstanding Federal Energy Regulatory Commission (FERC) directives asso the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations	
	Are there any outstanding Federal Energy Regulatory Commission (FERC) directives asso the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations associated FERC orders for inclusion in a SAR.)  Yes	s to nding, in are, NERC
•	Are there any outstanding Federal Energy Regulatory Commission (FERC) directives asso the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations associated FERC orders for inclusion in a SAR.)  Yes  No  Have stakeholders requested clarity on the Reliability Standard in the form of an (outstaprogress, or approved) Interpretation or Compliance Application Notice (CAN)? (If there staff will include a list of the Interpretation(s), CAN(s), or other stakeholder-identified issues.	s to nding, in are, NERC
	Are there any outstanding Federal Energy Regulatory Commission (FERC) directives asso the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations associated FERC orders for inclusion in a SAR.)  Yes  No  Have stakeholders requested clarity on the Reliability Standard in the form of an (outstaprogress, or approved) Interpretation or Compliance Application Notice (CAN)? (If there staff will include a list of the Interpretation(s), CAN(s), or other stakeholder-identified issuapply to the Reliability Standard.)	s to nding, in are, NERC
1.	Are there any outstanding Federal Energy Regulatory Commission (FERC) directives asso the Reliability Standard? (If so, NERC staff will attach a list of the directives with citations associated FERC orders for inclusion in a SAR.)  Yes  No  Have stakeholders requested clarity on the Reliability Standard in the form of an (outsta progress, or approved) Interpretation or Compliance Application Notice (CAN)? (If there staff will include a list of the Interpretation(s), CAN(s), or other stakeholder-identified issuapply to the Reliability Standard.)  Yes	s to nding, in are, NERC

Periodic Review Template (template revised September 2014) – PER-004-2

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. <b>Reliability Need, Paragraph 81:</b> Do any of the requirements in the Reliability Standard meet criteria for retirement or modification based on Paragraph 81 concepts? <i>Use Attachment 2: Paragraph 81 Criteria to make this determination.</i>
∑ 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:
o PER-003-1, R1
o PER-005-2, R2 and R3
o IRO-002-4, R3 and R4
<ul> <li>EOP-004-2, R2</li> <li>IRO-008-2, R1, R2, and R4</li> </ul>
<ul> <li>IRO-008-2, R1, R2, and R4</li> <li>IRO-009-2, R1 – R4</li> </ul>



IRO-010-2, R1 – R3IRO-014-3, generally

	o 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.	<b>Definitions</b> : Do any of the defined terms used within the Reliability Standard need to be refined?
	☐ Yes ☑ No Please explain:
4.	<b>Compliance Elements:</b> 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.	<b>Consistency with Other Reliability Standards:</b> 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.	<b>Changes in Technology, System Conditions, or other Factors:</b> 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.	<b>Consideration of Generator and Transmission Interconnection Facilities:</b> Is responsibility for generator interconnection Facilities and Transmission Interconnection Facilities appropriately accounted for in the Reliability Standard? <b>Not Applicable.</b>
	☐ 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.	Res	ults Based Standard: Is the Reliability Standard drafted as a results-based standard?
		∑ Yes
		□ No
	If	not, please summarize your assessment:
	Gu	iding 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



Yes
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
<ul> <li>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</li> </ul>
<ul> <li>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</li> </ul>
<ul> <li>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</li> </ul>
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
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:  11. Functional Model: Are the correct functional entities assigned to perform the requirements, consistent with the Functional Model?  Yes  No
11. Functional Model: Are the correct functional entities assigned to perform the requirements, consistent with the Functional Model?  Yes  No
consistent with the Functional Model?  Yes  No
consistent with the Functional Model?  Yes  No
□ No
If not, please summarize your assessment:
12. <b>Applicability:</b> 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 No
If so, please summarize your assessment:
13. <b>Reliability Gaps:</b> Are the appropriate actions for which there should be accountability included, or is there a gap?

<sup>&</sup>lt;sup>6</sup> 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. <b>Related Regional Reliability Standards</b> : 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.) <i>RED</i>

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. 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.

<sup>&</sup>lt;sup>7</sup> 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 order 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**

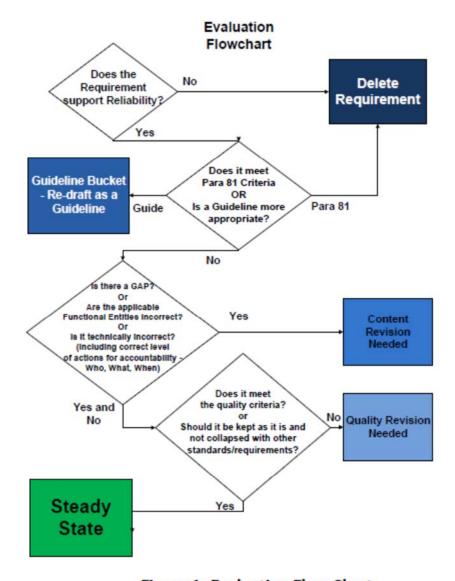


Figure 1: Evaluation Flow Chart



### **Unofficial Comment Form**

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

Do not use this form for submitting comments. Use the <u>electronic form</u> 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 <u>Project 2017-02 Modifications to PER Standards</u> page. If you have questions, contact Senior Standards Developer, <u>Darrel Richardson</u> 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 his 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 <u>electronic form</u> to submit comments. If you experience any difficulties using the electronic form, contact <u>Wendy Muller</u>. An unofficial Word version of the comment form is posted on the <u>project page</u>.

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 <a href="https://support.nerc.net/">https://support.nerc.net/</a> (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 <u>Standard Processes Manual</u>.

For more information or assistance, contact Senior Standards Developer, <u>Darrel Richardson</u> (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 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.

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		Applicable S	ACES Standards Collaborators  Greg Froehling Bob Solomon	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
					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	Dana Klem	1,2,3,4,5,6	MRO	MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
Organization					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	Pawel Krupa	Seattle City Light	1	WECC
				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	Karie Barczak	3,4,5		DTE Energy - DTE Electric	Jeffrey Depriest	DTE Energy - DTE Electric	5	RF
Company					Daniel Herring	DTE Energy - DTE Electric	4	RF
					Karie Barczak	DTE Energy - DTE Electric	3	RF
Southern Company - Southern	Marsha Morgan	1,3,5,6	SERC	Southern Company	Katherine Prewitt	Southern Company Services, Inc	1	SERC
Company Services, Inc.					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	shard 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	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC	Paul Malozewski	Hydro One.	1	NPCC
Power Coordinating Council					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 wher 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 explicitly referencing the SOC Program Manual in the requirements of PER-003-1, extreme care should 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 Ener	gy 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 Marketi	ng - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators			
Answer	No			

Comm	Comment					
<ol> <li>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)."</li> <li>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 (<a href="http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx">http://www.nerc.com/pa/Train/SysOpCert/Pages/default.aspx</a>), we no longer see a one-to-one set of minimu 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 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</li></ol>						
Likes	0					
Dislikes						
Respo	nse					
Aaron	Cavanaugh - Bonneville Power Ad	ministration - 1,3,5,6 - WECC				
Answe	r	Yes				
Docum	nent Name					
Comm	ent					
No con	nment.					
Likes	0					
Dislikes 0						
Respo	nse					
Daniel	Grinkevich - Con Ed - Consolidate	ed Edison Co. of New York - 1,3,5,6				
Answe	r	Yes				
Docum	ent Name					
Comment						

**Document Name** 

The footnote provides necessary clarity.	
Likes 0	
Dislikes 0	
Response	
Leonard Kula - Independent Electricity S	System Operator - 2
Answer	Yes
Document Name	
Comment	
We agree that the proposed footnote will conform with the language used in the re	I provide the necessary clarification, but suggest to change "certifications" to certificates" to equirements.
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 Powe	er, 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 I	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 Coope	rative, Inc 1,3,4,5,6 - FRCC
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Lauren Price - American Transmission C	Company, LLC - 1
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Marsha Morgan - Southern Company - S	outhern 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	5,6 - MRO,WECC,SPP RE
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
sean erickson - Western Area Power Adr	ministration - 1,6
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dana Klem - Midwest Reliability Organiza	ation - 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 Pub	lic Service Co 1,3,5,6
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Karie Barczak - DTE Energy - Detroit Edi	son 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 - F	FRCC,SERC,RF, Group Name Duke Energy
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
	ssion Company Holdings Corporation - 1 - MRO,SPP RE,RF
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinati	ing 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 Po	ol, 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 (Ta	acoma, WA) - 1,3,4,5,6
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Elizabeth Axson - Electric Reliability Cou	ıncil 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		
requirements are covered in other reliability operators 24/7 the RCs' control centers ma	otential reliability gap in retiring PER-004-2 R1. The SAR argues PER-004-2 is duplicative and all vistandards. Texas RE is concerned that without an explicit requirement to be staffed with NERC-certified y not be staffed with adequately trained personnel. Is the SDT's position that without the explicit obligation in uing explicit obligation for RCs to be staffed with NERC-certified operators 24/7? If so, please explain and including such compliance responsibility.	
Likes 0		
Dislikes 0		
Response		
Shannon Mickens - Southwest Power Po	ool, 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	r their efforts of pointing out the redundancy associated with this standard.	
Likes 0		
Dislikes 0		
Response		
Dana Klem - Midwest Reliability Organiz	ation - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	Yes	
Document Name		
Comment		
The NSRF agrees with the PRT recommen	dation for retirement of PER-004-2.	
Likes 0		

Dislikes 0		
Response		
Richard Vine - California ISO - 2, Group N	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 Marketi	ng - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators	
Answer	Yes	
Document Name		
Comment		
Likes 0		
Dislikes 0		
Response		
Ruida Shu - Northeast Power Coordinati	ng 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 - F	RCC,SERC,RF, Group Name Duke Energy	
Answer	Yes	
Document Name		
Comment		

Likes 0	
Dislikes 0	
Response	
Karie Barczak - DTE Energy - Detroit Edi	son Company - 3,4,5, Group Name DTE Energy - DTE Electric
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Cruz-Montes - CenterPoint Ener	gy Houston Electric, LLC - 1 - Texas RE
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
sean erickson - Western Area Power Ad	ministration - 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 - So	outhern 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 C	Company, LLC - 1
Answer	Yes
Document Name	
Comment	

Dislikes 0	
Response	
Leonard Kula - Independent Electricity S	system Operator - 2
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Kristine Ward - Seminole Electric Coope	rative, Inc 1,3,4,5,6 - FRCC
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Williams - Tallahassee Electric (Cit	y of Tallahassee, FL) - 1,3,5
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
	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 Powe	er, Inc 1
Answer	
Document Name	
Comment	
We are not an RC.	

Likes 0				
Dislikes 0				
Response				
Aaron Cavanaugh - Bonneville Power Ad	Iministration - 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				

the standard and requiremen	al requirements that the PRT has not identified to justify the retirement of PER-004-2? If yes, please identify n 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 Di	rict No. 2 of Grant County, Washington - 1,4,5,6
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
LeRoy Patterson - Public Util	District No. 2 of Grant County, Washington - 1,4,5,6
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
John Williams - Tallahassee	ectric (City of Tallahassee, FL) - 1,3,5

Answer	No			
Document Name				
Comment				
Likes 0				
Dislikes 0				
Response				
Kristine Ward - Seminole Electric Coope	rative, 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 - S	outhern 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	5,6 - MRO,WECC,SPP RE
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
sean erickson - Western Area Power Adı	ministration - 1,6
Answer	No

Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michael Cruz-Montes - CenterPoint Energy	gy Houston Electric, LLC - 1 - Texas RE
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Dana Klem - Midwest Reliability Organiza	ation - 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 Edi	son 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 - F	FRCC,SERC,RF, Group Name Duke Energy			
Answer	No			
Document Name				
Comment				
Likes 0				
Dislikes 0				
Response				
Ruida Shu - Northeast Power Coordinati	ing 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 Po	ool, 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 Marketin	ng - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators			
Answer	No			
Document Name				
Comment				
Likes 0				
Dislikes 0				
Response				
John Merrell - Tacoma Public Utilities (Ta	acoma, WA) - 1,3,4,5,6			
Answer	No			
Document Name				
Comment				
Likes 0				
Dislikes 0				
Response				
Elizabeth Axson - Electric Reliability Cou	ıncil 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 Trans	smission Company Holdings Corporation - 1 - MRO,SPP RE,RF			
Answer	Yes			
Document Name				
Comment				
Likes 0				
Dislikes 0				
Response				
Aaron Cavanaugh - Bonneville Powe	r Administration - 1,3,5,6 - WECC			
Answer				
Document Name				
Comment				
PER-004-2 does not apply to BPA as B	PA is not registered as a Reliability Coordinator.			
Likes 0				
Dislikes 0				
Response				
Jamie Monette - Allete - Minnesota Pe	ower, 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, <a href="Steve Noess">Steve Noess</a> (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. <u>Do you know of any additional requirements that the PRT has not identified to justify the retirement of PER-004-2? If yes, please</u> 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 Brian Van Gheem		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	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	Dana Klem	1,2,3,4,5,6	,4,5,6 MRO	MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
Organization					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	Hao Li	Seattle City Light	4	WECC
				Body	Bud (Charles) Freeman	Seattle City Light	6	WECC
				r F	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
					Tuan Tran	Seattle City Light	3	WECC
					Laurrie Hammack	Seattle City Light	3	WECC
DTE Energy - Detroit	Detroit [		DTE Energy - DTE Electric	Jeffrey Depriest	DTE Energy - DTE Electric	5	RF	
Edison Company			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	mpany - Morgan uthern mpany	1,3,5,6	SERC	Southern Company	Katherine Prewitt	Southern Company Services, Inc	1	SERC
Company Services, Inc.					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	Ali Miremadi	California ISO	2	WECC
				Council Standards Review Committee	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	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	RSC	Paul Malozewski	Hydro One.	1	NPCC
Power Coordinating Council	Coordinating				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		SPP RE	SPP Standards Review	Shannon Mickens	Southwest Power Pool Inc.	2	SPP RE
				Group	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 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 nessitates 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	<b>3,4,5,6</b> - <b>WECC, Group Name</b> 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 Po	wer, 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		
Yes		
ty of Tallahassee, FL) - 1,3,5		
Yes		
Response		
Kristine Ward - Seminole Electric Cooperative, Inc 1,3,4,5,6 - FRCC		
Yes		
Comment		



Likes 0	
Dislikes 0	
Response	
Lauren Price - American Transmission	Company, LLC - 1
Answer	Yes
<b>Document Name</b>	
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
<b>Document Name</b>	
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		
<b>Document Name</b>			
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 Organ	ization - 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	Nc
<b>Document Name</b>	

## 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.	
	Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group
Answer	Yes
Document Name	
Comment	
We would like to thank the drafting tea	m 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	e 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	<b>3,4,5,6 - WECC, Group Name</b> 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
<b>Document Name</b>	
Comment	
Likes 0	
Dislikes 0	
Response	
John Merrell - Tacoma Public Utilitie	s (Tacoma, WA) - 1,3,4,5,6
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Brian Van Gheem - ACES Power Mar	ceting - 6 - NA - Not Applicable, Group Name ACES Standards Collaborators
Answer	Yes



Document Name		
Comment		
Likes 0		
Dislikes 0		
Response		
Ruida Shu - Northeast Power Coordina	ting 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 Ed	lison Company - 3,4,5, Group Name DTE Energy - DTE Electric	
Answer	Yes	
<b>Document Name</b>		
Comment		
Likes 0		
Dislikes 0		
Response		
Michael Cruz-Montes - CenterPoint En	ergy Houston Electric, LLC - 1 - Texas RE	
Answer	Yes	
<b>Document Name</b>		
Comment		
Likes 0		
Dislikes 0		
Response		
sean erickson - Western Area Power A	dministration - 1,6	
Answer	Yes	
Document Name		



Comment	
5,6 - MRO,WECC,SPP RE	
Yes	
Company - 1	
Yes	
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 Coop	erative, Inc 1,3,4,5,6 - FRCC
Answer	Yes
<b>Document Name</b>	
Comment	
Likes 0	
Dislikes 0	
Response	
John Williams - Tallahassee Electric (Ci	ty of Tallahassee, FL) - 1,3,5
Answer	Yes
<b>Document Name</b>	
Comment	
Likes 0	
Dislikes 0	
Response	
·	



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	LeRoy Patterson - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6		
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	Answer	Yes	
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	<b>Document Name</b>		
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	Comment		
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			
Alex Ybarra - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6  Answer  Document Name  Comment  Likes 0  Dislikes 0  Response  Mike Smith - Manitoba Hydro - 1,3,5,6  Answer	Likes 0		
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	Dislikes 0		
Answer Yes  Document Name  Comment  Likes 0  Dislikes 0  Response  Mike Smith - Manitoba Hydro - 1,3,5,6  Answer	Response		
Answer Yes  Document Name  Comment  Likes 0  Dislikes 0  Response  Mike Smith - Manitoba Hydro - 1,3,5,6  Answer			
Comment  Likes 0 Dislikes 0  Response  Mike Smith - Manitoba Hydro - 1,3,5,6  Answer	Alex Ybarra - Public Utility District No. 2 of Grant County, Washington - 1,4,5,6		
Comment  Likes 0  Dislikes 0  Response  Mike Smith - Manitoba Hydro - 1,3,5,6  Answer	Answer	Yes	
Likes 0 Dislikes 0 Response Mike Smith - Manitoba Hydro - 1,3,5,6 Answer	Document Name		
Dislikes 0  Response  Mike Smith - Manitoba Hydro - 1,3,5,6  Answer	Comment		
Dislikes 0  Response  Mike Smith - Manitoba Hydro - 1,3,5,6  Answer			
Response  Mike Smith - Manitoba Hydro - 1,3,5,6  Answer	Likes 0		
Mike Smith - Manitoba Hydro - 1,3,5,6 Answer	Dislikes 0		
Answer	Response		
Answer			
	Mike Smith - Manitoba Hydro - 1,3,5,6		
Document Name	Answer		
	Document Name		
Comment	Comment		



This Standard is not applicable to Manitoba Hydro.	
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	
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
<b>Document Name</b>	
Comment	
Likes 0	
Dislikes 0	
Response	
John Williams - Tallahassee Electric (Ci	ty 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 En	ergy 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 Ed	ison 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		
No		
Comment		
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC		
No		
Comment		
Response		
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group		
No		
Comment		



Likes 0			
Dislikes 0			
Response			
Brian Van Gheem - ACES Power Marke	ting - 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		
<b>Document Name</b>			
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	<b>3,4,5,6 - WECC, Group Name</b> 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 A	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			
<b>Document Name</b>			
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 <sup>(1)(2)</sup>: [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

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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 <sup>(1)(2)</sup>: [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

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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 <sup>(1)(2)</sup>: [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:

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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** 

<b>-</b> "	Violation Severity Levels			
R #	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

\_

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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

\_

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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

\_

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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** 

R1. N/A N/A N/A N/A The Reliability Containing portion of Reliability Containing portion of Reliability Containing portion of Requirement Requirement Requirement Requirement System Open Transmission reliability-results of Respective Property of Respect	Violation Severity Levels				
R1. N/A N/A failed to staf operating po Reliability C reliability-re System Oper NERC certif Requirement  R2. N/A N/A N/A N/A The Transmi failed to staf operating po Transmission reliability-re System Oper System Operating po Transmission reliability-re System Operating po Transmission reliability-re System Operating po Transmission reliability-re System Operating Operating Po Transmission reliability-re System Po Transmission reliability-re System Po Transmission reliability-re System Po Transmission reliability-re System Po Transmission reliability-r	Severe VSL				
R2. N/A N/A failed to staff operating po Transmission reliability-re System Oper	ability Coordinator staff each Real-time g position performing ty Coordinator y-related tasks with a Operator having a valid ertificate as defined in nent R1.				
	ssmission Operator staff each Real-time g position performing ssion Operator y-related tasks with a Operator having a valid ertificate as defined in nent R2, Part 2.2.				
R3. N/A N/A to staff each operating po Balancing A related tasks Operator have certificate as	ancing Authority failed ach Real-time g position performing g Authority reliability- asks with a System having a valid NERC e as defined in nent R3, Part 3.2.				

# **D. Regional Variances**

None.

## **E.** Associated Documents

<u>Implementation Plan – Add link</u>

# **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>	Added footnote to requirements	Revision
<u>2</u>	<u>TBD</u>	Adopted by Board of Trustees	



# **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 <u>electronic form</u> 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 <u>Project 2017-02 PER</u> page. If you have questions, contact Senior Standards Developer, <u>Darrel Richardson</u> 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.	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 <u>electronic form</u> to submit comments on the standard. If you experience any difficulties using the electronic form, contact <u>Wendy Muller</u>. An unofficial Word version of the comment form is posted on the <u>project page</u>.

#### 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 <u>here</u>.

- 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 <a href="https://support.nerc.net/">https://support.nerc.net/</a> (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, <u>Darrel Richardson</u> (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 his 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	ines 3	WECC PO	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			DTE Electric	Karie Barczak	DTE Energy - Detroit Edison Company	3	RF
					Daniel Herring	DTE Energy - Detroit Edison Company	4	RF
California ISO	Richard Vine	chard 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			
			andy acDonald	New Brunswick Power	2	NPC	
		Wa	ayne Sipperly	New York Power Authority	4	NPC	
		Gle	len Smith	Entergy Services	4	NPC	
		Bri	rian Robinson	Utility Services	5	NPC	
		Bru	uce Metruck	New York Power Authority	6	NPC	
		Ala	an Adamson	New York State Reliability Council	7	NPC	
	David Burke		Ed	dward Bedder	Orange & Rockland Utilities	1	NPC
		Orange & Rockland Utilities	3	NPC			
		Mic	ichele Tondalo	UI	1	NPC	
		Lai	aura Mcleod	NB Power	1	NPC	
			avid amkalawan	Ontario Power Generation Inc.	5	NPC	
		Qu	uintin Lee	Eversource Energy	1	NPC	
	Pa	aul Malozewski	Hydro One Networks, Inc.	3	NPC		
	He	elen Lainis	IESO	2	NPC		
		ichael chiavone	National Grid	1	NPC		
		Mid	ichael Jones	National Grid	3	NPC	
	Gre	reg Campoli	NYISO	2	NPC		
		Silv	lvia Mitchell	NextEra Energy - Florida Power and Light Co.	6	NPC	

					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	Russel Mountjoy			MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
Organization					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		SPP RE	SPP Standards Review	Shannon Mickens	Southwest Power Pool Inc.	2	SPP RE
				Group	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 Hirchak	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					
being interpreted differently base on footno	RC Glossary of Terms. The use of footnotes to define the terminology could result in different Standards ting. Standards may eventually begin to conflict based on how different terms are used in specific current project it sets a precedent that opens the door to problems down the road.				
Likes 0					
Dislikes 0					
Response					
Aimee Harris - NiSource - Northern India	na Public Service Co 3				
Answer	No				
Document Name					
Comment					
standard as well as many others is "System	the certification program is short sightedness from the Standards Drafting Team. The key words in this of Operator. It would be better to redo the System Operator definition in the NERC Glossary of Terms to dd 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 no concerns with adding the proposed footnote	t require additional clarification as to the type of certification required. However, SRP does not have e.			
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	Response						
Larry Heckert - Alliant Energy Corporation	on Services, Inc 4						
Answer	No						
Document Name							
	Comment						
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, then time, resources and valuable funding will be wasted on opening another Project to address this simple concern.

Likes 0					
Dislikes 0					
Response	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

Likes 0				
Dislikes 0				
Response				
Maryanne Darling-Reich - Black Hills Co	rporation - 1,3,5,6 - WECC			
Answer	Yes			
Document Name				
Comment				
changes are minor for TOP's and just add o	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 specfication 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 C	ooperative, 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 Pow	ver Administration - 1,3,5,6 - WECC
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Sandra Shaffer - Berkshire Hathawa	ay - PacifiCorp - 6

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Michelle Amarantos - APS - Arizona Pub	lic Service Co 1
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jeffrey DePriest - DTE Energy - Detroit E	dison 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	f 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 S	system Operator - 2	
Answer	Yes	
Document Name		
Comment		
Likes 0		
Dislikes 0		
Response		
Colby Bellville - Duke Energy - 1,3,5,6 - F	RCC,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	Response	
Shannon Mickens - Southwest Power Po	ool, 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 Gen	eration Inc 5	
Answer	Yes	
Document Name		
Comment		
Likes 0		
Dislikes 0		
Response		
Hien Ho - Tacoma Public Utilities (Tacon	na, WA) - 4	
Answer	Yes	
Document Name		
Comment		
Likes 0		
Dislikes 0		
Response		
Ruida Shu - Northeast Power Coordinati	ing Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no ISO-NE	
Answer	Yes	
<b>Document Name</b>		

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	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	5,5,6 - WECC	
Answer	No	
Document Name		
Comment		
SRP believes in order to retire PER-004-2 I operations 24 hrs/day.	R2, language should be incorporated into the proposed PER-003-2 requiring each RC to staff their Real-Time	
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 Marketi	ng - 6 - NA - Not Applicable	
Answer	Yes	
Document Name		
Comment		
We thank you for the opportunity to comme	ent.	

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 o	clarification with a new "footnote"	
Likes 0		
Dislikes 0		
Response		
Ruida Shu - Northeast Power Coordinati	ng 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	
Document Name		
Comment		
Likes 0		
Dislikes 0		
Response		
Shannon Mickens - Southwest Power Po	ool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group	
Answer	Yes	
Document Name		
Comment		
Likes 0		
Dislikes 0		
Response		
Russel Mountjoy - Midwest Reliability Or	ganization - 10, Group Name MRO NSRF	
Answer	Yes	
Document Name		
Comment		
Likes 0		
Dislikes 0		
Response		
Larry Heckert - Alliant Energy Corporation Services, Inc 4		
Answer	Yes	
Document Name		
Comment		

Likes 0	
Dislikes 0	
Response	
Richard Vine - California ISO - 2, Group I	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 - F	RCC,SERC,RF, Group Name Duke Energy
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Leonard Kula - Independent Electricity S	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 Cooper	rative Inc 1			
Answer	Yes			
Document Name				
Comment				
Likes 0				
Dislikes 0				
Response				
Michelle Amarantos - APS - Arizona Pub	lic 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 Ac	Iministration - 1,3,5,6 - WECC
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Aimee Harris - NiSource - Northern India	na Public Service Co 3
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Laurie Williams - PNM Resources - Publi	c 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						

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 Robert Kondziolka - Salt River Project - 3 Answer **Document Name** Comment I support the comments submitted by Salt River Project. Likes 0 Dislikes 0 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. <u>The SDT has written the implementation plan to retire PER-004-2.</u> 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	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		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	Ali Miremadi	California ISO	2	WECC
				Council	Greg Campoli	NYISO	2	NPCC
				Standards Review Committee	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 Rui 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	<b>Utility Services</b>	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	Russel Mountjoy	10		MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
Organization					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
	Shannon Mickens		SPP RE	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 Hirchak	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



L. 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 N	o. 1 of Pend Oreille County - 1				
Answer	No				
Document Name					
Comment					
Standards being interpreted differently used in specific context. Though not a road.	NERC Glossary of Terms. The use of footnotes to define the terminology could result in different base on footnoting. Standards may eventually begin to conflict based on how different terms are major issue for the current project it sets a precedent that opens the door to problems down the				
Likes 0					
Dislikes 0					
Response					
the recommendation to add a footnote	response and feedback received from this posting and the PRT recommendation posting reaffirms to provide clarity as to the connection between the Standard and the NERC System Operator es are an available tool to provide clarity in several of the existing FERC approved standards.				
Aimee Harris - NiSource - Northern Ind	iana 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". Itwould 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

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.

## 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		



DISTIKES U	
Response	
the recommendation to add a footnote Certification Program Manual. Howeve The FERC Order 693 contained a directi	response and feedback received from this posting and the PRT recommendation posting reaffirms to provide clarity as to the connection between the Standard and the NERC System Operator or, modification of the areas of competency within the standard is outside the scope of this project. We that the PER-003 standard include minimum competencies. Areas of competency as used in and effective method for meeting the FERC directive.
Maryanne Darling-Reich - Black Hills Co	orporation - 1,3,5,6 - WECC
Answer	Yes
Document Name	
Comment	
changes are minor for TOP's and just ac	ld clarification with a new "footnote"
Likes 0	
Dislikes 0	
Response	
Thank you for your affirmative response and clarifying comment.	
Angela Gaines - Portland General Elect	ric Co 3, Group Name PGE - Group 1
Answer	Yes
Document Name	
Comment	
The footnote does provide clarity in regards to the specfication 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		
Thank you for your affirmative response	e and clarifying comment.	
Kristine Ward - Seminole Electric Coop	erative, Inc 1,3,4,5,6 - FRCC	
Answer	Yes	
Document Name		
Comment		
Thank you for your affirmative response	2.	
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 respons	e.	
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.		
Edison Company - 5, Group Name DTE Electric		
Yes		
se.		
Response		
Douglas Johnson - American Transmission Company, LLC - 1		
Yes		
Comment		
Thank you for your affirmative response.		
Response		



Tammy Porter - Tammy Porter On Behalf of: Lee Maurer, Oncor Electric Delivery, 1; - Tammy Porter		
Yes		
e.		
Company - 1		
Yes		
Comment		
e.		
, L.L.C 2 - SERC,RF		
Yes		



Likes 0		
Dislikes 0		
Response		
Thank you for your affirmative response	e.	
Aubrey Short - FirstEnergy - FirstEnergy	y 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	e.	
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	e.	
David Ramkalawan - Ontario Power Generation Inc 5		
Answer	Yes	
<b>Document Name</b>		
Comment		
Likes 0		
Dislikes 0		
Response		
Thank you for your affirmative response	e.	
Hien Ho - Tacoma Public Utilities (Tacoma, WA) - 4		
Answer	Yes	
<b>Document Name</b>		
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 Market	ting - 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		



Neil Swearingen - Salt Riv	r Project - 1,3,5,6 - WECC
Answer	No
Document Name	
Comment	
SRP believes in order to re their Real-Time operation	ire PER-004-2 R2, language should be incorporated into the proposed PER-003-2 requiring each RC to staff 24 hrs/day.
Likes 0	
Dislikes 0	
Response	
	nt. The SDT does not believe that it is necessary to include specific language in PER-003 requiring an RC to or an RC to fulfill its compliance obligations for requirements identified on pages 3, 4 and 5 of the SAR.
Kevin Conway - Public Uti	ty District No. 1 of Pend Oreille County - 1
Answer	No
Document Name	

believe the drafting team has good reason to retire PER-004-2, and the argument seems intuitive; however, due to enhanced technology,



Comment

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 Yes Answer **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** 



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	e and clarifying comment.
Ruida Shu - Northeast Power Coordina	iting Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name RSC no ISO-NE
Answer	Yes
<b>Document Name</b>	
Comment	
Thank you for your affirmative respons	e.
Likes 0	
Dislikes 0	
Response	
Hien Ho - Tacoma Public Utilities (Taco	ma, 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	e.	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - SPP RE, Group Name SPP Standards Review Group		
Answer	Yes	
<b>Document Name</b>		
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 Corporat	ion 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	e.	
Michelle Amarantos - APS - Arizona Public Service Co 1		
Answer	Yes	
<b>Document Name</b>		
Comment		
Likes 0		
Dislikes 0		
Response		
Thank you for your affirmative response	e.	
Sandra Shaffer - Berkshire Hathaway - PacifiCorp - 6		
Answer	Yes	
<b>Document Name</b>		
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) <u>here</u>. If you experience difficulties navigating the SBS, contact <u>Wendy Muller</u>.

- 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 <a href="https://support.nerc.net/">https://support.nerc.net/</a> (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, <u>Darrel Richardson</u> (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



## **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 <u>electronic form</u> to submit comments on the standard. If you experience any difficulties using the electronic form, contact <u>Wendy Muller</u>. An unofficial Word version of the comment form is posted on the <u>project page</u>.

#### 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 <u>here</u>.

- 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 <a href="https://support.nerc.net/">https://support.nerc.net/</a> (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, <u>Darrel Richardson</u> (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

Login (/Users/Login) / Register (/Users/Register)

## **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:	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:	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: 98 - NERC	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	All	•	entries	Search:	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 4.1.0.0 Machine Name: ERC	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
18 - NERC Ve	er 4.1.0.0 Machine Name: ERC Oncor Electric Delivery	DVSBSWB02	Tammy Porter	None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
	OTP - Otter Tail Power Company	Charles Wicklund		Affirmative	N/A
	Peak Reliability	Scott Downey		None	N/A
	Platte River Power Authority	Matt Thompson		Affirmative	N/A
	PNM Resources - Public Service Company of New Mexico	Laurie Williams		Affirmative	N/A
	PPL Electric Utilities Corporation	Brenda Truhe		Affirmative	N/A
	PSEG - Public Service Electric and Gas Co.	Joseph Smith		Affirmative	N/A
	Public Utility District No. 1 of Pend Oreille County	Kevin Conway		None	N/A
	Public Utility District No. 1 of Snohomish County	Long Duong		Affirmative	N/A
	Puget Sound Energy, Inc.	Theresa Rakowsky		None	N/A
	Sacramento Municipal Utility District	Arthur Starkovich	Joe Tarantino	Affirmative	N/A
	Salt River Project	Steven Cobb		Negative	Comments Submitted
	Santee Cooper	Shawn Abrams		Affirmative	N/A
	SCANA - South Carolina Electric and Gas Co.	Tom Hanzlik		None	N/A
	Seattle City Light	Pawel Krupa		Affirmative	N/A
	Seminole Electric Cooperative, Inc.	Mark Churilla		Affirmative	N/A
	Sempra - San Diego Gas and Electric	Mo Derbas		Affirmative	N/A
	Southern Company - Southern Company Services, Inc.	Katherine Prewitt		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
	Southern Indiana Gas and Electric Co.	Steve Rawlinson		Affirmative	N/A
	Sunflower Electric Power Corporation	Paul Mehlhaff		Affirmative	N/A
	Tacoma Public Utilities (Tacoma, WA)	John Merrell		Affirmative	N/A
	Tennessee Valley Authority	Howell Scott		Affirmative	N/A
	Tri-State G and T Association, Inc.	Tracy Sliman		Affirmative	N/A
	Westar Energy	Kevin Giles		Affirmative	N/A
	Western Area Power Administration	sean erickson		None	N/A
	Xcel Energy, Inc.	Dean Schiro		None	N/A
	California ISO	Richard Vine		Affirmative	N/A
	Electric Reliability Council of Texas, Inc.	Brandon Gleason		Affirmative	N/A
	Independent Electricity System Operator	Leonard Kula		Affirmative	N/A
	Midcontinent ISO, Inc.	Ellen Oswald		None	N/A
	New York Independent System Operator	Gregory Campoli		None	N/A
	PJM Interconnection, L.L.C.	Mark Holman		Affirmative	N/A
	Southwest Power Pool, Inc. (RTO)	Charles Yeung		None	N/A
	AEP	Aaron Austin		Negative	Comments Submitted
	Ameren - Ameren Services	David Jendras		Abstain	N/A
i	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	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	PPI - Louisville Gas and er 4.1.0.0 Machine Name: ERC Electric Co.	_Charles.Ereibert		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	lan 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
1	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	Proxy	Ballot	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	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
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. NEDOV	Westar Energy er 4.1.0.0 Machine Name: ERO	Laura Cox		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
5	Xcel Energy, Inc.	Gerry Huitt		Affirmative	N/A
5	AEP - AEP Marketing	Yee Chou		Negative	Comments Submitted
3	Ameren - Ameren Services	Robert Quinlivan		Abstain	N/A
3	APS - Arizona Public Service Co.	Jonathan Aragon		Affirmative	N/A
)	Berkshire Hathaway - PacifiCorp	Sandra Shaffer		Affirmative	N/A
3	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
3	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
5	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
3	Lakeland Electric	Paul Shipps		Affirmative	N/A
3	Lincoln Electric System	Eric Ruskamp		Affirmative	N/A
5	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
168 - NERC V	Seminole Electric er 4.1.0.0 Machine Name: ERC	Tradk (Noxak		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	Steven Rueckert		Affirmative	N/A

Previous

1

Next

#### Login (/Users/Login) / Register (/Users/Register)

## **BALLOT RESULTS**

Comment: View Comment Results (/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:	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:	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:	43	1	34	1	0	0	0	2	7
Segment:	0	0	0	0	0	0	0	0	0
Segment: 8	2	0.2	2	0.2	0	0	0	0	0
Segment:	1 Vor 4.1 (	0.1	1 Name: EROD\	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	All	•	entries	Search:	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		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		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. er 4.1.0.0 Machine Name: ERC	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
18 - NERC Ve	er 4.1.0.0 Machine Name: ERC Oncor Electric Delivery	DVSBSWB02	Tammy Porter	None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
	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 18 NEDOV	Austin Energy er 4.1.0.0 Machine Name: ERC	W. Dwayne		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
	BC Hydro and Power Authority	Hootan Jarollahi		Abstain	N/A
	Berkshire Hathaway Energy - MidAmerican Energy Co.	Annette Johnston	Darnez Gresham	Affirmative	N/A
	Black Hills Corporation	Eric Egge		Affirmative	N/A
	Bonneville Power Administration	Rebecca Berdahl		Affirmative	N/A
	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
2	Puget Sound Energy, Inc. er 4.1.00 Machine Name: ERC	Lynda Kunfar		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
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	lan 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	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 r 4.1.0.0 Machine Name: ERC	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. NEDC V	Sacramento Municipal er 4.1.0.0 Machine Name: ERO	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 Hirchak	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 NEEGY	David Kiguel er 4.1.0.0 Machine Name: ERO	_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

Showing 1 to 251 of 251 entries

Previous

Next

# **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 <sup>(1)(2)</sup>: [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

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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 <sup>(1)(2)</sup>: [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

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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 <sup>(1)(2)</sup>: [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:

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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** 

<b>-</b> "		Violation Severity Levels								
R #	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

\_

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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

\_

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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

\_

<sup>&</sup>lt;sup>1</sup> 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.

<sup>&</sup>lt;sup>2</sup> 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** 

R1. N/A N/A N/A N/A The Reliability Coreliability-rel System Oper. NERC certifit Requirement  R2. N/A N/A N/A N/A The Transmission reliability-rel System Oper. Transmission reliability-rel System Oper. N/A N/A N/A N/A System Oper. Transmission reliability-rel System Oper.	
R1. N/A N/A failed to staff operating post Reliability Control Reliability Control Requirement N/A N/A N/A N/A N/A The Transmission reliability-rel System Operating post Transmission reliability-rel System Oper	Severe VSL
R2. N/A N/A failed to staff operating post Transmission reliability-rel System Operating Post System Operating Post System Operation System Op	related tasks with a perator having a valid tificate as defined in
	mission Operator aff each Real-time position performing ion Operator related tasks with a perator having a valid tificate as defined in ent R2, Part 2.2.
N/A  N/A  to staff each is operating possible and the staff each is operating	position performing Authority reliability- ks with a System naving a valid NERC

# **D. Regional Variances**

None.

# **E.** Associated Documents

<u> Implementation Plan – Add link</u>

# **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>	Added footnote to requirements	Revision
<u>2</u>	<u>TBD</u>	Adopted by Board of Trustees	



# **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) <a href="https://example.com/here">here</a>. If you experience difficulties navigating the SBS, contact <a href="https://www.weightocom/weightocom/here">Wendy Muller</a>.

- 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 <a href="https://support.nerc.net/">https://support.nerc.net/</a> (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, <u>Darrel Richardson</u> (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

Login (/Users/Login) / Register (/Users/Register)

# **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:	70	1	54	0.947	3	0.053	0	1	12
Segment:	7	0.4	4	0.4	0	0	0	0	3
Segment:	55	1	44	0.936	3	0.064	0	1	7
Segment:	13	1	10	1	0	0	0	0	3
Segment: 5	59	1	45	0.957	2	0.043	0	3	9
Segment:	43	1	36	0.947	2	0.053	0	0	5
Segment:	0	0	0	0	0	0	0	0	0
Segment:	2	0.2	2	0.2	0	0	0	0	0
Segment:	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	All	•	entries	Search:	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 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
	Black Hills Corporation	Wes Wingen		Affirmative	N/A
1	Bonneville Power Administration	Kammy Rogers- Holliday		Affirmative	N/A
I	CenterPoint Energy Houston Electric, LLC	Daniela Hammons		Affirmative	N/A
I	Central Hudson Gas & Electric Corp.	Frank Pace		Affirmative	N/A
	Cleco Corporation	John Lindsey	Louis Guidry	Affirmative	N/A
1	CMS Energy - Consumers Energy Company	James Anderson		Affirmative	N/A
	Colorado Springs Utilities	Devin Elverdi		None	N/A
1	Con Ed - Consolidated Edison Co. of New York	Dermot Smyth		Affirmative	N/A
I	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
	Exelon	Chris Scanlon		Affirmative	N/A
I	FirstEnergy - FirstEnergy Corporation	Karen Yoder		Affirmative	N/A
I	Great Plains Energy - Kansas City Power and	James McBee	Douglas Webb	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
I	Hydro One Networks, Inc.	Payam Farahbakhsh	Oshani Pathirane	Affirmative	N/A
	IDACORP - Idaho Power Company	Laura Nelson		Affirmative	N/A
	International Transmission Company Holdings Corporation	Michael Moltane	Stephanie Burns	Affirmative	N/A
	JEA	Ted Hobson		None	N/A
	Lakeland Electric	Larry Watt		Affirmative	N/A
	Lincoln Electric System	Danny Pudenz		None	N/A
	Long Island Power Authority	Robert Ganley		Affirmative	N/A
	Los Angeles Department of Water and Power	faranak sarbaz		Affirmative	N/A
	Manitoba Hydro	Mike Smith		None	N/A
	MEAG Power	David Weekley	Scott Miller	Abstain	N/A
	Minnkota Power Cooperative Inc.	Theresa Allard		Affirmative	N/A
	Muscatine Power and Water	Andy Kurriger		Affirmative	N/A
	National Grid USA	Michael Jones		Affirmative	N/A
	Nebraska Public Power District	Jamison Cawley		Affirmative	N/A
	New York Power Authority	Salvatore Spagnolo		Affirmative	N/A
	NiSource - Northern Indiana Public Service Co.	Steve Toosevich		Affirmative	N/A
	OGE Energy - Oklahoma Gas and Electric Co.	Terri Pyle		Affirmative	N/A
	Omaha Public Power District	Doug Peterchuck		None	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NER(
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 4.1.0.0 Machine Name: ERO Electric Co.	, Steve Rawlinson		Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
I	Sunflower Electric Power Corporation	Paul Mehlhaff		Affirmative	N/A
I	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		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 18 - NERC Ve	Hydro One Networks, Inc. er 4.1.0.0 Machine Name: EROI	Paul Malozewski DVSBSWB01	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

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	lan 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
1	MGE Energy - Madison Gas and Electric Co.	Joseph DePoorter		Affirmative	N/A
1	Public Utility District No. 1 of Snohomish County	John Martinsen		Affirmative	N/A
1	Sacramento Municipal Utility District	Beth Tincher	Joe Tarantino	Affirmative	N/A
1	Seattle City Light	Hao Li		Affirmative	N/A
1	Tacoma Public Utilities (Tacoma, WA)	Hien Ho		Affirmative	N/A
1	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	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	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
18 - NERC Ve	er 4 duke Machine Name: EROD	VSBSWB01		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	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

Showing 1 to 257 of 257 entries

Previous

1

Next

Login (/Users/Login) / Register (/Users/Register)

# **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:	68	1	50	0.962	2	0.038	0	3	13
Segment:	7	0.4	4	0.4	0	0	0	0	3
Segment:	53	1	41	0.953	2	0.047	0	3	7
Segment:	13	1	10	1	0	0	0	0	3
Segment: 5	57	1	45	0.978	1	0.022	0	4	7
Segment:	43	1	36	0.973	1	0.027	0	1	5
Segment:	0	0	0	0	0	0	0	0	0
Segment:	2	0.2	2	0.2	0	0	0	0	0
Segment:	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	All	•	entries	Search:	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 <sub>0</sub> NEDOV	Hydro One Networks, Inc. 4.1.0.0 Machine Name: EROE	, Pavampoo	Oshani	Affirmative	N/A

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
	IDACORP - Idaho Power Company	Laura Nelson		Affirmative	N/A
	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	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
l <sub>e NEDOV</sub>	Tacoma Public Utilities er 4. <u>1.</u> 0.0 Machine Name: EROD	v Yoho Wettell		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 19 NEDC V	Berkshire Hathaway Energy - MidAmerican er 4 1 0 0 Machine Name: EROE 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

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

Segment	Organization	Voter	Designated Proxy	Ballot	NERC Memo
	Snohomish County PUD No. 1	Mark Oens		Affirmative	N/A
1	Southern Company - Alabama Power Company	Joel Dembowski		Affirmative	N/A
}	Tacoma Public Utilities (Tacoma, WA)	Marc Donaldson		Affirmative	N/A
3	Tennessee Valley Authority	lan 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
1	Alliant Energy Corporation Services, Inc.	Larry Heckert		Affirmative	N/A
4	Austin Energy	Esther Weekes		None	N/A
1	CMS Energy - Consumers Energy Company	Theresa Martinez		Affirmative	N/A
4	FirstEnergy - FirstEnergy Corporation	Aubrey Short		Affirmative	N/A
1	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
1	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
1	Tacoma Public Utilities	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	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 18 - NERC Ve	OGE Energy - Oklahoma er 4 d & a Maehine Name: EROD	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
	Westar Energy r 4.1.0.0 Machine Name: EROD	Laura Cov		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 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
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 18 - NERC Ve	Luminant - Luminant er 4 <u>dnerg</u> Machine Name: ERO	Brenda Hampton DVSBSWB02		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

Previous

Next

## **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 Associatio		
/	Lauri Jones	Pacific Gas and Electric Company		
	Heather Morgan	EDP Renewables North America LLC		
F	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	North American Electric Reliability Corporation		
	Nina Jenkins-Johnston, Senior Counsel	North American Electric Reliability Corporation		