

Agenda

Standards Committee Meeting

June 12, 2024 | 9:00 a.m.—12:00 p.m. Pacific
Hybrid

Amazon Headquarters
Sea51 Mayday
1220 Howell St.
Seattle, WA., 98101

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Introduction and Chair's Remarks

[NERC Antitrust Compliance Guidelines](#), [Public Announcement](#), and [NERC Participant Conduct Policy](#)

Agenda Items

1. **Review June 12, 2024 Agenda - Approve - Todd Bennett (1 minute)**
2. **Consent Agenda - Approve - Todd Bennett (5 minutes)**
 - a. May 15, 2024 Standards Committee Meeting Minutes* - **Approve**
3. **Projects Under Development - Review**
 - a. [Project Tracking Spreadsheet](#) - *Mike Brytowski* (10 minutes)
 - b. [Projected Posting Schedule](#) - *Latrice Harkness* (5 minutes)
 - c. Three-month outlook* - *Latrice Harkness* (5 minutes)
 - d. Fast Track Update – *Alison Oswald* (5 minutes)
4. **Project 2021-03 CIP-002 Modifications to CIP-002 Standard Authorization Request – Accept/Authorize – Alison Oswald (10 minutes)**
 - a. Modifications to CIP-002 Standard Authorization Request*
5. **Project 2021-03 CIP-002 Modifications to CIP-002 and CIP-014 Standard Authorization Request – Authorize – Alison Oswald (10 minutes)**
 - a. Modifications to CIP-002 and CIP-014 Standard Authorization Request*
6. **Project 2021-01 Modifications to MOD-025 and PRC-019 – Authorize – Jamie Calderon (10 minutes)**

- 7. Project 2022-03 Energy Assurance with Energy-Constrained Resources Standard Authorization Request – Authorize – *Jamie Calderon* (10 minutes)**
 - a. Energy Assessments with Energy-Constrained Resources in the Planning Time Horizon Standard Authorization Request*
- 8. Registered Ballot Body Analysis & Recommendations – Informational – *Nasheema Santos* (10 minutes)**
- 9. December 2024 In-Person Meeting Location Update – Informational – *Dominique Love* (5 minutes)**
- 10. Subcommittee Updates**
 - a. Project Management and Oversight Subcommittee (PMOS) – *Mike Brytowski* (10 minutes)
 - b. Standards Committee Process Subcommittee (SCPC) – *Troy Brumfield* (10 minutes)
 - c. Standing Committees Coordinating Group (SCCG) – *Todd Bennett* (10 minutes)
 - d. Reliability and Security Technical Committee (RSTC) – *Venona Greaff* (10 minutes)
 - e. NERC Board of Trustees – *Sue Kelly* (10 minutes)
- 11. Legal Update and Upcoming Standards Filings - Review - *Lauren Perotti* (5 minutes)**
- 12. Informational Items – Enclosed**
 - a. Standards Committee Expectations*
 - b. [2024 SC Meeting Schedule](#)
 - c. [2024 Standards Committee Roster](#)
 - d. Highlights of Parliamentary Procedure*
- 13. Adjournment**

*Background materials included.

Minutes

Standards Committee Meeting

T. Bennett, chair, called to order the meeting of the Standards Committee (SC or the Committee) on May 15, 2024, at 1:01 p.m. Eastern. D. Love called roll and determined the meeting had a quorum. The SC member attendance and proxy sheets are attached as Attachment 1.

NERC Antitrust Compliance Guidelines and Public Announcement

D. Love called attention to the NERC Antitrust Compliance Guidelines and the public meeting notice and directed questions to NERC's General Counsel, Sonia C. Rocha.

Introduction and Chair's Remarks

T. Bennett welcomed the Committee, guests, and proxies to the meeting.

Review May 15, 2024 Agenda (agenda item 1)

The Committee approved the May 15, 2024 meeting agenda.

Consent Agenda (agenda item 2)

The Committee approved the March 20, 2024 Standards Committee Meeting Minutes. The Committee approved the May 3, 2024 Standards Committee Executive Committee Meeting Minutes. T. Bennett announced that Claudine Fritz won the Special Election for Segment 3.

Projects Under Development (agenda item 3)

M. Brytowski reviewed the Project Tracking Spreadsheet. L. Harkness reviewed the Project Posting Schedule. S. Kim provided an update on the Fast Track Project.

Generator Owner and Generator Operator Definition Alignment Standard Authorization Request (agenda item 4)

A. Oswald provided an overview. V. O'Leary made a motion to:

- Accept the Generator Owner (GO) and Generator Operator (GOP) Definition Alignment Standard Authorization Request (SAR);
- Authorize posting of the SAR for 30-day formal comment;
- Authorize solicitation of the drafting team (DT) members;

The committee approved the motion with no oppositions and no abstentions.

Federal Energy Regulatory Commission (FERC) Order No. 901 – Milestone 3, Part 1: Modeling and Data Sharing Requirements Standard Authorization Request (agenda item 5)

J. Calderon provided an overview. P. Winston made a motion to:

- Accept the Federal Energy Regulatory Commission (FERC) Order No. 901 – Milestone 3, Part 1: Modeling and Data Sharing Requirements Standard Authorization Request (SAR);
- Authorize posting of the SAR for 30-day formal comment;
- Assign the SAR to the NERC Project 2022-02 Modifications to TPL-001-5.1 and MOD-032-1; and
- Authorize solicitation of nominations to supplement the drafting team.

The committee approved the motion with no oppositions and no abstentions.

Federal Energy Regulatory Commission (FERC) Order No. 901 – Milestone 3, Part 2: IBR Model Validation Standard Authorization Request (agenda item 6)

J. Calderon provided an overview. P. Winston made a motion to:

- Accept the Federal Energy Regulatory Commission (FERC) Order No. 901 – Milestone 3, Part 2: IBR Model Validation Standard Authorization Request (SAR);
- Authorize posting of the SAR for a 30-day formal comment period;
- Assign the SAR to the NERC Project 2020-06 (Verifications of Models and Data for Generators); and
- Authorize solicitation of nominations to supplement the drafting team.

The committee approved the motion with no oppositions and no abstentions.

Federal Energy Regulatory Commission (FERC) Order No. 901 – Milestone 3, Part 3: IBR Modeling Revision Standard Authorization Request (agenda item 7)

J. Calderon provided an overview. C. Fritz made a motion to:

- Accept the Federal Energy Regulatory Commission (FERC) Order No. 901 – Milestone 3, Part 3: IBR Modeling Revision Standard Authorization Request (SAR);
- Authorize posting of the SAR for a 30-day formal comment period; and
- Assign the SAR to the NERC Project 2021-01 Modifications to MOD-025 and PRC-019.

The committee approved the motion with no oppositions and no abstentions.

Project 2023-06 CIP-014 Risk Assessment Refinement (agenda item 8)

J. Calderon provided an overview of project background. P. Winston made a motion to authorize initial posting of proposed Reliability Standard CIP-014-4 and the associated Implementation Plan for a 45-day formal comment period, with ballot pools formed in the first 30 days and parallel initial ballots and non-binding polls on the Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs), conducted during the last 10 days of the comment period.

The committee approved the motion with no oppositions and no abstentions.

Project 2023-04 Modifications to CIP-003 (agenda item 9)

A. Oswald provided an update.

Legal Update and Upcoming Standards Filings (agenda item 10)

S. Crawford provided an update.

Adjournment

The meeting adjourned at 3:05 p.m. Eastern.

Three Month Outlook

Month	Project	Priority	Accept / Authorize SAR	Authorize Initial Posting	Additional Ballot Posting	Final Ballot	Posting Information
July 2024	**2020-02 Modifications to PRC-024 (Generator Ride-through)	High			X		
	2023-04 Modifications to CIP-003	High				X	
August 2024	**2020-02 Modifications to PRC-024 (Generator Ride-through)	High				X	
	**2023-02 Analysis and Mitigation of BES Inverter-Based Resource Performance Issues	High			X		
	2023-07 Transmission System Planning Performance Requirements for Extreme Weather	High			X		
	2023-06 CIP-014 Risk Assessment Refinement	High			X		
September 2024	2022-03 Energy Assurance with Energy- Constrained Resources	High			X		
	*2023-01 EOP-004 IBR Event Reporting	Medium			X		

*Denotes IBR/DER-related projects in the table

**Denotes IBR/DER-related projects to address FERC Order No. 901

Project 2021-03 CIP-002

Action

- Accept the revised Project 2021-03 CIP-002 Modifications to CIP-002 Standard Authorization Request (SAR);
- Authorize drafting new or modified Reliability Standard(s) as identified in the Project 2021-03 CIP-002 Modifications to CIP-002 SAR.

Background

Project 2021-03 currently has five assigned SARs:

- [2016-02 SAR](#) – [Transmission Owner Control Centers (TOCC)] - Evaluate the categorization of TOCCs performing the functional obligations of a Transmission Operator, specifically those that meet medium impact criteria.
- [CIP-002 and CIP-014](#) - By modifying the standards to replace/update language with regards to “critical to the derivation of the Interconnection Reliability Operating Limits (IROLS) to appropriately identify facilities.”
- [CIP-002 Communication Protocol Converters](#) - Include the identification of communication protocol converters and the relationship to the exception in Section 4.2.3 in CIP-002.
- [Modifications to CIP-002](#) - To ensure all bulk electric system (BES) Cyber Systems’ associated Cyber Assets (CA) are identified for the application of cyber security requirements commensurate with the adverse impact that loss, compromise, or misuse of those CA.
- [CIP-002-5.1a Criterion 1.3 Revision SAR](#) - Seeks to add Criterion 2.6 to the list of Criteria in Criterion 1.3 in Attachment 1 of CIP-002-5.1a. This project will require the Transmission Operator (TOP) to categorize its BES Cyber System(s) as high impact that meet Criterion 2.6. By including Criterion 2.6 in Criterion 1.3, the TOP’s BES Cyber System (s) will be properly categorized as high impact for Transmission Facilities at a single station or substation location that is identified as critical to the derivation of IROLS and their associated contingencies.

The Standards Committee (SC) authorized solicitation for a Drafting Team (DT) to conduct a field test and assigned a portion of the Project 2016-02 SAR that relates to TOCC to the DT on March 17, 2021. The solicitation for the DT occurred from March 22, 2021 — April 27, 2021. At the May 19, 2021 meeting, the SC appointed the chair, vice chair, and members to the Project 2021-03 CIP-002 DT.

The SC accepted the Modifications to CIP-002 SAR, and assigned it to the Project 2021-03 DT on February 16, 2022. The SAR was posted for a 30-day formal comment period from November 22, 2022 – December 21, 2022.

The SC approved the Project 2021-03 [Field Test Plan](#) on November 17, 2021. Three fields tests were conducted in 2022 and the [final report](#) was posted to the project page in January 2023.

The DT initially focused on drafting revisions to respond to the 2016-02 SAR. The DT has posted revisions to the 2016-02 SAR twice, an initial draft of the revised CIP-002 standard from September 26, 2023 through November 9, 2023, for comment and ballot, and an additional posting from April 2, 2024 through May 16, 2024.

During the most recent comment and ballot period for the 2016-02 revisions, the DT held multiple meetings to address the Modifications to CIP-002 SAR. During this time, the DT reviewed, and responded to SAR comments for the Modifications to CIP-002 SAR, described *supra*. Revisions were made to the Modifications to CIP-002 SAR to clarify the scope of work and ensure consistent usage of terminology.

Summary

NERC staff recommends the SC accept the revised Modifications to CIP-002 SAR, and authorize drafting new or modified Reliability Standard(s) as identified in the Modifications to CIP-002 SAR.

Standard Authorization Request (SAR)

Complete and submit this form, with attachment(s) to the [NERC Help Desk](#). Upon entering the Captcha, please type in your contact information, and attach the SAR to your ticket. Once submitted, you will receive a confirmation number which you can use to track your request.

The North American Electric Reliability Corporation (NERC) welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards.

Requested information

SAR Title:	Modifications to CIP-002		
Date Submitted:	10/4/2021 (Revised on 5/7/2024)		
SAR Requester			
Name:	Latrice Harkness (Revised by the 2021-03 Drafting Team)		
Organization:	NERC		
Telephone:	404-446-9728	Email:	latrice.harkness@nerc.net
SAR Type (Check as many as apply)			
<input type="checkbox"/> New Standard	<input type="checkbox"/> Imminent Action/ Confidential Issue (SPM Section 10)		
<input checked="" type="checkbox"/> Revision to Existing Standard	<input type="checkbox"/> Variance development or revision		
<input type="checkbox"/> Add, Modify or Retire a Glossary Term	<input type="checkbox"/> Other (Please specify)		
<input type="checkbox"/> Withdraw/retire an Existing Standard			
Justification for this proposed standard development project (Check all that apply to help NERC prioritize development)			
<input type="checkbox"/> Regulatory Initiation	<input type="checkbox"/> NERC Standing Committee Identified		
<input type="checkbox"/> Emerging Risk (Reliability Issues Steering Committee) Identified	<input type="checkbox"/> Enhanced Periodic Review Initiated		
<input type="checkbox"/> Reliability Standard Development Plan	<input checked="" type="checkbox"/> Industry Stakeholder Identified		
Industry Need (What Bulk Electric System (BES) reliability benefit does the proposed project provide?):			
<p>The purpose of this project is to centralize the identification of Protected Cyber Assets (PCAs), Electronic Access Control or Monitoring Systems (EACMS), and Physical Access Control Systems (PACS) in a single standard. This work will bring clarity to industry and regulators alike by centralizing the requirements to identify such "CIP applicable" systems solely within a single standard.</p> <p>This work will also ensure that security requirements, commensurate with the adverse impact that loss, compromise, or misuse of PCAs, EACMS, and PACS could have on the reliable operation of the BES. The consideration, identification, and categorization of PCA's, EACMS, and PACS systems within CIP standards supports appropriate protection against compromises, without which an accurate identification of such associated applicable EACMS, PACS, and PCA's may result in registered entities' failure to deploy appropriate controls to these cyber systems and which may lead to misoperation or instability in the BES.</p>			

Requested information
Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?):
The purpose of this work is to revise CIP-002 language to include considerations for EACMS, PACS, and PCAs, which if compromised may pose a threat to their associated BES Cyber System by virtue of: (a) their location within the Electronic Security Perimeter (PCA), or (b) the security control function they perform (EACMS and PACS). This project will ensure the reliable operation of the BES by requiring the identification of EACMS, PACS, and PCAs so that the appropriate controls can be implemented.
Project Scope (Define the parameters of the proposed project):
This project will make revisions to CIP-002 to include the identification of PCA's, EACMS, and PACS associated with high and medium impact BES Cyber Systems.
Detailed Description (Describe the proposed deliverable(s) with sufficient detail for a drafting team to execute the project. If you propose a new or substantially revised Reliability Standard or definition, provide: (1) a technical justification ¹ which includes a discussion of the reliability-related benefits of developing a new or revised Reliability Standard or definition, and (2) a technical foundation document (e.g., research paper) to guide development of the Standard or definition):
Revise CIP-002 to include the identification of EACMS, PACS, and PCAs. This work will revise CIP-002 requirements to allow entities to consider and process applicable systems as part of the CIP-002 identification and categorization requirements.
Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):
Cost impact is unknown at this time. However, a question will be asked during the comment period to ensure cost aspects are considered.
Please describe any unique characteristics of the BES facilities that may be impacted by this proposed standard development project (e.g., Dispersed Generation Resources):
None.
To assist the NERC Standards Committee in appointing a drafting team with the appropriate members, please indicate to which Functional Entities the proposed standard(s) should apply (e.g., Transmission Operator, Reliability Coordinator, etc. See the most recent version of the NERC Functional Model for definitions):
Balancing Authority, Distribution Provider, Generator Operator, Generator Owner, Interchange Coordinator or Interchange Authority, Reliability Coordinator, Transmission Operator, and Transmission Owner.
Do you know of any consensus building activities ² in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus building activity.
None.
Are there any related standards or SARs that should be assessed for impact as a result of this proposed project? If so, which standard(s) or project number(s)?

¹ The NERC Rules of Procedure require a technical justification for new or substantially revised Reliability Standards. Please attach pertinent information to this form before submittal to NERC.

² Consensus building activities are occasionally conducted by NERC and/or project review teams. They typically are conducted to obtain industry inputs prior to proposing any standard development project to revise, or develop a standard or definition.

Requested information
Project 2016-02, Project 2021-03, Project 2023-06
Are there alternatives (e.g., guidelines, white paper, alerts, etc.) that have been considered or could meet the objectives? If so, please list the alternatives.
None.

Reliability Principles	
Does this proposed standard development project support at least one of the following Reliability Principles (Reliability Interface Principles)? Please check all those that apply.	
<input type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained and implemented.
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored and maintained on a wide area basis.
<input checked="" type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber attacks.

Market Interface Principles	
Does the proposed standard development project comply with all of the following Market Interface Principles ?	Enter (yes/no)
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

Identified Existing or Potential Regional or Interconnection Variances	
Region(s)/ Interconnection	Explanation
<i>e.g.</i> , NPCC	None.

For Use by NERC Only

SAR Status Tracking (Check off as appropriate).	
<input type="checkbox"/> Draft SAR reviewed by NERC Staff	<input type="checkbox"/> Final SAR endorsed by the SC
<input type="checkbox"/> Draft SAR presented to SC for acceptance	<input type="checkbox"/> SAR assigned a Standards Project by NERC
<input type="checkbox"/> DRAFT SAR approved for posting by the SC	<input type="checkbox"/> SAR denied or proposed as Guidance document

Version History

Version	Date	Owner	Change Tracking
1	June 3, 2013		Revised
1	August 29, 2014	Standards Information Staff	Updated template
2	January 18, 2017	Standards Information Staff	Revised
2	June 28, 2017	Standards Information Staff	Updated template
3	February 22, 2019	Standards Information Staff	Added instructions to submit via Help Desk
4	February 25, 2020	Standards Information Staff	Updated template footer

Standard Authorization Request (SAR)

Complete and submit this form, with attachment(s) to the [NERC Help Desk](#). Upon entering the Captcha, please type in your contact information, and attach the SAR to your ticket. Once submitted, you will receive a confirmation number which you can use to track your request.

The North American Electric Reliability Corporation (NERC) welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards.

Requested information

SAR Title:	Modifications to CIP-002		
Date Submitted:	10/4/2021 <u>(Revised on 5/7/2024)</u>		
SAR Requester			
Name:	Latrice Harkness <u>(Revised by the 2021-03 Drafting Team)</u>		
Organization:	NERC		
Telephone:	404-446-9728	Email:	latrice.harkness@nerc.net
SAR Type (Check as many as apply)			
<input type="checkbox"/>	New Standard	<input type="checkbox"/>	Imminent Action/ Confidential Issue (SPM Section 10)
<input checked="" type="checkbox"/>	Revision to Existing Standard	<input type="checkbox"/>	Variance development or revision
<input type="checkbox"/>	Add, Modify or Retire a Glossary Term	<input type="checkbox"/>	Other (Please specify)
<input type="checkbox"/>	Withdraw/retire an Existing Standard		
Justification for this proposed standard development project (Check all that apply to help NERC prioritize development)			
<input type="checkbox"/>	Regulatory Initiation	<input type="checkbox"/>	NERC Standing Committee Identified
<input type="checkbox"/>	Emerging Risk (Reliability Issues Steering Committee) Identified	<input type="checkbox"/>	Enhanced Periodic Review Initiated
<input type="checkbox"/>	Reliability Standard Development Plan	<input checked="" type="checkbox"/>	Industry Stakeholder Identified
Industry Need (What Bulk Electric System (BES) reliability benefit does the proposed project provide?):			
<p>The purpose of this project is to revise CIP-002 to centralize <u>include</u> ensure that <u>the identification of Protected Cyber Assets (-all BES Cyber Systems' associated Cyber Assets PCAs), Electronic Access Control or Monitoring Systems (EACMS), and Physical Access Control Systems (PACS) -in a single standard within CIP-002. This work will revise CIP-002 requirements to allow entities to consider and process applicable systems identified as part of the CIP-002 identification and categorization requirements. This work will bring clarity to industry and regulators alike by centralizing the requirements to</u> identify such "CIP applicable" systems solely within a single standard <u>CIP-002.</u> <u>This work will also ensure that security requirements, for the application of cyber security requirements commensurate with the adverse impact that loss, compromise, or misuse of PCAs, EACMS, and PACS those Cyber Assets could have on the reliable operation of the BES, are considered and applied as part of the CIP-002 requirements.</u></p>			

Requested information
<u>The consideration, identification, and categorization of PCA's, EACMS, and PACS these systems within CIP standards-002 Cyber Assets</u> supports appropriate protection against compromises, <u>without which</u> . <u>Without</u> an accurate <u>identification inventory of of such</u> associated <u>applicable EACMS, PACS, and PCA's</u> <u>may result in Cyber Assets</u> , registered entities' <u>failure may fail</u> to deploy appropriate controls to these <u>cyber systems and Cyber Assets</u> , which may lead to misoperation or instability in the BES.
Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?):
<u>The purpose of this work is to revise CIP-002 language to include considerations for Electronic Access Control or Monitoring Systems (EACMS), Physical Access Control Systems (PACS), and Protected Cyber Assets (PCAs), which</u> , if compromised <u>may</u> , pose a threat to their associated BES Cyber System by virtue of: (a) their location within the Electronic Security Perimeter (PCA), or (b) the security control function they perform (EACMS and PACS). This project will ensure the reliable operation of the BES by requiring the identification of <u>EACMS, PACS, and PCAs these Cyber Assets</u> so that the appropriate controls can be implemented.
Project Scope (Define the parameters of the proposed project):
This project will make revisions to CIP-002 to include the identification <u>and categorization</u> of <u>PCA's, certain Cyber Assets (EACMS, and PACS, PACS, and PCAs)</u> associated with high and medium impact BES Cyber Systems <u>s, in order to include Cyber Assets that present a threat to those BES Cyber Systems.</u>
Detailed Description (Describe the proposed deliverable(s) with sufficient detail for a drafting team to execute the project. If you propose a new or substantially revised Reliability Standard or definition, provide: (1) a technical justification ¹ which includes a discussion of the reliability-related benefits of developing a new or revised Reliability Standard or definition, and (2) a technical foundation document (e.g., research paper) to guide development of the Standard or definition):
Revise CIP-002 to include the identification <u>of EACMS, PACS, and PCAs. This work will revise CIP-002 requirements to allow entities to consider and process applicable systems as part of the CIP-002 identification and categorization requirements.</u>
Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):
Cost impact is unknown at this time. However, a question will be asked during the comment period to ensure cost aspects are considered.
Please describe any unique characteristics of the BES facilities that may be impacted by this proposed standard development project (e.g., Dispersed Generation Resources):
None.
To assist the NERC Standards Committee in appointing a drafting team with the appropriate members, please indicate to which Functional Entities the proposed standard(s) should apply (e.g., Transmission Operator, Reliability Coordinator, etc. See the most recent version of the NERC Functional Model for definitions):

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Requested information	
Balancing Authority, Distribution Provider, Generator Operator, Generator Owner, Interchange Coordinator or Interchange Authority, Reliability Coordinator, Transmission Operator, <u>and</u> Transmission Owner.	
Do you know of any consensus building activities ² in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus building activity.	
None.	
Are there any related standards or SARs that should be assessed for impact as a result of this proposed project? If so, which standard(s) or project number(s)?	
Project 2016-02, Project 2021-03, <u>Project 2023-06</u>	
Are there alternatives (e.g., guidelines, white paper, alerts, etc.) that have been considered or could meet the objectives? If so, please list the alternatives.	
None.	

Reliability Principles	
Does this proposed standard development project support at least one of the following Reliability Principles (Reliability Interface Principles)? Please check all those that apply.	
<input type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained and implemented.
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Market Interface Principles	
Does the proposed standard development project comply with all of the following Market Interface Principles ?	Enter (yes/no)
1. A reliability standard shall not give any market participant an unfair competitive advantage.	Yes

² Consensus building activities are occasionally conducted by NERC and/or project review teams. They typically are conducted to obtain industry inputs prior to proposing any standard development project to revise, or develop a standard or definition.

Market Interface Principles	
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

Identified Existing or Potential Regional or Interconnection Variances	
Region(s)/ Interconnection	Explanation
<i>e.g.</i> , NPCC	None.

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SAR Status Tracking (Check off as appropriate).	
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4	February 25, 2020	Standards Information Staff	Updated template footer

Project 2021-03 CIP-002

Action

Authorize drafting new or modified Reliability Standard(s) as identified in the Project 2021-03 CIP-002 and CIP-014 Standard Authorization Request (SAR).

Background

Project 2021-03 currently has five assigned SARs:

- [2016-02 SAR](#) - [Transmission Owner Control Centers (TOCC) portion] - Evaluate the categorization of TOCCs performing the functional obligations of a Transmission Operator, specifically those that meet medium impact criteria.
- [CIP-002 and CIP-014 SAR](#) - By modifying the standards to replace/update language with regards to “critical to the derivation of the Interconnection Reliability Operating Limits (IROLS) to appropriately identify facilities.”
- [CIP-002 Communication Protocol Converters SAR](#) - Include the identification of communication protocol converters and the relationship to the exception in Section 4.2.3 in CIP-002.
- [Modifications to CIP-002 SAR](#) - To ensure all Bulk Electric System (BES) Cyber Systems associated Cyber Assets (CA) are identified for the application of cyber security requirements commensurate with the adverse impact of loss, compromise, or misuse of those CA.
- [CIP-002-5.1a Criterion 1.3 Revision SAR](#) - Seeks to add Criterion 2.6 to the list of Criteria in Criterion 1.3 in Attachment 1 of CIP-002-5.1a. This project will require the Transmission Operator (TOP) to categorize its BES Cyber System(s) as high impact that meet Criterion 2.6. By including Criterion 2.6 in Criterion 1.3, the TOP’s BES Cyber Systems(s) will be properly categorized as high impact for Transmission Facilities at a single station or substation location that is identified as critical to the derivation of IROLS and their associated contingencies.

The Standards Committee (SC) authorized solicitation for a Drafting Team (DT) to conduct a field test and assigned a portion of the Project 2016-02 SAR that relates to TOCC to the DT on March 17, 2021. The solicitation for the DT occurred from March 22, 2021 — April 27, 2021. At the May 19, 2021 meeting, the SC appointed the chair, vice chair, and members to the Project 2021-03 CIP-002 DT.

The SC accepted the CIP-002 and CIP-014 SAR, and assigned it to the Project 2021-03 DT on July 21, 2021. The SAR was posted for a 30-day informal comment period from November 22, 2022 – December 21, 2022.

The SC approved the Project 2021-03 [Field Test Plan](#) on November 17, 2021. Three field tests were conducted in 2022, and the [final report](#) was posted to the project page in January 2023.

The DT initially focused on drafting revisions to respond to the 2016-02 SAR. The DT has posted revisions to the 2016-02 SAR twice, an initial draft of the revised CIP-002 standard from September 26, 2023 through November 9, 2023, for comment and ballot, and an additional posting from April 2, 2024 through May 16, 2024.

During the most recent comment and ballot period for the 2016-02 revisions, the DT held meetings to address the CIP-002 and CIP-014 SAR. The DT reviewed and responded to CIP-002 and CIP-014 SAR comments. The DT decided that the CIP-002 and CIP-014 SAR did not require revisions.

Summary

NERC staff recommends the SC to authorize drafting new or modified Reliability Standard(s) as identified in the Project 2021-03 CIP-002 and CIP-014 SAR. The previously accepted SAR is being provided for informational purposes.

Standard Authorization Request (SAR)

Complete and submit this form, with attachment(s) to the [NERC Help Desk](#). Upon entering the Captcha, please type in your contact information, and attach the SAR to your ticket. Once submitted, you will receive a confirmation number which you can use to track your request.

The North American Electric Reliability Corporation (NERC) welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards.

Requested information

SAR Title:	Modifications to CIP-002 and CIP-014
Date Submitted:	May 26, 2021 (Reviewed on 5/7/2024)

SAR Requester

Name:	Dean LaForest (Reviewed by the 2021-03 Drafting Team)		
Organization:	ISO New England		
Telephone:	413-387-8132	Email:	dlaforest@iso-ne.com

SAR Type (Check as many as apply)

<input type="checkbox"/> New Standard	<input type="checkbox"/> Imminent Action/ Confidential Issue (SPM Section 10)
<input checked="" type="checkbox"/> Revision to Existing Standard	<input type="checkbox"/> Variance development or revision
<input type="checkbox"/> Add, Modify or Retire a Glossary Term	<input type="checkbox"/> Other (Please specify)
<input type="checkbox"/> Withdraw/retire an Existing Standard	

Justification for this proposed standard development project (Check all that apply to help NERC prioritize development)

<input type="checkbox"/> Regulatory Initiation	<input type="checkbox"/> NERC Standing Committee Identified
<input type="checkbox"/> Emerging Risk (Reliability Issues Steering Committee) Identified	<input type="checkbox"/> Enhanced Periodic Review Initiated
<input type="checkbox"/> Reliability Standard Development Plan	<input checked="" type="checkbox"/> Industry Stakeholder Identified

Industry Need (What Bulk Electric System (BES) reliability benefit does the proposed project provide?):

This project provides revisions to CIP-002 and CIP-014 to clarify the responsibility of Reliability Coordinators, Planning Coordinators and Transmission Planners in identifying Facilities that warrant consideration under these Reliability Standards. As it relates to the Transmission Planner and Planning Coordinator functions, the language "critical to the derivation of Interconnection Reliability Operating Limits (IROLs)" should be replaced/updated to appropriately identify Facilities that, if somehow compromised, could significantly impact the reliability of the Bulk Electric System (BES). Additionally this project will review the applicability of Facilities identified by the Reliability Coordinator as critical to the derivation of IROLs to CIP-002 and CIP-014.

Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?):

This project provides necessary clarification to identify Facilities identified by Reliability Coordinators, Planning Coordinators and Transmission Planners that warrant consideration under the CIP-002 and CIP-

Requested information
014 Reliability Standards. These clarifications will ensure that responsible entities are provided with the necessary information to appropriately protect these Facilities, and correctly identify the responsible parties that provide the information applicable to the standards.
Project Scope (Define the parameters of the proposed project):
This project will make conforming changes to CIP-002 and CIP-014 as a result of Standard revisions from Project 2015-09. Project 2015-09 revised the requirements for determining and communicating System Operating Limits (SOLs) and IROLs used in the reliable planning and operation of the BES. These revisions necessitate that CIP-002 and CIP-014 be revised to clarify the Functional Entities responsible for communication of Facilities that warrant consideration under the CIP-002 and CIP-014 Reliability Standards. This will include review of criteria/applicability to determine Facilities identified per Attachment 1 of CIP-002 and the Applicability section of CIP-014 for potential revision for responsible entities.
This team will work to coordinate with other ongoing CIP development projects to ensure alignment with any changes to definition or standards and requirements.
Detailed Description (Describe the proposed deliverable(s) with sufficient detail for a drafting team to execute the project. If you propose a new or substantially revised Reliability Standard or definition, provide: (1) a technical justification¹ which includes a discussion of the reliability-related benefits of developing a new or revised Reliability Standard or definition, and (2) a technical foundation document (e.g., research paper) to guide development of the Standard or definition):
Revisions to CIP-002 and CIP-014 to include: <ul style="list-style-type: none"> (1) Identifying Functional Entities that identify Facilities applicable to CIP-002 and CIP-014. (2) Identifying Functional Entities responsible for the communication of the identified Facilities. (3) Applicability sections to be reviewed and revised accordingly. (4) Determine the appropriate Facilities for application of the CIP standard and include due consideration for those planning events that result in System instability, Cascading, or uncontrolled separation as identified in the PC and TP’s Planning Assessment for the Near-Term Transmission Planning Horizon. (5) Determine the appropriateness of the identification of Facilities critical to the derivation of IROLs by the RC.
Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):
Cost impact of implementation of the proposed Standard is dependent upon the method(s) by which a Responsible Entity chooses to meet any additional Requirements. However, a question will be asked during the SAR comment period to ensure cost aspects are considered.
Please describe any unique characteristics of the BES facilities that may be impacted by this proposed standard development project (e.g., Dispersed Generation Resources):
Submitter asserts there are no unique characteristics associated with BES facilities that will be impacted by this proposed standard development project.

¹ The NERC Rules of Procedure require a technical justification for new or substantially revised Reliability Standards. Please attach pertinent information to this form before submittal to NERC.

Requested information
To assist the NERC Standards Committee in appointing a drafting team with the appropriate members, please indicate to which Functional Entities the proposed standard(s) should apply (e.g., Transmission Operator, Reliability Coordinator, etc. See the most recent version of the NERC Functional Model for definitions):
Reliability Coordinator, Balancing Authority, Transmission Owner, Transmission Operator, Generator Owner, Generator Operator
Do you know of any consensus building activities ² in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus building activity.
None.
Are there any related standards or SARs that should be assessed for impact as a result of this proposed project? If so, which standard(s) or project number(s)?
Project 2016-02 Modifications to CIP Standards.
Are there alternatives (e.g., guidelines, white paper, alerts, etc.) that have been considered or could meet the objectives? If so, please list the alternatives.
None at this time.

Reliability Principles	
Does this proposed standard development project support at least one of the following Reliability Principles (Reliability Interface Principles)? Please check all those that apply.	
<input checked="" type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input checked="" type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained and implemented.
<input type="checkbox"/>	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored and maintained on a wide area basis.
<input checked="" type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber attacks.

² Consensus building activities are occasionally conducted by NERC and/or project review teams. They typically are conducted to obtain industry inputs prior to proposing any standard development project to revise, or develop a standard or definition.

Market Interface Principles	
Does the proposed standard development project comply with all of the following Market Interface Principles ?	Enter (yes/no)
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

Identified Existing or Potential Regional or Interconnection Variances	
Region(s)/ Interconnection	Explanation
	None identified

For Use by NERC Only

SAR Status Tracking (Check off as appropriate).	
<input type="checkbox"/> Draft SAR reviewed by NERC Staff	<input type="checkbox"/> Final SAR endorsed by the SC
<input type="checkbox"/> Draft SAR presented to SC for acceptance	<input type="checkbox"/> SAR assigned a Standards Project by NERC
<input type="checkbox"/> DRAFT SAR approved for posting by the SC	<input type="checkbox"/> SAR denied or proposed as Guidance document

Version History

Version	Date	Owner	Change Tracking
1	June 3, 2013		Revised
1	August 29, 2014	Standards Information Staff	Updated template
2	January 18, 2017	Standards Information Staff	Revised
2	June 28, 2017	Standards Information Staff	Updated template
3	February 22, 2019	Standards Information Staff	Added instructions to submit via Help Desk
4	February 25, 2020	Standards Information Staff	Updated template footer

2021-01 Modifications to MOD-025 and PRC-019

Action

Authorize solicitation of nominations to supplement the Project 2021-01, Modifications to MOD-025 and PRC-019 drafting team (DT).

Background

At the May 15, 2024 Standards Committee (SC) meeting, the SC accepted the Federal Energy Regulatory Commission (FERC) Order No. 901 – Milestone 3, Part 3: IBR Modeling Revisions SAR (Milestone 3 SAR) and assigned it to the Project 2021-01, Modifications to MOD-025 and PRC-019, DT as a High Priority project. The SC also authorized posting of the Milestone 3 SAR, from May 23 through June 28, 2024.

The Milestone 3 SAR is intended to modify Reliability Standards that are within the scope of current Project 2021-01, Modifications to MOD-025 and PRC-019. The Milestone 3 SAR ensures that obligations to conduct model validation for IBR are not duplicative in nature, and do not create competing expectations for IBR to conduct verification/validation of model data for IBR. In addition, the Milestone 3 SAR adjusts the scope of the Project 2021-01 DT by removing IBR from the applicability of affected Reliability Standards.

At the December 15, 2021 meeting, the SC accepted the original SARs assigned to Project 2021-01, Modifications to MOD-025 and PRC-019. To date, the DT has proposed revisions to both MOD-025 and PRC-019. The initial posting ran from November 4, 2022 through November 17, 2022. An additional posting occurred from April 25, 2023 through June 8, 2023.

NERC must file the Reliability Standards or definitions developed under Milestone 3 by November 4, 2025.

Summary

Due to the increased priority and change of scope for this project, NERC staff recommends the SC authorize solicitation of additional nominations to supplement the DT.

Energy Assurance with Energy Constrained Resources Planning Time Horizon

Action

Authorize solicitation of nominees for a new drafting team (DT) to address Energy Assurance with Energy-Constrained Resources Planning Time Horizon Standard Authorization Request (SAR).

Background

The Standards Committee (SC) accepted the Operations/Operational Planning time horizon, and Planning time horizon Standard Authorization Request (SARs) at its June 15, 2022 meeting. At the same meeting, the SC authorized solicitation of members for the SAR DT. The informal comment period, and the solicitation for the SAR DT member period ran from June 22, 2022 – July 21, 2022. The SC appointed fifteen (15) members to the SAR DT at its September 21, 2022 meeting.

On January 25, 2023, the Standards Committee (SC) appointed the SAR drafting team as the Standard drafting team and authorized the DT to develop standards to address these two SARs. To date, The DT has focused its efforts on the Operations Planning Time Horizon SAR, and completed an informal posting September 13, 2023 through October 5, 2023, proposing a new TOP-OXX-X. The DT reviewed the informal feedback received and drafted a new BAL-007-1 Reliability Standard. After receiving authorization for initial posting from the SC on January 17, 2024, the initial comment and ballot period commenced from January 25, 2024 through March 11, 2024. An additional formal comment and ballot started May 7, and will end June 20, 2024.

Advancing Reliability Standards that address extreme weather and energy assurance is a NERC work plan priority for 2024.¹ NERC's work plan goal is to complete work to address the Operations Planning Time Horizon SAR in 2024, and the Planning Time Horizon SAR by 2025. To achieve these goals, NERC staff recommends a new DT be developed to address the Planning Time Horizons SAR simultaneously.

Summary

NERC staff recommends that the SC authorize the solicitation of DT members to form a new drafting team focused on addressing the Energy Assurance with Energy Constrained Resources Planning Time Horizons SAR accepted by the SC on January 25, 2023. The previously accepted SAR is being provided for informational purposes.

¹NERC; Presentation title: [2024 Work Plan Priorities](https://www.nerc.com/AboutNERC/StrategicDocuments/2024%20Work%20Plan%20Priorities%20(Aprroved%20December%2012,%202023).pdf); December 12, 2023;
[https://www.nerc.com/AboutNERC/StrategicDocuments/2024%20Work%20Plan%20Priorities%20\(Aprroved%20December%2012,%202023\).pdf](https://www.nerc.com/AboutNERC/StrategicDocuments/2024%20Work%20Plan%20Priorities%20(Aprroved%20December%2012,%202023).pdf)

Standard Authorization Request (SAR)

Complete and submit this form, with attachment(s) to the [NERC Help Desk](#). Upon entering the Captcha, please type in your contact information, and attach the SAR to your ticket. Once submitted, you will receive a confirmation number which you can use to track your request.

The North American Electric Reliability Corporation (NERC) welcomes suggestions to improve the reliability of the bulk power system through improved Reliability Standards.

Requested information

SAR Title: Energy Assessments with Energy– Constrained Resources in the Planning Time Horizon

Date Submitted: Revised on December 6, 2022

SAR Requester

Name: Chair Peter Brandien on behalf of the Energy Reliability Assessment Task Force (ERATF)

Organization: Revised by Project 2022-03 SAR DT

Telephone: (413) 535-4022 Email: pbrandien@iso-ne.com

SAR Type (Check as many as apply)

- | | |
|---|---|
| <input checked="" type="checkbox"/> New Standard | <input type="checkbox"/> Imminent Action/ Confidential Issue (SPM Section 10) |
| <input checked="" type="checkbox"/> Revision to Existing Standard | <input type="checkbox"/> Variance development or revision |
| <input checked="" type="checkbox"/> Add, Modify or Retire a Glossary Term | <input type="checkbox"/> Other (Please specify) |
| <input type="checkbox"/> Withdraw/retire an Existing Standard | |

Justification for this proposed standard development project (Check all that apply to help NERC prioritize development)

- | | |
|--|--|
| <input type="checkbox"/> Regulatory Initiation | <input checked="" type="checkbox"/> NERC Standing Committee Identified |
| <input checked="" type="checkbox"/> Emerging Risk (Reliability Issues Steering Committee) Identified | <input type="checkbox"/> Enhanced Periodic Review Initiated |
| <input type="checkbox"/> Reliability Standard Development Plan | <input checked="" type="checkbox"/> Industry Stakeholder Identified |

Industry Need (What Bulk Electric System (BES) reliability benefit does the proposed project provide?):

Unassured deliverability of fuel supplies, coincident with inconsistent output from variable renewable energy resources and volatility in forecasted load, can result in insufficient amounts of energy available from the BES to serve electrical demand and ensure the reliable operation of the BES throughout each hour of the time period being evaluated¹.

Historically, analyses of energy available to the BES focused on capacity reserve levels across peak-demand time periods. Generating resources and the requisite fuel were assumed available. This was a logical assumption in the past as fuel availability was assured with either firm fuel contracts (commodity plus transportation capacity), or on-site storage (e.g., oil, coal, reservoir-based hydro), or required periodic and predictable fuel replacement (e.g., nuclear). The availability of dispatchable generation with

¹ The industry need is described in the *Ensuring Energy Adequacy with Energy-Constrained Resources* white paper, presented to the RSTC, December 2020.

Requested information

diverse fuel types promoted flexibility in providing energy for the BES should one fuel type become unavailable.

Reserve margins are planned so that deficiency in capacity to meet daily peak demand (Loss of Load Expectation {LOLE}) did not exceed one day-in-ten-years. LOLE is calculated from probabilistic analysis, typically using generating unit forced outage rates based on random equipment failures derived from its historic performance. The targeted level of one event every ten years is traditionally based on daily peaks (rather than hourly energy obligations). Additional insights can be gained through these methods by calculating Loss-of-Load-Hours (LOLH) and expected unserved energy (EUE) based on the mean-time-to-repair (MTTR) unit averages.

Today, the transition to include more just-in-time energy resources is creating a more complex scenario and highlighting the need for energy assurance. Installed generating capacity analysis alone is not sufficient to ensure a reliable supply of energy for the BES. The proliferation of intermittent renewable generation in the resource mix increases the importance of having precisely controllable resources with sufficient fuel available, ready to respond when needed. The increasing prevalence of distribution-level resources and flexible load programs also introduces added volatility into energy forecasts, further complicating energy reliability assessments. Supply intermittency and demand volatility both require the dispatchable generation fleet to be available and flexible enough to respond when called upon. These factors can also lead to unexpected and unstudied energy issues in non-peak hours, a risk that would not be identified by traditional analyses focused on capacity reserve margins across peak demand periods.

The transition to more intermittent resources is increasing the reliance on natural gas as the fuel needed for dispatchable resources that can promote energy assurance; however, uncertainty is still an issue if the natural gas-fueled resources are subject to fuel curtailment or interruption (by virtue of fuel acquisition contracts) during peak fuel demands which often correspond with winter-peak electric demands. Additionally, the design of natural gas pipeline systems and the availability of back-up natural gas feeders can impact individual generators and the BES under pipeline disruption scenarios.

The intermittency of renewable generation, demand volatility, the need for sufficient flexibility from balancing generation resources, and the potential for natural gas supply interruptions all combine to highlight the need for energy reliability assessments that analyze all hours of a given study period rather than just across the peak hours.

Energy assurance and fuel assurance risks are becoming more apparent as extreme weather has resulted in energy deficits (as opposed to capacity deficits) in recent years. During the past 10 years, multiple extreme events that have jeopardized the BES.

In February 2011², an arctic cold front in the southwest United States resulted in generation outages and natural gas facility outages. In January 2014³, a polar vortex affected the central and eastern United States

² [Outages and Curtailments During the Southwest Cold Weather Event of February 1-5, 2011 - FERC and NERC](#)

³ [Polar Vortex Review](#)

Requested information

and Texas. Another event in 2014 triggered generation outages and natural gas availability issues. In January 2018⁴, the south-central United States experienced many generation outages resulting in emergency measures. In 2021, the Oroville hydroelectric facility was shut down when reservoir levels, due to drought conditions, dropped below its minimum operating elevation. Finally, the cold weather event of February 2021⁵ impacted Mississippi, Louisiana, Arkansas, Oklahoma, and Texas. Events like these highlight the need for a new approach to reliability planning that considers the extreme conditions and variability the BES is increasingly experiencing.

As part of ongoing near and long-term planning, many entities have started incorporating some limited energy reliability assessments (e.g., uncertainty around renewable output) into reliability studies that produce key metrics: LOLE, LOLH, and EUE. However, there is inconsistency among entities in whether and how the assessments are performed. TPL-001-4 calls out the loss of a large natural gas pipeline as an extreme event that should be studied for areas with significant natural gas generation, but beyond this mention, identifying and mitigating risks identified by energy reliability assessments are not addressed in existing NERC Reliability Standards. To achieve the level of consistency needed across the industry, energy reliability assessments for the planning (> one year) time horizon and the mitigation of identified risks must be mandated and codified in NERC Reliability Standard requirements.

Purpose or Goal (How does this proposed project provide the reliability-related benefit described above?):

The goal of the SAR is to address energy assurance rather than resource adequacy. This project will enhance reliability by requiring industry to perform energy reliability assessments to evaluate energy assurance and when predefined criteria are not met, develop Corrective Action Plan(s), Operating Plans, or other mitigating actions to address identified risks. Energy reliability assessments evaluate energy assurance across the Near-Term Transmission Planning and Long-Term Transmission Planning or equivalent⁶ time horizon by analyzing the expected resource mix availability (flexibility) and the expected availability of fuel during the study period.

Project Scope (Define the parameters of the proposed project):

The project scope is to create or modify NERC Reliability Standards to address the following:

- Create defined terms (e.g., energy reliability assessment, energy assurance, extreme event analysis) as needed (refer to [Appendix B for proposed definitions](#) to key terms).
- Create requirement(s) and identify functional entities to accomplish the following:
 - Conduct an energy reliability assessment:
 - Define a period of time to be studied within planning time horizons that appropriately considers the specific characteristics of the resources in the area being evaluated, including such properties as the logistics involved in the replenishment of fuel and the ability to

⁴ [2019 FERC and NERC Staff Report: The South Central United States Cold Weather Bulk Electric System Event of January 17, 2018](#)

⁵ [February 2021 Cold Weather Grid Operations: Preliminary Findings and Recommendations - FERC, NERC and Regional Entity Joint Staff Inquiry](#)

⁶ The phrases “Near-Term Transmission Planning” and “Long-Term Transmission Planning” are NERC Glossary terms. The drafting team may consider adding definitions to the NERC Glossary that are independent of transmission.

Requested information

- accurately forecast or assume system conditions. Time periods are expected to differ between areas due to the notable differences in electric systems, interconnected fuel delivery systems, weather, climate, operating philosophies, and other contributing factors.
- Include an evaluation of the unique characteristics of variable resources and their impact(s) on non-variable resources.
 - Account for uncertainty related to both supply and demand across all hours of the studied period, probabilistically when appropriate. Potential sources of uncertainty to be considered include but are not limited to:
 - * Time-coupled restrictions on the availability of fuel, including the limited capability to replenish fuel at or above the rate at which it is consumed. This includes transportation of stored fuels, such as oil and coal, as well as the delivery of fuels with continuous delivery, such as natural gas. Where relevant, incorporate potential contractual limitations on fuel availability.
 - * Outage duration informed by potential failure modes.
 - * Flexibility/operational constraints of resources.
 - * Disruptions to fuel delivery supply chains (e.g., pipeline outages, constraints on natural gas availability due to extreme cold).
 - * Coincident outages of multiple independent resources.
 - * Common mode outages not connected to fuel supply.
 - * Variability of potential resource profiles/availability.
 - * Impact of energy storage resources.
 - * Transmission capacity and deliverability to the load centers, including imports.
 - * Correlated impact of weather and other significant events on load and generation⁷.
 - * Low probability/high impact weather events.
 - Energy reliability assessments should be required to:
 - Be coordinated between areas to synchronize interchange assumptions.
 - Be conducted on a clearly defined periodic basis and performed in each of the NERC defined planning time horizons.
 - Be periodically validated and updated, and updated when changes to assumptions and input data nullifies an existing assessment.

⁷ For example, cascading series of issues including an extreme cold weather event across a significant portion of the NERC footprint, multiple forced outages early in the morning (when there is a lack of solar resources), and inadequate availability of natural gas. A wide area impact makes depending on imports less available.

Requested information

- For energy reliability assessments, measurements and observations should be compared to predefined criteria, and results should be in terms of impact on the BES. The predefined criteria do not need to be specifically defined within the Standard. Alternatively, the standard would require each entity to establish and document criteria as part of complying with the Standard. The predefined criteria may be set specifically within the Standard or established and documented by each applicable entity as part of complying with the Standard.
- When predefined criteria are not met, the responsible entity shall develop the Corrective Action Plans, Operating Plans or other mitigating actions.
- Coordinate with the NERC Electric-Gas Working Group, the North American Energy Standards Board, the *Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination* drafting team and other groups to minimize duplication of efforts and ensure that non-conflicting requirements are developed.

Detailed Description (Describe the proposed deliverable(s) with sufficient detail for a drafting team to execute the project. If you propose a new or substantially revised Reliability Standard or definition, provide: (1) a technical justification⁸ which includes a discussion of the reliability-related benefits of developing a new or revised Reliability Standard or definition, and (2) a technical foundation document (e.g., research paper) to guide development of the Standard or definition):

The detailed description and requirements of proposed standards are included in the previous section of this SAR as part of the scope.

Energy assurance is an increasingly important aspect of a reliable BPS, but it is inconsistently defined and measured, and energy reliability assessments to evaluate energy assurance as part of BPS long-term planning procedures are not included in existing NERC Reliability Standards. Current practices focus on capacity assessments to evaluate whether sufficient power is available to supply the BPS at peak demand; however, an analysis of energy sufficiency is required to effectively identify BES risks because of the changing resource mix, the increasing volatility of demand, and the interconnected nature of the electric power system (with external supply chains, e.g., natural gas). The *2021 ERO Reliability Risk Priorities Report* (produced by the Reliability Issues Steering Committee) and the *Ensuring Energy Adequacy with Energy-Constrained Resources* whitepaper identified these issues as significant risks to reliability for which solutions to evaluate and mitigate are required. Through a gap analysis of NERC Reliability Standards and a survey of industry stakeholders, the NERC ERATF more specifically identified the energy-related risks that need to be addressed through the Standards development process. Refer to the ERATF Technical Justification document (Appendix A) for additional information and a more detailed description of the justification.

The following [Reliability and Security Guidelines \(available at nerc.com\)](#) and technical reference documents can serve as guides to develop standards by expanding upon the work of the EGWG to energy assurance standards:

⁸ The NERC Rules of Procedure require a technical justification for new or substantially revised Reliability Standards. Please attach pertinent information to this form before submittal to NERC.

Requested information

- Reliability Guideline: Fuel Assurance and Fuel-Related Reliability Risk Analysis
- Reliability Guideline: Generating Unit Winter Weather Readiness
- Reliability Guideline: Gas and Electrical Operational Coordination Considerations
- Data Collection: Approaches for Probabilistic Assessments
- 2020 Probabilistic: Regional Risk Scenarios Sensitivity Case
- Probabilistic Adequacy and Measures Report

Additionally, the ERATF, Probabilistic Assessment Working Group (PAWG), Reliability Assessment Subcommittee (RAS), and other committees as well as their work can be consulted to facilitate the development of standards requirements.

Cost Impact Assessment, if known (Provide a paragraph describing the potential cost impacts associated with the proposed project):

It is not the ERATF's intention to require specific solutions to the energy-related issues identified in the assessments. This SAR is intended to propose modifications to NERC's suite of Reliability Standards to require that responsible entities further evaluate risks related to energy availability. In addition, the SAR proposes revisions to Reliability Standards that would require responsible entities to create Corrective Action Plans, Operating Plans, or other mitigating actions to address risks related to energy availability. Using a performance-based approach would allow entities to take local, state, and regional needs, as well as federal regulations and other factors as appropriate into consideration. The costs associated with this assessment are expected to be comparable to those associated with the responsible entity's activities to evaluate and address potential reliability risks to the System.

The cost impact is unknown and will be considered during drafting team meetings.

Please describe any unique characteristics of the BES facilities that may be impacted by this proposed standard development project (e.g., Dispersed Generation Resources):

The characteristics of the BES facilities impacted by this project include: fuel type, delivery logistics (e.g., the ability to access additional fuel, sufficient road and rail networks, barges for waterway-based plants, liquefied natural gas deliveries), design, construction, and operational characteristics, etc.

To assist the NERC Standards Committee in appointing a drafting team with the appropriate members, please indicate to which Functional Entities the proposed standard(s) should apply (e.g., Transmission Operator, Reliability Coordinator, etc. See the most recent version of the NERC Functional Model for definitions):

Primary: Planning Coordinator and Resource Planner.

Impacted: Reliability Coordinator, Distribution Provider, Balancing Authority, Transmission Operator, Transmission Owner, Generator Operator, Transmission Service Provider, Transmission Planner, and Generator Owner.

Requested information

Do you know of any consensus building activities⁹ in connection with this SAR? If so, please provide any recommendations or findings resulting from the consensus building activity.

The ERATF's SAR development process is a consensus building activity and includes input from its members and observers. Previous drafts of the SAR have been presented to and commented on by the Reliability and Security Technical Committee and the Member Representatives Committee members. Those comments are incorporated into the updated SAR.

On February 16, 2022, the ERATF conducted an industry workshop that outlined the challenges and considerations concerning solutions for performing energy reliability assessments. On May 19, 2022, the ERATF conducted a follow up industry webinar to provide an update on how the SAR comments have been addressed.

Are there any related standards or SARs that should be assessed for impact as a result of this proposed project? If so, which standard(s) or project number(s)?

Project 2022-02 Modifications to TPL-001-5.1 and MOD-032-1, Project 2021-07 Extreme Cold Weather Grid Operations, Preparedness, and Coordination and work to coordinate with any further projects that might impact this effort: consider the impact to the TPL, EOP and TOP standards.

Are there alternatives (e.g., guidelines, white paper, alerts, etc.) that have been considered or could meet the objectives? If so, please list the alternatives.

Three reliability guidelines and three reference documents have been published in recent years that provide valuable tools for industry to assess and manage energy risks, particularly risks related to fuel assurance. However, the continued reoccurrence of extreme events and resulting impacts on fuel and energy supplies have demonstrated that Reliability Standard(s) are needed to provide consistency across the industry in performing energy reliability assessments and mitigating identified reliability risks.

[Reliability and Security Guidelines \(nerc.com\)](#)

- Reliability Guideline: Fuel Assurance and Fuel-Related Reliability Risk Analysis
- Reliability Guideline: Generating Unit Winter Weather Readiness
- Reliability Guideline: Gas and Electrical Operational Coordination Considerations

[Probabilistic Assessment Working Group \(PAWG\) \(nerc.com\)](#)

- Data Collection: Approaches for Probabilistic Assessments
- 2020 Probabilistic: Regional Risk Scenarios Sensitivity Case
- Probabilistic Adequacy and Measures Report

⁹ Consensus building activities are occasionally conducted by NERC and/or project review teams. They typically are conducted to obtain industry inputs prior to proposing any standard development project to revise, or develop a standard or definition.

Reliability Principles	
Does this proposed standard development project support at least one of the following Reliability Principles (Reliability Interface Principles)? Please check all those that apply.	
<input checked="" type="checkbox"/>	1. Interconnected bulk power systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input checked="" type="checkbox"/>	2. The frequency and voltage of interconnected bulk power systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk power systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk power systems shall be developed, coordinated, maintained, and implemented.
<input type="checkbox"/>	5. Facilities for communication, monitoring, and control shall be provided, used and maintained for the reliability of interconnected bulk power systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk power systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input checked="" type="checkbox"/>	7. The security of the interconnected bulk power systems shall be assessed, monitored, and maintained on a wide area basis.
<input type="checkbox"/>	8. Bulk power systems shall be protected from malicious physical or cyber-attacks.

Market Interface Principles	
Does the proposed standard development project comply with all of the following Market Interface Principles ?	Enter (yes/no)
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

Identified Existing or Potential Regional or Interconnection Variances	
Region(s)/ Interconnection	Explanation
<i>e.g.</i> , NPCC	

For Use by NERC Only

SAR Status Tracking (Check off as appropriate).	
<input type="checkbox"/> Draft SAR reviewed by NERC Staff	<input type="checkbox"/> Final SAR endorsed by the SC
<input type="checkbox"/> Draft SAR presented to SC for acceptance	<input type="checkbox"/> SAR assigned a Standards Project by NERC
<input type="checkbox"/> DRAFT SAR approved for posting by the SC	<input type="checkbox"/> SAR denied or proposed as Guidance document

Version History

Version	Date	Owner	Change Tracking
1	June 3, 2013		Revised
1	August 29, 2014	Standards Information Staff	Updated template
2	January 18, 2017	Standards Information Staff	Revised
2	June 28, 2017	Standards Information Staff	Updated template
3	February 22, 2019	Standards Information Staff	Added instructions to submit via Help Desk
4	February 25, 2020	Standards Information Staff	Updated template footer

**NERC Legal and Regulatory Update
May 2, 2024 – May 29, 2024**

NERC FILINGS TO FERC SUBMITTED SINCE LAST SC UPDATE

FERC Docket No.	Filing Description	FERC Submittal Date
RD22-4-001	Inverter Based Resources Work Plan Progress Update NERC submitted a progress update on its Inverter Based Resources Work Plan as directed by FERC in its November 17, 2022 Order.	5/10/2024
RD24-7-000	Joint Petition for Approval of Proposed Regional Reliability Standard FAC-501-WECC-4 NERC and WECC submitted a Joint Petition for Approval of Proposed Regional Reliability Standard FAC-501-WECC-4.	5/17/2024

FERC ISSUANCES SINCE LAST SC UPDATE

FERC Docket No.	Issuance Description	FERC Issuance Date
RD23-1-002	Letter Order Approving Cold Weather Data Collection FERC issued a letter order accepting NERC's compliance filing outlining its proposed plan for cold weather data collection, made in accordance with the Commission's February 2023 order in Docket No. RD23-1.	5/23/2024
RD24-3-000	Order Approving Reliability Standard CIP-012-2 FERC issued an order approving Reliability Standard CIP-012-2.	5/23/2024

ANTICIPATED UPCOMING FILINGS

FERC Docket No.	Filing Description	Anticipated Filing Date
TBD	Petition for Approval of Internal Network Security Monitoring Reliability Standard CIP-015-1	6/2024

TBD	Petition for Approval of CIP Virtualization Reliability Standards	6/2024
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Standards Committee Expectations

Approved by Standards Committee January 12, 2012

Background

Standards Committee (SC) members are elected by members of their segment of the Registered Ballot Body, to help the SC fulfill its purpose. According to the [Standards Committee Charter](#), the SC's purpose is:

In compliance with the NERC Reliability Standards Development Procedure, the Standards Committee manages the NERC standards development process for the North American-wide reliability standards with the support of the NERC staff to achieve broad bulk power system reliability goals for the industry. The Standards Committee protects the integrity and credibility of the standards development process.

The purpose of this document is to outline the key considerations that each member of the SC must make in fulfilling his or her duties. Each member is accountable to the members of the Segment that elected them, other members of the SC, and the NERC Board of Trustees for carrying out their responsibilities in accordance with this document.

Expectations of Standards Committee Members

1. SC members represent their segment, not their organization or personal views. Each member is expected to identify and use mechanisms for being in contact with members of the segment in order to maintain a current perspective of the views, concerns, and input from that segment. NERC can provide mechanisms to support communications if an SC member requests such assistance.
2. SC members base their decisions on what is best for reliability and must consider not only what is best for their segment, but also what is in the best interest of the broader industry and reliability.
3. SC members should make every effort to attend scheduled meetings, and when not available are required to identify and brief a proxy from the same segment. SC business cannot be conducted in the absence of a quorum, and it is essential that each SC member make a commitment to being present.
4. SC members should not leverage or attempt to leverage their position on the SC to influence the outcome of standards projects.
5. The role of the SC is to manage the standards process and the quality of the output, not the technical content of standards.

Parliamentary Procedures

Based on Robert’s Rules of Order, Newly Revised, 11th Edition, plus “Organization and Procedures Manual for the NERC Standing Committees”

Motions

Unless noted otherwise, all procedures require a “second” to enable discussion.

When you want to...	Procedure	Debatable	Comments
Raise an issue for discussion	Move	Yes	The main action that begins a debate.
Revise a Motion currently under discussion	Amend	Yes	Takes precedence over discussion of main motion. Motions to amend an amendment are allowed, but not any further. The amendment must be germane to the main motion, and cannot reverse the intent of the main motion.
Reconsider a Motion already approved	Reconsider	Yes	Allowed only by member who voted on the prevailing side of the original motion.
End debate	Call for the Question <i>or</i> End Debate	No	If the Chair senses that the committee is ready to vote, he may say “if there are no objections, we will now vote on the Motion.” The vote is subject to a 2/3 majority approval. Also, any member may call the question. This motion is not debatable. The vote is subject to a 2/3 vote.
Record each member’s vote on a Motion	Request a Roll Call Vote	No	Takes precedence over main motion. No debate allowed, but the members must approve by 2/3 majority.
Postpone discussion until later in the meeting	Lay on the Table	Yes	Takes precedence over main motion. Used only to postpone discussion until later in the meeting.
Postpone discussion until a future date	Postpone until	Yes	Takes precedence over main motion. Debatable only regarding the date (and time) at which to bring the Motion back for further discussion.
Remove the motion for any further consideration	Postpone indefinitely	Yes	Takes precedence over main motion. Debate can extend to the discussion of the main motion. If approved, it effectively “kills” the motion. Useful for disposing of a badly chosen motion that can not be adopted or rejected without undesirable consequences.
Request a review of procedure	Point of order	No	Second not required. The Chair or secretary shall review the parliamentary procedure used during the discussion of the Motion.

Notes on Motions

Seconds. A Motion must have a second to ensure that at least two members wish to discuss the issue. The “seconded” is not recorded in the minutes. Neither are motions that do not receive a second.

Announcement by the Chair. The Chair should announce the Motion before debate begins. This ensures that the wording is understood by the membership. Once the Motion is announced and seconded, the Committee “owns” the motion, and must deal with it according to parliamentary procedure.

Voting

Voting Method	When Used	How Recorded in Minutes
Unanimous Consent The standard practice.	When the Chair senses that the Committee is substantially in agreement, and the Motion needed little or no debate. No actual vote is taken.	The minutes show "by unanimous consent."
Vote by Voice	The standard practice.	The minutes show Approved or Not Approved (or Failed).
Vote by Show of Hands (tally)	To record the number of votes on each side when an issue has engendered substantial debate or appears to be divisive. Also used when a Voice Vote is inconclusive. (The Chair should ask for a Vote by Show of Hands when requested by a member).	The minutes show both vote totals, and then Approved or Not Approved (or Failed).
Vote by Roll Call	To record each member's vote. Each member is called upon by the Secretary, and the member indicates either "Yes," "No," or "Present" if abstaining.	The minutes will include the list of members, how each voted or abstained, and the vote totals. Those members for which a "Yes," "No," or "Present" is not shown are considered absent for the vote.