**Standards Development Reference Document**

**As of April 10, 2017**

1. **Standards Under Development – Currently Posted**

*For additional detail about standards under development, see Section III.*

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| --- | --- | --- |
| **Project** | **Action** | **End Date** |
| 2016-02 [Modifications to CIP Standards](http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx)| TOCC White Paper | Informal Comment Period | 4/11/2017 |
| 2016-02 [Modifications to CIP Standards](http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx) | Virtualization | Informal Comment Period | 4/11/2017 |
| 2016-EPR-02 [Enhanced Periodic Review of VAR Standards](http://www.nerc.com/pa/Stand/Pages/Project-2016-EPR-02-Enhanced-Periodic-Review-of-Voltage-and-Reactive-Standards.aspx) | VAR-001-4.1, VAR-002-4 | Comment Period | 4/13/2017 |
| [Revisions to the Standards Processes Maual](http://www.nerc.com/pa/Stand/Pages/Revisions-to-the-NERC-Standard-Processes-Manual-%28SPM%29.aspx) (Sections 2.1, 3.7, 6.0, 7.0, 8.0, and 11.0) | Ballot and Comment Period | 5/3/2017 |

1. **Recent/Relevant Comment Periods and Ballot Results**

|  |  |  |  |
| --- | --- | --- | --- |
| **Project** | **Action** | **End Date** | **Ballot Result** |
| 2016-03 [Cyber Security Supply Chain Risk Management](http://www.nerc.com/pa/Stand/Pages/Project201603CyberSecuritySupplyChainManagement.aspx) | CIP-013-1 | Initial Ballot, Comment Period | 3/6/2017 | CIP-013-1: 10.36% |
| 2016-02 [Modifications to CIP Standards](http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx) | Communication Networks | Informal Comment Period | 3/13/2017 | N/A |
| 2016-02 [Modifications to CIP Standards](http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx) | CIP Exceptional Circumstances | Informal Comment Period | 3/13/2017 | N/A |
| 2016-04 [Modifications to PRC-025](http://www.nerc.com/pa/Stand/Pages/Project-2016-04-Modifications-to-PRC-025-1.aspx) | SAR Comments | 4/3/2017 | N/A |

1. **Standards Under Development - Additional Detail**

*This section includes those projects that are in the SAR Phase to the Final Ballot Phase.*

| **Project**  | **Background** | **Latest Action(s)** |
| --- | --- | --- |
| 2013-03 [Geomagnetic Disturbance Mitigation](http://www.nerc.com/pa/Stand/Pages/Project-2013-03-Geomagnetic-Disturbance-Mitigation.aspx) | TPL-007 | * On September 22, 2016, FERC issued [Order No. 830](http://www.nerc.com/filingsorders/us/FERCOrdersRules/E-4.pdf) approving Reliability Standard TPL-007-1
	+ FERC issued the following directives:
		- 1. To revise the benchmark GMD event definition set forth in Attachment 1 of TPL-007-1, as it pertains to the required GMD Vulnerability Assessment and transformer thermal impact assessments, so that the definition is not based solely on spatially averaged data
		- 2. To require the collection of necessary geomagnetically induced current (GIC) monitoring and magnetometer data and to make such data publicly available;
		- 3. To include a one-year deadline for the completion of corrective action plans and two and four year deadlines to complete mitigation actions involving non-hardware and hardware mitigation, respectively.
 | 1/20/2017 SAR |
| 2015-09 [Establish and Communicate System Operating Limits](http://www.nerc.com/pa/Stand/Pages/Project-2015-09-Establish-and-Communicate-System-Operating-Limits.aspx) | FAC-010-3FAC-011-3FAC-014-2 | The project will revise the requirements for determining and communicating SOLs and IROLs to address the issues identified in [Project 2015-03 Periodic Review of System Operating Limit Standards](http://www.nerc.com/pa/Stand/Pages/Project-2015-03-Periodic-Review-of-System-Operating-Limit-Standards.aspx).  The resulting standard(s) and definition(s) will benefit reliability by improving alignment with approved TPL and proposed TOP and IRO standards. The project may result in development of one or more proposed Reliability Standards and definitions. | 8/12/2016Comments (FAC-011 and FAC-014)9/21/15SAR Comments |
| 2015-10 [Single Points of Failure](http://www.nerc.com/pa/Stand/Pages/Project-2015-10-Single-Points-of-Failure-TPL-001.aspx) | TPL-001 | The SPCS and the SAMS conducted an assessment of protection system single points of failure in response to FERC Order No. 754, including analysis of data from the NERC Section 1600 Request for Data or Information. The assessment confirms the existence of a reliability risk associated with single points of failure in protection systems that warrants further action. The proposed standard project will benefit reliability by providing clear, unambiguous and results-based reliability standard requirements to address the assessment’s recommendations for modifying NERC Reliability Standard TPL-001-4 (Transmission System Planning Performance Requirements) identified in the SPCS and SAMS report titled “Order No. 754 Assessment of Protection System Single Points of Failure Based on the Section 1600 Data Request.” | 6/24/2016SAR comments |
| 2016-02 [Modifications to CIP Standards](http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx) |CIP-003-7(i)Transient Cyber Assets | In [FERC Order No. 822](http://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Order%20Approving%20Revised%20CIP%20Reliability%20Standards.pdf), FERC directed NERC to develop modifications to the CIP Reliability Standards to provide mandatory protection for transient devices used at Low Impact BES Cyber Systems based on the risk posed to BES reliability.For the Initial ballot/comment period that ends on 1/25/2017, this standard is CIP-003-7(i). Also for ballot is the definition of Transient Cyber Asset and Removable Media. | 2/8/2017Final BallotAdditional BallotCIP-003-7(i): 78.55%IP: 86%TCA Definition: 85.81%Removable Media Definition: 85.54%1/25/2017 Additional BallotCIP-003-7: 81.30%IP: 87.87%TCA Definition: 86.75%Removable Media Definition: 86.47%1/25/2017Initial Ballot CIP-003-7(i)11/18/2016Informal Comment Period |
| 2016-02 [Modifications to CIP Standards](http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx) | Communication Networks | On January 21, 2016, the Commission issued [Order No. 822](https://www.ferc.gov/whats-new/comm-meet/2016/012116/E-2.pdf) approving seven CIP Reliability Standards and new or modified definitions and issuing certain directives requesting modifications to the CIP Reliability Standards. The focus of this informal comment period is on the directive from the Commission requesting NERC to “develop modifications to the CIP Reliability Standards to require responsible entities to implement controls to protect, at a minimum, communication links and sensitive bulk electric system data communicated between bulk electric system Control Centers in a manner that is appropriately tailored to address the risks posed to the bulk electric system by the assets being protected (i.e., high, medium, or low impact).” (Order 822, Paragraph 53) From the experience and knowledge gained in the on-going efforts to implement the CIP Version 5 standards, stakeholders requested in the SAR that the CIP Modifications Standard Drafting Team (SDT) review the entire suite of CIP standards to determine whether there are any additional requirements that could be impacted during a declared CEC, and if so, to recommend revisions to those requirements. The SDT reviewed the CIP Version 5 suite of standards and identified several more instances where including the phrase “except during CIP Exceptional Circumstances” is deemed appropriate. The SDT is proposing to retain the existing language in the currently approved CEC-related Requirements and add the same language to additional selected Requirements/Parts. | 3/13/2017 Informal Comment Period |
| 2016-02 [Modifications to CIP Standards](http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx) | CIP Exceptional Circumstances | From the experience and knowledge gained in the on-going efforts to implement the CIP Version 5 standards, stakeholders requested in the SAR that the CIP Modifications Standard Drafting Team (SDT) review the entire suite of CIP standards to determine whether there are any additional requirements that could be impacted during a declared CEC, and if so, to recommend revisions to those requirements. The SDT reviewed the CIP Version 5 suite of standards and identified several more instances where including the phrase “except during CIP Exceptional Circumstances” is deemed appropriate. The SDT is proposing to retain the existing language in the currently approved CEC-related Requirements and add the same language to additional selected Requirements/Parts. | 3/13/2017 Informal Comment Period |
| 2016-02 [Modifications to CIP Standards](http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx) | TOCC | Among other things, due to the confusion of the application of the phrase “used to perform the functional obligation of” in CIP-002-5.1a, Attachment 1, criterion 2.12, the V5TAG recommended clarification of:* The applicability of requirements on a TO Control Center that performs the functional obligations of a TOP, particularly if the TO has the ability to operate switches, breakers and relays in the BES.
* The definition of Control Center.
* The language scope of “perform the functional obligations of” throughout the Attachment 1 criteria.

This issue was included in the SAR for Project 2016-02 as follows:* Identify items to be addressed to provide additional clarity and revisions to CIP-002-5.1a Attachment 1. TO Control Centers, specifically around performing the functional obligations of a TOP for small or lower-risk entities should be addressed.
* Clarify the applicability of requirements on a TO Control Center that perform the functional obligations of a TOP, particularly if the TO has the ability to operate switches, breakers and relays in the BES. CIP-002-5.1a indicates that any Control Center performing the actions noted above is to be considered a medium risk asset if not already identified as a high. There is no allowance for an entity performing such functions to identify their BES Cyber System(s) as low impact.
* If necessary and appropriate, the definition of Control Center may need to be revised to provide the additional clarity needed.
 | 4/11/2017 Informal Comment Period |
| 2016-02 [Modifications to CIP Standards](http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx) | Virtualization | The CIP standards are based primarily on concepts dating back to Version 1 and as technology has evolved, issues have begun to arise as entities attempt to take new concepts and fit them into some of the Version 1 paradigms. These issues revolve around topics such as:* Hypervisor – the virtualization component that manages the guest operating systems (OSs) on a host and controls the flow instructions between the guest OSs and the physical hardware.
* Virtual machines – With virtualization technologies, a single physical Cyber Asset can be used as an execution platform for numerous virtualized operating systems, micro-service containerized applications, and virtual network functions of all classifications. A single physical Cyber Asset can appear to an external network as many complete Cyber Assets. Virtual switches and networks can be defined so these virtual machines can communicate with each other as if they are separate physical nodes on the network. Virtual machines and functions can also migrate around a physically clustered cyber system such that the singular physical Cyber Asset where an application resides can change at any moment.

The virtualization of Cyber Assets provides advantages for the availability, resiliency, and reliability of applications and functions hosted in such an environment and the CIP standards must not stand in the way of these benefits as long as they are implemented in a secure manner. Virtualization affords enhanced security in some cases as the security controls themselves can be virtualized and placed within the virtual environment closer to the workloads they are protecting. However, there are also different security risks introduced by these environments. The management systems or consoles for these environments allow for the complete control of numerous components of the infrastructure. Virtual machines or networks can be added, modified, or deleted from one central management system. For example, rogue virtual components can starve legitimate workloads of the shared resources (processor, memory, etc.) they need to reliably perform their function. In summary, changes to the CIP Requirements may be needed to account for virtualization.* Virtual Networks – Electronic Security Perimeter (ESP) constructs within the current CIP standard are limited to defining security zones at Open Systems Interconnection (OSI) Layer 3 and do not support security zones defined at layers other than OSI Layer 3. With current, widely deployed technology, networks are no longer solely defined by the arrangement of physical hardware and cables *inside* or *outside* of a *perimeter*. Networks can exist as a mixture of physical and virtual segments or purely in a virtual state within one device. Virtual firewalls and other security tools are also available to help secure these environments. Typical hardware network switches can be configured with internal logical isolation to implement multiple virtual networks within them. Accordingly, the SDT is reviewing the CIP standards to validate that definitions, requirements, and guidance regarding ESPs and Electronic Access Points (EAPs) continue to provide for secure and reliable operations.
* Virtual Storage – Historically, servers were limited to dedicated storage within the device. Typically, the operating system and the applications resided in the server on hard drives. Virtual storage technologies such as Storage Area Networks (SANs) present virtualized logical drive storage units to all attached servers. These types of environments then become a shared resource among many physical and virtual hosts.
 | 4/11/2017 Informal Comment Period |
| 2016-03 [Cyber Security Supply Chain Management](http://www.nerc.com/pa/Stand/Pages/Project201603CyberSecuritySupplyChainManagement.aspx) | CIP-013-1 | The project will address directives from [Federal Energy Regulatory Commission (FERC) Order No. 829](http://www.ferc.gov/whats-new/comm-meet/2016/072116/E-8.pdf)to develop a new or modified standard to address “supply chain risk management for industrial control system hardware, software, and computing and networking services associated with bulk electric system operations.”  | 3/6/2017Initial BallotCIP-013-1: 10.36%11/18/16Comments on SAR |
| 2016-04 [Modifications to PRC-025-1](http://www.nerc.com/pa/Stand/Pages/Project-2016-04-Modifications-to-PRC-025-1.aspx) | PRC-025 | Reliability Standard PRC-025-1 (Generator Relay Loadability), which was approved by the Federal Energy Regulatory Commission in [Order No. 799](http://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Final%20Rule%20PRC-025-1%20and%20PRC-023-3.pdf) issued on July 17, 2014, became effective on October 1, 2014. Under the phased implementation plan, applicable entities have between five and seven years to become compliant with the standard depending on the scope of work required by the Generator Owner. In the course of implementing the standard, issues have been identified for specific Facility applications and load-responsive protective relays. | 4/3/2017Comments on 2nd draft SAR10/18/16Comments on SAR |
| 2016-EPR-01 [Enhanced Periodic Review of PER Standards](http://www.nerc.com/pa/Stand/Pages/Project-2016-EPR-01-Enhanced-Periodic-Review-of-Personnel-Performance%2C-Training%2C-and-Qualifications-Standards.aspx) | PER-003-1, PER-004-2 | The purpose of this project is to conduct a periodic review of a subset of Personnel Performance, Training, and Qualifications (PER) Reliability Standards. The periodic review comprehensively reviews standards to evaluate, for example, whether the requirements are clear and unambiguous. The periodic review will include background information, along with any associated worksheets or reference documents, to guide a comprehensive review that results in a recommendation that the Reliability Standard should be: (1) reaffirmed as is (i.e., no changes needed); (2) revised (which may include revising or retiring one or more requirements); or (3) withdrawn. | 2/23/2017Comment Period |
| 2016-EPR-02 [Enhanced Periodic Review of VAR Standards](http://www.nerc.com/pa/Stand/Pages/Project-2016-EPR-02-Enhanced-Periodic-Review-of-Voltage-and-Reactive-Standards.aspx) | VAR-001-4.1, VAR-002-4 | The purpose of this project is to conduct a periodic review of a subset of the Voltage and Reactive (VAR) Reliability Standards. The periodic review comprehensively reviews standards to evaluate, for example, whether the requirements are clear and unambiguous. The periodic review will include background information, along with any associated worksheets or reference documents, to guide a comprehensive review that results in a recommendation that the Reliability Standard should be: (1) reaffirmed as is (i.e., no changes needed); (2) revised (which may include revising or retiring one or more requirements); or (3) withdrawn. | 4/13/2017Comment Period |

**Standards Under Development - Approved by NERC Board of Directors**

This section includes those projects that have been approved by NERC but not yet by FERC. Projects are removed from this list when FERC issues a Final Rule.

| **Project**  | **Background** | **Dates/Actions** |
| --- | --- | --- |
| 2007-06 System Protection Coordination Phase 1 | PRC-027-1 | The System Protection Coordination Standard Drafting Team (SPCSDT) created a new results-based standard, PRC-027-1, with the stated purpose: “To maintain the coordination of Protection Systems installed for the purpose of detecting Faults on BES Elements and isolating those faulted Elements, such that the Protection Systems operate in the intended sequence during Faults.” Draft 4 of PRC-027-1 was posted for comment and ballot from 11/4/13 - 12/31/13. Following the posting, FERC staff from the Office of Electric Reliability raised concerns regarding the posted draft. The primary concern was that the proposed standard did not address the coordination of Protection Systems within a Transmission Owner’s footprint, referred to as “internal” or “intra-entity” Protection Systems. Following discussions with NERC and FERC staff, the SPCSDT prepared a preliminary draft 5 of PRC-027-1 and sought stakeholder input on the conceptual standard during a 21-day informal comment period. Based on stakeholder comments received during the informal comment period, the drafting team modified the proposed standard.Draft 5 of PRC-027-1 modifies the applicability of the standard to include “Protection Systems installed for the purpose of detecting Faults on BES Elements and isolating those faulted Elements,” whereas, prior drafts of the standard limited the applicability to “Protection Systems installed for the purpose of detecting Faults on Interconnecting Elements.” With this change to the applicability, the coordination of Protection Systems for all “internal” or “intra-entity” connections between BES Elements are addressed. PRC-027-1 clarifies the coordination aspects and incorporates the reliability objectives of Requirements R3 and R4 from PRC-001-1.1(ii); therefore, the SPCSDT is proposing the retirement of those Requirements from PRC-001-1.1(ii). The SPCSDT has included a redlined version of PRC-001-1.1(ii) and a clean PRC-001-3. PRC-001-3 contains the remaining Requirements R1, R2, R5, and R6 as well as updated pro forma language for the “Effective Date” and “Compliance” sections of the standard.Draft 5 of PRC-027-1 consists of two proposed requirements. Requirement R1 mandates that entities establish a process to develop settings for its BES Protection Systems to operate in the intended sequence during Faults; and stipulates certain attributes that must be included in the process. Because entities’ Protection System designs and philosophies vary greatly, the drafting team has included flexibility in developing the coordination processes. Requirement R2 mandates that entities implement the process established in accordance with Requirement R1. The drafting team asserts that implementing each of the elements of the process will facilitate a consistent approach in the development of accurate Protection System settings, minimize the possibility of introducing errors, and maximize the likelihood of maintaining a coordinated Protection System. | 9/2/2016NERC filed [Petition for Approval for PRC-027-1 and PER-006-1](http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Petition_Approval%20of%20PRC-027%20and%20PER-006.pdf)11/5/15NERC Board Approval |
| 2007-06.2 Phase 2 of System Protection Coordination | PER-006-1PRC-001 (retire) | Protection System coordination among registered owners of the Protection Systems associated with Interconnected Elements is key to the reliability of the Bulk Electric System. The Phase 2 effort has resulted in the proposed standard TOP-009-1 – Knowledge of Composite Protection Systems and Remedial Action Schemes and Their Effects.* Phase 1 (2007-06) developed PRC-027-1
* Phase 2 (2007-06.2) Phase 2 is addressing the remaining Requirements R1, R2, R5, and R6 in PRC-001-1.1 that is proposed for complete retirement. See the Mapping Document for a complete explanation on how Requirement R1 is being addressed by TOP-009-1 and how the reliability objective of Requirements R2, R5, and R6 are addressed by TOP/IRO standards that are awaiting regulatory approval.

In conjunction with Phase 1, NERC is proposing the complete retirement of PRC-001-1.1(ii). Requirements R1, R2, R5, and R6 are proposed for retirement in Phase 2. The remaining two Requirements R3 and R4 of PRC-001-1.1(ii) are addressed by PRC-027-1. The complete retirement of PRC-001-1.1(ii) is contingent upon the approval of Reliability Standards PRC-027-1 and TOP-009-1. NERC is proposing the retirement of PRC-001-1.1(ii) in the implementation plans associated with both projects. | 9/2/2016NERC filed [Petition for Approval for PRC-027-1 and PER-006-1](http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Petition_Approval%20of%20PRC-027%20and%20PER-006.pdf)08/11/16NERC Board Approval05/26/16Final Ballots PER-006 & Definitions82.52% & 83.37%04/25/16Initial Ballots PER-006 & Definitions80.57%78.39%11/19/15Additional Ballot TOP-009 and PRC-001: 57.29% |
|  |  |  |
| 2010-05.3 – Phase 3 of Special Protection Systems: Remedial Action Systems (RAS) | PRC-012-2 | In early 2011, NERC staff decided to divide Project 2010-05: Protection Systems into phases. Phase 1 addressed the Misoperations of Protection Systems and was adopted by the NERC BOT on August 14, 2014. Phase 2 revised the definition of Remedial Action Scheme (RAS) and was adopted by the NERC BOT on November 13, 2014. Phase 3 is intended to address all aspects of RAS and Special Protection Systems (SPS) contained in the RAS/SPS-related Reliability Standards.Although there is no FERC directive associated with Phase 3; this project will consider recommendations from the joint report, Special Protection Systems (SPS) and Remedial Action Schemes (RAS): Assessment of Definition, Regional Practices, and Application of Related Standards, issued by the System Analysis and Modeling Subcommittee (SAMS) and System Protection and Control Subcommittee (SPCS), as well as from the joint FERC-NERC inquiry of the September 2011 Southwest Blackout Event.Standard(s) affected - PRC-012-1, PRC-013-1, PRC-014-1, PRC-015-1, PRC-016-1RAS/SPS are designed to detect predetermined System conditions and automatically take corrective actions to protect the reliability and integrity of the Bulk Electric System; consequently, the NERC Reliability Standards pertaining to these schemes should provide clear and unambiguous performance expectations and reliability benefits. To accomplish this, the Phase 3 drafting team will correct the applicability of the fill-in-the-blank standards by assigning the requirement responsibilities to the specific users, owners, and operators of the Bulk-Power System; and will revise the RAS/SPS-related standards that address the:• planning, coordination, and design of RAS/SPS,• review, assessment, and documentation of RAS/SPS,• operational considerations for monitoring, status notification, and response to failures,• analysis of RAS/SPS operations, and defining and reporting of SPS/RAS misoperations,• testing of RAS/SPS, and maintenance of any non-protection system components used.Additional resources: May 7, 2015 [project presentation](http://www.nerc.com/pa/Stand/WebinarLibrary/RAS_Industry_Webinar_Presentation_05_07_15_Final.pdf) slides and [streaming webinar](https://cc.readytalk.com/cc/playback/Playback.do?id=8x40dm) September 10, 2015 [project presentation](http://www.nerc.com/pa/Stand/Prjct201005_3RmdialActnSchmsPhase3ofPrtctnSystmsRF/RAS_Industry_Webinar_Presentation_09102015.pdf) slides and [streaming webinar](https://cc.readytalk.com/cc/playback/Playback.do?id=bjk4vf) | 1/19/2017FERC issued [NOPR](http://www.nerc.com/FilingsOrders/us/FERCOrdersRules/NOPR%20on%20PRC-012-2.pdf) to approve PRC-012-208/05/2016NERC filed its [Petition](http://www.nerc.com/FilingsOrders/us/Lists/NERC%20Filings%20to%20FERC%202012%20CL/PRC-012-2_Final_08052016.pdf) for Approval with FERC05/5/16NERC Board Approval04/29/16Final BallotPRC-012: 80.36%Defn: 93.43%03/18/16Additional Ballot for PRC-01278.87%01/8/16Additional BallotPRC-012-2: 60.39%Initial Ballot (defn): 92.94% |
| 2010-14.2.1 Phase 2 of Balancing Authority Reliability-based Controls | BAL-005, BAL-006, FAC-001 | The NERC Standards Committee appointed eleven industry subject matter experts to serve on the BARC 2 periodic review team (BARC 2 PRT) in the fall of 2013. The BARC 2 PRT used background information on the standards and the questions set forth in the Periodic Review Template developed by NERC and approved by the Standards Committee, along with associated worksheets and reference documents, to determine whether BAL-005-0\_2b and BAL-006-2 should be: (1) affirmed as is (i.e., no changes needed); (2) revised (which may include revising or retiring one or more requirements); or (3) withdrawn. As a result of that examination, the BARC 2 PRT recommended to REVISE BAL-005-0\_2b and BAL-006-2. The NERC Standards Committee appointed ten industry subject matter experts to serve on the BARC 2 standard drafting team (BARC 2 SDT) in the fall of 2014. | 6/14/2016NERC filed a [Supplemental Petition](http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Supplemental%20Filing%20for%20BAL-005-1.pdf) for Approval of BAL-005-1, FAC-001-34/20/2016 NERC filed its [Petition](http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/BAL-005%20FAC-001-3_%20Petition.pdf) for Approval of BAL-005-1, FAC-001-32/8/2016Final BallotBAL-005-1: 72.08%BAL-006-2 (retire): 94.61%FAC-001-3: 80.14 % |
| 2015-08 [Emergency Operations](http://www.nerc.com/pa/Stand/Pages/Project-2015-08-Emergency-Operations.aspx) | EOP-004EOP-005EOP-006EOP-008 | The Emergency Operations Periodic Review Team (Project 2015-02) performed a comprehensive review of a subset of Emergency Operations Standards (EOP-004, EOP-005, EOP-006 and EOP-008) that resulted in the following recommendations: * EOP-004-2 Event Reporting – (1) Revise the standard and attachment and (2) retire Requirement R3;
* EOP-005-2 System Restoration from Blackstart Resources – Revise the standard;
* EOP-006-2 System Restoration Coordination – (1) Revise the standard and (2) retire Requirements Parts R1.2, R1.3, and R1.4; and
* EOP-008-1 Loss of Control Center Functionality – Revise the standard.

The four NERC Reliability Standards in the Periodic Review project concerned methodologies for restoring, reporting, and communicating Emergencies. | 3/27/2017 NERC filed its Petition2/9/2017 Approved by NERC Board2/2/2017Final BallotEOP-004-4: 93.80%1/6/2017Final BallotEOP-005-3: 83.65%EOP-006-3: 80.56%1/6/2017Additional BallotEOP-004-4: 93.55%12/9/2016Final Ballot EOP-008-2: 93.17%12/9/2016Additional BallotEOP-005-3: 76.93%EOP-006-3: 77.17%9/8/2016Initial ballot EOP-004: 80.32%8/15/2016Initial ballot EOP-005: 52.90%EOP-006: 66.87%EOP-008: 84.13%08/19/15SAR comments |
| 2016-01 [Modifications to TOP and IRO Standards](http://www.nerc.com/pa/Stand/Pages/Project-2016-01-Modifications-to-TOP-and-IRO-Standards.aspx) | TOP-001-4IRO-002-5 | On November 19, 2015, the Federal Energy Regulatory Commission (Commission) issued Order No. 817 approving nine TOP and IRO standards from Project 2014-03 and retiring or superseding 18 currently-enforceable standards. The proposed standards were developed in Project 2014-03 to address Commission concerns and reliability issues identified in the 2011 Southwest Outage Report, the Independent Experts Review Panel project, and stakeholder technical conferences. In approving the new TOP and IRO standards, the Commission issued three directives to modify the TOP and IRO standards to address additional reliability issues.Purpose/Industry Need* The modifications to TOP and IRO standards developed in this project will address the following reliability concerns identified in Order No. 817:
* Monitoring non-Bulk Electric System facilities. The Commission noted that "in some instances the absence of real-time monitoring of non-BES facilities by the transmission operator within and outside its TOP area as necessary for determining SOL exceedances in proposed TOP-001-3, Requirement R10 creates a reliability gap." (P.35)
* Redundancy and Diverse Routing of Data Exchange Capabilities. The Commission determined that, with respect to data exchange capabilities, the TOP and IRO standards requirements for Reliability Coordinators (RCs), Transmission Operators (TOPs), and Balancing Authorities (BAs) "do not clearly address redundancy and diverse routing so that registered entities will unambiguously recognize that they have an obligation to address redundancy and diverse routing as part of their TOP and IRO compliance obligations." (P. 47)

Testing of the Alternate or Less Frequently Used Data Exchange Capability. The Commission determined that existing requirements do not establish a clear obligation for RCs, TOPs, and BAs to test alternative data exchange capabilities (P. 51). | 3/6/2017 NERC filed its [Petition for Approval of Proposed Reliability Standards IRO-002-5 and TOP-001-4](http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/TOP-IRO%20Revisions_Petition.pdf)2/9/2017 Approved by NERC Board12/12/2016Final BallotIRO-002-5: 74.3%TOP-001-4: 72.52%10/17/2016Additional Ballot:IRO-002-5: 70.77%TOP-001-4: 68.85%8/3/2016Initial BallotIRO-002: 67.25%TOP-001: 64.59%2/22/2016SAR Comments |
| ​2016-02 [Modifications to CIP Standards](http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx) |CIP-003 LERC Definition Changes | The Version 5 Transition Advisory Group (V5 TAG) transferred issues to the Version 5 Standard Drafting Team (SDT) that were identified during the industry transition to implementation of the Version 5 CIP Standards. Specifically, the issues that the SDT will address are:* Cyber Asset and BES Cyber Asset Definitions
* Network and Externally Accessible Devices
* Transmission Owner (TO) Control Centers Performing Transmission Operator (TOP) Obligations
* Virtualization

[FERC Order No. 822](http://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Order%20Approving%20Revised%20CIP%20Reliability%20Standards.pdf) approved revisions to version 5 of the CIP standards but also directed that NERC develop modifications to requirements in the CIP standards as follows:* Develop modifications to the CIP Reliability Standards to provide mandatory protection for transient devices used at Low Impact BES Cyber Systems based on the risk posed to bulk electric system reliability.
* Develop modifications to the CIP Reliability Standards to require responsible entities to implement controls to protect, at a minimum, communication links and sensitive bulk electric system data communicated between bulk electric system Control Centers in a manner that is appropriately tailored to address the risks posed to the bulk electric system by the assets being protected (i.e., high, medium, or low impact).
* Develop a modification to provide the needed clarity, within one year, to the LERC definition consistent with the commentary in the Guidelines and Technical Basis section of CIP-003-6.

 Also the scope of this work will incorporate existing and future RFIs relating to the CIP-002 through CIP-011 family of standards. | 3/3/2017 NERC submitted its [Petition for Approval of Proposed Reliability Standard CIP-003-7](http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Petition_CIP-003-7.pdf)2/9/2017 Approved by NERC Board12/19/16Final BallotsCIP-003-7: 87.95%IP: 83.03%12/5/2016Additional Ballots CIP-003-7: 85.56%IP: 75.54%9/6/2016Initial Ballots CIP-003-7: 41.54%IP: 41.77%LERC: 30.63%6/30/2016SAR comments4/21/2016Informal Comments |

1. **FERC Actions**
* On March 7, 2017, FERC issued a [Data Request in Response to Petition Seeking Approval of Reliability Standards BAL-005-1 and FAC-001-3](http://www.nerc.com/FilingsOrders/us/FERCOrdersRules/Data%20Request%20in%20Response%20to%20Petition%20Seeking%20Approval%20of%20Reliability%20Standards%20BAL-005-1%20and%20FAC-001-3.pdf)
1. **NERC Actions**

*March 2017*

* On March 3, 2017, NERC submitted its [Petition for Approval of Proposed Reliability Standard CIP-003-7](http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Petition_CIP-003-7.pdf). (2700 pages)
	+ LERC definition changes
	+ Addresses directives in FERC Order 822
* On March 6, 2017, NERC filed its [Petition for Approval of Proposed Reliability Standards IRO-002-5 and TOP-001-4](http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/TOP-IRO%20Revisions_Petition.pdf).
	+ Addresses directives in FERC Oder 817
* On March 6, 2017, NERC filed its [Petition for Approval of Amendments to the Texas RE Bylaws and Regional Reliability Standards Development Process](http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/Petition%20for%20Approval%20of%20Revised%20Texas%20RE_Bylaws%20and%20SDP.pdf)
	+ These changes address the MRC taking over RSC duties.
* On March 6, 2017, NERC submitted an [Informational Filing Regarding Regional Reliability Standard BAL-001-TRE-1](http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/BAL-001-TRE-1%20Informational%20Filing.pdf)
	+ This filing explains revisions to Attachment 2 : Primary Frequency Response Reference document. The changes address the MRC taking over RSC duties.
* On March 27, 2017, NERC filed its [Petition for Approval of Proposed Emergency Operations Reliability Standards](http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/EOP_Petition.pdf)
	+ The Reliability Standards included in the petition are EOP-004-4, EOP-005-3, EOP-006-3, and EOP-008-2.
* On March 31, 2017, NERC filed its [2017 Standards Report, Status and Timetable for Addressing Regulatory Directives](http://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/NERC_Standards_Report_Status_Reg_Dir_03312017.pdf).
	+ This annual report summaries the progress made, and plans for addressing the Reliability Standards’ related directives issued by FERC.
1. **ERCOT Region Representatives on Standards Drafting Teams**

*Projects are removed from this list when FERC issues a Final Rule.*

|  |  |
| --- | --- |
| **Project** | **ERCOT Region Representation** |
| 2007-06 System Protection Coordination Phase 1 | PRC-027-1 | None**Observer(s)**: Mike, Armin (CP) |
| 2007-06.2 Phase 2 of System Protection Coordination | PER-006-1PRC-001 (retire) | **Member(s)**: Michael Cruz-Montes – CenterPoint, Venona Greaff - Occidental Energy Ventures Corp., Yubaraj Sharma - Luminant **Observer(s)**:**PMOS Liaison**: Brenda Hampton, Vistra |
| 2010-05.3 – Phase 3 of Special Protection Systems: Remedial Action Systems (RAS) | PRC-012-2 | **Member(s)**: **Observer(s)**: **PMOS Liaison**: Rob Kinard - Oncor |
|  |  |
| 2013-03 [Geomagnetic Disturbance Mitigation](http://www.nerc.com/pa/Stand/Pages/Project-2013-03-Geomagnetic-Disturbance-Mitigation.aspx) | TPL-007 | **Member(s):****Observer(s):** Ben Richardson – ERCOTMike Juireck, Oncor**PMOS Liaison:**  |
| 2015-08 [Emergency Operations](http://www.nerc.com/pa/Stand/Pages/Project-2015-08-Emergency-Operations.aspx) | EOP-004EOP-005EOP-006EOP-008 | **Member(s)**:**Observer(s)**: Michael Cruz-Montes - CenterPoint**PMOS Liaison**:  |
| 2015-09 [Establish and Communicate System Operating Limits](http://www.nerc.com/pa/Stand/Pages/Project-2015-09-Establish-and-Communicate-System-Operating-Limits.aspx) | FAC-010-3FAC-011-3FAC-014-2 | **Member(s)**: David Bueche – CenterPoint, Stephen Solis – ERCOT**Observer(s)**: Michael Cruz-Montes - CenterPoint**PMOS Liaison**: |
| 2015-10 [Single Points of Failure](http://www.nerc.com/pa/Stand/Pages/Project-2015-10-Single-Points-of-Failure-TPL-001.aspx) | TPL-001 | **Member(s)**: Prabhu Gnanam - ERCOT **Observer(s)**: **PMOS Liaison**: |
| 2016-02 [Modifications to CIP Standards](http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx) |CIP-003 LERC Definition Changes | **Member(s)**: Christine Hasha - ERCOT (Vice chair)**Observer(s)**: Don Hunt - CenterPoint**PMOS Liaison**: Brian Murphy - NextEra Energy, Andrew Gallo – Austin Energy |
| 2016-02 [Modifications to CIP Standards](http://www.nerc.com/pa/Stand/Pages/Project%202016-02%20Modifications%20to%20CIP%20Standards.aspx) |CIP-003Transient Cyber Assets | **Member(s)**: Christine Hasha - ERCOT (Vice chair)**Observer(s)**: Don Hunt - CenterPoint**PMOS Liaison**: Brian Murphy - NextEra Energy, Andrew Gallo – Austin Energy |
| 2016-03 [Cyber Security Supply Chain Management](http://www.nerc.com/pa/Stand/Pages/Project201603CyberSecuritySupplyChainManagement.aspx) | **Member(s)**: Thruston J. Griffin - CPS Energy**Observer(s)**: Jamie Schue – ERCOT, Tony Bruton – Oncor; Tim Mann, CenterPoint**PMOS Liaison**: Brenda Hampton - Vistra |
| 2016-04 [Modifications to PRC-025-1](http://www.nerc.com/pa/Stand/Pages/Project-2016-04-Modifications-to-PRC-025-1.aspx) | PRC-025 | TBD |
| Project 2016-EPR-01 [Enhanced Periodic Review of Personnel Performance, Training, and Qualifications Standards](http://www.nerc.com/pa/Stand/Pages/Project-2016-EPR-01-Enhanced-Periodic-Review-of-Personnel-Performance%2C-Training%2C-and-Qualifications-Standards.aspx) | PER-003-1, PER-004-2 | **Observer(s)**: Michael Cruz-Montes - CenterPoint |
| 2016-EPR-02 [Enhanced Periodic Review of VAR Standards](http://www.nerc.com/pa/Stand/Pages/Project-2016-EPR-02-Enhanced-Periodic-Review-of-Voltage-and-Reactive-Standards.aspx) | VAR-001-4.1, VAR-002-4 | **Member(s) Stephen Solis (Chair) - ERCOT****Observer(s) – Michael Cruz-Montes - CenterPoint** |

1. **NERC and Texas RE Postings**
* Violations: Visit NERC’s Enforcement page at <http://www.nerc.com/pa/comp/CE/Pages/Enforcement-and-Mitigation.aspx> for information on the latest Public Violations (CIP and Non-CIP), Spreadsheet NOP filing and FFT informational spreadsheet
* Projected Postings: <http://www.nerc.com/pa/Stand/Pages/Default.aspx>. Click on “Projected Posting Schedule”
* NERC Standards - One Stop Shop: <http://www.nerc.com/pa/Stand/Pages/Default.aspx>. Click on “One-Stop-Shop (Status, Purpose, Implementation Plans, FERC Orders, RSAWs)"
* NERC filings at FERC: <http://www.nerc.com/FilingsOrders/us/Pages/default.aspx>.
* TRE’s NERC standards links and summaries of newly approved standards: <http://www.texasre.org/Pages/standards.aspx>.