



## New Bulk Electric System Definition Will Become Effective July 1

The latest revisions to the Bulk Electric System (BES) definition were approved by FERC on March 20, 2014. The revised definition, filed by NERC in December 2013, may affect the scope of compliance by registered entities or even some entities registration status. The new definition will become effective on July 1, 2014, and applications for exceptions to the definition will also begin on that date.

If you are thinking about filing for an exception to the BES definition, make sure that your entity is not already addressed in the five inclusions or four exclusions included in the definition itself. Then, review the new Appendix 5C to the NERC Rules of Procedure. Remember the burden will be on your entity to prove the appropriateness of the Exception Request.

If you have questions on this issue, don't hesitate to reach out to GridSME.

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## APRIL REPORT

Spring has most certainly sprung in Northern California. Everything is (temporarily) greening up, as we turn the corner towards the long summer.

It has been a very busy month for us here at GridSME and, apparently, throughout our little universe of reliability regulations. Physical security of critical facilities continues to make headlines with new regulatory developments and another front page article of the **Wall Street Journal**—this one prompting a backlash from FERC, NERC, and many industry trade groups. On March 7, FERC directed NERC to develop a standard and submit it back to FERC within 90 days to protect critical facilities, such as large substations, from physical attacks.

FERC also issued a denial of rehearing and partial granting of rehearing on the CIP approval order, approved Phase II of the BES definition, approved five new standards, and proposed to approve two more.

Finally, we have a special guest column on the new FAC-003-3—Transmission Vegetation Management Reliability Standard that will become effective July 1, 2014. Our friend Robert Novembri was nice enough to lend his expertise on vegetation management to our newsletter.

## FERC News

### FERC Issues Order Directing Filing of Standards for Physical Security

On March 7, 2014, FERC issued an **order** directing NERC to “submit one or more Reliability Standards that will require certain registered entities to take steps to address physical security risks and vulnerabilities related to the reliable operation of the Bulk-Power System.” This order is in direct response to the attack on the Metcalf substation near Silicon Valley and the recent media coverage of that event, which shed light on grid vulnerabilities to physical attacks.

These standards “should require owners and operators ... to identify facilities ... critical to the operation of the Bulk-Power System.” Those owners and operators should then be required to “develop, validate, and implement plans to protect against physical attacks that may compromise the operability or recovery of such facilities.”

The Commission also instituted a very short timeline for NERC to develop a standard or standards in response to the order requiring submission of a response 90 days from the issuance of the order (June 5, 2014).

**Impact:** *Activities are well underway in response to this order. The standard or standards that emerge from this project will likely only affect a small subset of*

## Impact Summary

### Order Directing Development of a Physical Security Standard

Those entities with very critical facilities (e.g. substations serving large metro or sensitive areas) will likely need to add protections or controls to those facilities, likely on a short timeline. We will stay abreast of developments on this issue.

### CIP V5 Order Denying Rehearing

The primary impact of this order is that the implementation schedules for Version 5 will not be delayed and entities will not be responsible for third-party communication networks.

### Generator Verification Standards

Applicable GOs, TOs, and DPs should become familiar with these five new standards long before they become effective.

### Relay Loadability Standards

Once approved, these standards will require a review by all potentially applicable entities to determine if they are actually applicable. Then, work should begin to determine whether the Relay Settings, on each load-responsive protective relay are set in accordance with PRC-025-1

owners and operators, particularly critical substations. The development project is very fluid at this time. You can view NERC's project page [here](#).

### FERC Issues Order on Clarification and Rehearing on CIP Version 5

In [Order 791-A](#), FERC denied rehearing and partially granted clarification to numerous requests for rehearing or clarification involving [Order 791](#).

Specifically, the order denied rehearing on the effective dates (April 1, 2016 and 2017), meaning that there will be no delay in implementation of Version 5. FERC did not see a need for any delays for NERC to address directives for Low Impact BES Cyber Systems; the replacement or improvement of the Identify, Assess, and Correct language; or for NERC to complete its Version 5 pilot program.

FERC granted clarification that the Commission did not intend to direct NERC to conduct a "survey-type inventory" of all Cyber Assets impacted by the 15-minute parameter of the BES Cyber Asset definition but that NERC could determine the scope of such survey.

FERC also clarified that it is not requiring "the development of controls for third-party communication networks" but did indicate that communication networks will be discussed at the upcoming CIP Version 5 Technical Conference.

Finally, FERC rejected a request for rehearing on the Commission's calculations of the burden imposed on small entities required by the Regulatory Flexibility Act.

**Impact:** This order will have a negligible impact on the imposition of and preparation for CIP Version 5. Basically, this order merely reaffirmed Order 791.

### FERC Approves Bulk Electric System Definition

FERC issued an [order](#) approving Phase II of NERC's revisions to the definition of

the term Bulk Electric System (BES). The timing of this order allows the effective date of the definition to remain July 1, 2014.

According to FERC, the new BES definition will "provide greater clarity, consistency, and improved reliability by focusing on the core facilities that are necessary for operating the interconnected transmission network.

The new definition will attempt to finally clarify and resolve what is and what is not part of the BES. It is available on the [NERC Glossary of Terms Used in Reliability Standards](#) (at the time of this writing the Glossary still contains Phase I of the BES definition which will not be activated and Phase II which will become effective July 1, 2014).

A more complete write-up of the Phase II revisions to the BES definition can be found on page 4 of the [January 2014 issue of the Reliable Wire](#).

**Impact:** This change may affect the scope of compliance activities and potentially even the registration status of certain entities. The NERC [Rules of Procedure](#) will be updated on July 1, 2014 to reflect the changes to the BES definition adding Rule 509 - Exceptions to the Definition of the Bulk Electric System and adding Appendix 5C Procedure for Requesting and Receiving an Exception from the Application of the NERC Definition of Bulk Electric System. For more information visit [NERC's BES webpage](#) or reach out to us at GridSME.

### FERC Issues Order Approving Five Generator Verification Reliability Standards

On March 20, 2014 FERC issued [Order 796](#), which approved five Generator Verification standards:

1. [MOD-025-2](#)—Verification and Data reporting of Generator Real and Reactive Power Capability and Synchronous Condenser Reactive Pow-

## Tip of the Month

### Document, Document, Document

One of the most important rules to remember when performing NERC (or any other) compliance is to document everything related to compliance with each Reliability Standard. Even when you are doing everything right, if you can't prove it, it's like it never happened. Work orders, emails, meeting notices/agendas/minutes/participants, training agendas/syllabi/attendance sheets, etc. should all be stored and organized so that you can prove to the auditors that you really are a compliance champion. As with your taxes (don't forget about April 15!), you may not need every piece of documentation, but if you need it, you better be able to present it when asked.

Please call us with any questions.

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er Capability (Applicable to Generator Owners and certain Transmission Owners)

2. **MOD-026-1**—Verification of Models and Data for Generator Excitation Control System or Plant Volt/Var Control Functions (Generator Owners and Transmission Planners)
3. **MOD-027-1**—Verification of Models and Data for Turbine/Governor and Load Control or Active Power/Frequency Control Functions (Generator Owners and Transmission Planners)
4. **PRC-019-1**—Coordination of Generating Unit or Plant Capabilities, Voltage Regulating Controls, and Protection (Generator Owners and certain Transmission Owners)
5. **PRC-024-1**—Generator Frequency and Voltage Protective Relay Settings (Generator Owners)

According to FERC, these new standards will “help ensure that generators remain in operation during specified voltage and frequency excursions; properly coordinate protective relays and generator voltage controls; and enhance the ability of generator models to accurately reflect the generator’s capabilities and equipment performance.” FERC also believes “the generator verification Reliability Standards improve the accuracy of model verifications needed to support reliability and enhance the coordination of generator protection systems and voltage regulating system controls” which should “reduce the risk of generator trips” and enhance transmission planning models and simulations.

FERC also approved the associated implementation plan, violation risk factors, and the violation severity levels (with one exception - NERC is directed to expand the violation severity level applicability for Requirement R6 of MOD-026-1).

This regulatory approval date in the U.S. will be May 27, 2014. To determine the effective date of the standards you must use that date as the starting point.

**Impact:** *Generator Owners and other responsible entities (Transmission Owners and Planners) need to review the approved standards to become familiar with them as soon as possible. Although the effective dates are staggered over time and provide adequate time to prepare for enforcement of the standards, these standards do impose significant new requirements for modeling and protection systems.*

### FERC Proposes to Approve Two Relay Loadability Standards

On March 20, 2014, FERC issued a **Notice of Proposed Rulemaking** (NOPR) that proposes to approve one new and one revised Reliability Standard addressing relay loadability.

The two standards are:

1. **PRC-023-3**—Transmission Relay Loadability
2. **PRC-025-1**—Generator Relay Loadability

Both of these standards will apply to Generator Owners, Transmission Owners, and Distribution Providers with load-responsive protective relays at certain specified terminals. According to FERC, PRC-025-1 “will serve to enhance reliability by imposing mandatory requirements governing generator relay loadability, thereby reducing the likelihood of premature or unnecessary tripping of generators during system disturbances.” Additionally, FERC states that the revised PRC-023-3 will “clarify the applicability of the two standards governing relay loadability.”

FERC proposes to approve the two standards as submitted as well as their violation risk factors, violation severity levels, and implementation plans.

Comments on this NOPR are due to FERC by April 28, 2014.

**Impact:** *PRC-025-1 has only one requirement—that responsible entities set*

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*their relays in accordance with Attachment 1 to the standard. Responsible entities will be required to be compliant either “(1) 60 months after regulatory approval where compliance can be achieved without replacement or removal of relays; or (2) 84 months after regulatory approval if replacement or removal of relays is necessary.”*

*PRC-023-3 will become effective the first calendar quarter after regulatory approval. At that time, PRC-023-2 will be retired, except that Criterion 6 of Requirement R1 of PRC-023-2 will remain in effect until PRC-025-1 is implemented.*

### The Next FERC Open Meeting Will Be Held April 17, 2014

Details can be found [here](#).

### FERC to Hold Frequency Response Workshop

FERC will be hosting a workshop on April 22, 2014 at their headquarters “to obtain input on third-party provision of reactive supply and voltage control and regulation and frequency response services. The workshop will discuss the technical, economic, and market issues but will also touch on the recently approved BAL-003-1—Frequency Response and Frequency Bias Setting Reliability Standard. More information can be found in the [Notice of Workshop](#).

### FERC to Host a Technical Conference on CIP Version 5 April 29

FERC will be hosting a Technical Conference on April 29, 2014 to discuss outstanding issues from [Order 791](#) including:

- (1) Whether additional definitions or security are needed to protect Bulk Power System communication networks, including remote access systems
- (2) The adequacy of the approved CIP Version 5 standards’ protections for the Bulk Power System data

transmitted over data networks

- (3) The functional differences between the respective methods utilized for identification, categorization, and specification of appropriate levels of protection for cyber assets using CIP Version 5 and the National Institute of Standards and Technology Security Risk Management Framework.

More information can be found in the [Notice of Technical Conference](#).

## NERC News

### NERC Submits an Interpretation to the TOP-007-WECC-1 Reliability Standard for Approval

On March 12, 2014, NERC submitted a [petition](#) to FERC seeking approval of an Interpretation to Requirement R1 [TOP-007-WECC-1a](#)—System Operating Limits. The proposed Interpretation clarifies that TOP-007-WECC-1 only applies to Transmission Operators because the [NERC Reliability Functional Model](#) does not include a Path Operator function.

**Impact:** *The proposed Interpretation will limit the application of TOP-007-WECC-1 to Transmission Operators in the WECC region.*

### NERC Submits Petition Seeking Approval of PER-005-2

NERC submitted a [petition](#) on March 7, 2014, seeking the approval of [PER-005-2](#)—Operations Personnel Training. This standard revises and replaces [PER-005-1](#)—System Personnel training. According to NERC, the purpose of PER-005-2 is to improve upon PER-005-1 by expanding the scope of the Reliability Standard to include training requirements for [additional] personnel.” This expansion will include the staff of certain Transmission Owners with real-time operating responsibilities and Generator Operators at centrally-located dispatch centers in ad-

## SharePoint for Utilities

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We've developed customized compliance systems for clients that track, calendar, and send out workflows and tasks, and provide timely statuses and alerts. Evidence, documents, and work flow processes can all be contained on one comprehensive site that enables you to remain compliant and produce audit-ready documentation in an instant.

dition to the reliability entities (Reliability Coordinators, Balancing Authorities, and Transmission Operators).

NERC is also seeking the approval of the definitions for two new terms - System Operator and Operations Support Personnel.

**Impact:** *Like the previous version of PER-005 this standard requires responsible entities to develop and implement a systematic approach to training for tasks that may affect the reliability of the Bulk Electric System. If approved, the additional burden should be minimal for Reliability Coordinators, Balancing Authorities, and Transmission Operators already subject to PER-005-1. However, those Transmission Owners and Generator Operators that were not previously subject to PER-005-1 will need to develop and implement a systematic training program prior to the implementation date of the standard.*

### CIP Version 5 Revisions Update

The **CIP Version 5 Revisions** standards development team (Project 2014-02) is moving quickly to address the four main directives from **Order 791** that approved Version 5 and submit a petition to FERC by February 3, 2015. These four directives require NERC to: (1) remove or modify the "identify, assess, and correct" language included in numerous Version 5 Requirements; (2) develop controls for Low Impact BES Cyber Systems; (3) develop requirements for transient electronic devices; and (4) create a definition of "communication networks" and develop standards to protect such networks.

To learn more about the CIP V5 Revisions Standard Drafting Team's actions, including the team roster, meeting schedule, and agendas, click [here](#).

**Open and Upcoming NERC Reliability Standards Ballots and Comment Periods - All Ballots Can Be Found on NERC's [Current Ballots Page](#). Ballot and comment periods close at 5 p.m. Pacific)**

- **COM-002-4** (Operating Personnel Communications Protocol), **Project 2007-02 Operating Personnel Communications Protocols**  
**Action:** A final ballot is now open through April 7, 2014.
- **Periodic Review of BAL Standards**  
The review team is recommending revisions to **BAL-005** and **BAL-006**.  
**Action:** A 45 day **comment** period is open through April 7, 2014.
- **Special Protection Systems Revised Definition, Project 2010-05.2 Phase 2 of Protection Systems**  
**Action:** **Comment** period is open through April 9, 2014.
- **MOD-031-1** (Demand and Energy Data), **Project 2010-04 Demand Data (MOD C)**  
**Action:** An additional ballot and non-binding poll is open April 1-10 and a 45 day formal **comment** period is open through April 10, 2014.
- **VAR-002-3** (Generator Operation for Maintaining Network Voltage Schedules), **Project 2013-04 Voltage & Reactive Control**  
**Action:** An additional ballot and non-binding poll is open April 4-14 and the **comment** period is open through April 14, 2014.
- **PRC-010-1** (Undervoltage Load Shedding) **Project 2008-02 Undervoltage Load Shedding**  
**Action:** **Comment** period is open through April 16, 2014.
- **EOP-011-1** (Emergency Operations), **Project 2009-03 Emergency Operations**  
**Action:** **Comment** period is open through April 28, 2014.

Additional information about NERC Reliability Standards development projects can be found [here](#).

### Upcoming NERC Events

- Spring Standards and Compliance Workshop April 1-3 in San Diego, CA  
**Agenda.**

### Upcoming Enforcement Dates

#### April 1, 2014

- BAL-001-1—Real Power Balancing Control Performance (BA)
- BAL-001-TRE-1—Primary Frequency Response in the ERCOT Region (BAs, GOs, and GOPs in the TRE region)
- BAL-004-WECC-2—Automatic Time Error Correction (Synchronously operated BAs in WECC)
- PRC-006-SERC-1—Automatic Underfrequency Load Shedding Requirements (TPs, DPs, TOs, and GOs in the SERC Region)

#### July 1, 2014

- Bulk Electric System revised definition and associated Rules of Procedure
- FAC-003-3—Transmission Vegetation Management (Applicable TOs and GOs with certain lead lines)

#### October 1, 2014

- BAL-002-WECC-2—Contingency Reserve (WECC BAs and Reserve Sharing Groups)

#### January 1, 2015

- TPL-001-4—Transmission System Planning Performance Requirements (PCs and TPs)

#### April 1, 2015

- BAL-003-1—Frequency Response and Frequency Bias Setting (BAs and Frequency Reserve Sharing Groups)
- PRC-005-2—Protection System Maintenance (TOs, GOs, and DPs)

Make sure your RSAWs are up to date! NERC has posted numerous new or revised RSAWs in the last few weeks. Visit NERC's **RS AW page** or **WECC's Compliance Standards Index.**

## WECC News

**WECC to host Compliance User Group (CUG) and CIP User Group (CIPUG) Meeting in Salt Lake City, UT June 3-5**

The next CUG/CIPUG meetings will be held in Salt Lake City, UT. More information can be found **here.**

**WECC will be hosting the next "CIP Version 5 Roadshow" May 14-15 in Salt Lake City, UT**

More information can be found **here.**

**WECC's Next Compliance Webinar will be held April 17, 2014**

Click **here** for more information.

## Guest Column

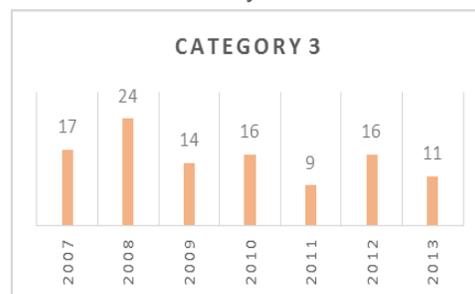
### Preparing for FAC-003-3

by Robert Novembri

Transmission Vegetation Management took on new meaning for Transmission Owners back in 2007 when FAC-003-1 became mandatory and enforceable. Since then transmission system vegetation related outages have been trending downward with zero outages reported in many quarters. The following are the statistics for grow-ins (Category 1 outages) on lines 200 kV and above:



Although some improvement has been seen, fall-ins from outside the right-of-way (Category 3 outages) on lines 200 kV and above continue to be a problem on the bulk electric system.



With the advent of FAC-003-3, which becomes mandatory and enforceable for Transmission Owners on July 1, 2014, there will be a number of changes that will require program revisions for Transmission Owners and new programs will need to be developed by Generator Owners.

FAC-003-3 will be phased-in for Generator Owners with Requirement 3 becoming mandatory and enforceable on January 1, 2015 followed by the remaining six requirements on January 1, 2016.

Some of the changes that all Transmission Owners and Generator Owners need to be aware of are:

**Category 3 Outages** – As noted above, these outages, which are caused by vegetation falling into a line from outside the right-of-way, continue to be problem on the bulk electric system. Although not a violation of either Requirement 1 or Requirement 2, FERC provided guidance in Order 777 that addresses the issue. Paragraph 120 states “A fall-in from outside of the defined right-of-way may give reason to review a transmission owner’s compliance with the annual inspection and work plan requirements.” This means that Requirement 6 and Requirement 7 may be reviewed during an audit, or investigation, to determine if there is a systemic problem with the utility’s program as it relates to fall-ins from outside the right-of-way.

**Right-of-Way Definition** – The new definition states, “The corridor of land under a transmission line(s) needed to operate the line(s). The width of the corridor is established by engineering or construction standards as documented in either construction documents, pre-2007 vegetation maintenance records, or by the blowout standard in effect when the line was built. The ROW width in no case exceeds the applicable Transmission Owner’s or applicable Generator Owner’s legal rights but may be less based on the aforementioned criteria.”

Some have questioned what is meant by pre-2007 vegetation maintenance records in the definition. This was added to accommodate those cases where no engineering or construction standards exist that reference the width of the right-of-way to be maintained for vegetation. Should that be the case, evidence must

be provided that indicates the width of the right-of-way that was maintained prior to FAC-003-1 becoming mandatory.

**Requirements 1 and 2** – These two requirements were developed separately because they originally had different violation risk factors (VRF). The VRF for R2 was changed in FERC Order 777 to mirror R1, making both requirements the same. FERC Order 777 also commented on the Minimum Vegetation Clearance Distances (MVCD), which are contained in Table 2 of the standard. FERC stated “...while clearances required at the time of maintenance may vary from one region or area to another, our proposed approval of FAC-003-2[3] is based on our understanding, which is drawn directly from NERC’s statements in its petition, that transmission operators [owners] will manage vegetation to distances beyond the MVCD to ensure no encroachment into the MVCD.” To ensure compliance with these requirements some utilities have opted to include clearances to be attained during vegetation management work (Clearance 1 in FAC-003-1) in their vegetation management plan.

These are just a few of the notable changes included in FAC-003-3. As your utility begins its preparation for the implementation of the new standard be sure to thoroughly review the “Guideline and Technical Basis” section of the standard and FERC Order 777.

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