



# Hot Issues in Electric Reliability

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# Overview

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- NERC is moving towards a risk-focused approach to coverage of reliability standards, their enforcement and the standards themselves, with greater granularity and clarity:
  - Standards applicability (BES Definition).
  - Compliance and enforcement (RAI/FFT).
  - Reliability standards (P 81, RISC, Independent Experts Review Panel, SPM).



# **BULK ELECTRIC SYSTEM DEFINITION**

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# Energy Policy Act of 2005

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- EAct 2005 Section 215: FERC and NERC (as FERC-approved ERO) have authority to establish and enforce reliability standards on “all users, owners, and operators of the bulk-power system,” including public power entities.

# Bulk-Power System (Section 215)

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- “[F]acilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof)” and “electric energy from generation facilities needed to maintain transmission system reliability” but “does not include facilities used in the local distribution of electric energy.”
- FERC hasn’t defined BPS beyond what’s in Section 215.

# Bulk Electric System

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- NERC standards generally apply to BES rather than BPS.
- Use of BES approved by FERC in Order 693.
- NERC also uses BES (as well as BPS) in its Statement of Compliance Registry Criteria.

# Impacts on Registration

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- Some functional categories are based on owning/operating “Facilities,” which is defined to mean BES Elements.
- Others require direct connection to the BPS, which FERC may treat as synonymous with BES for this purpose (see *SLECA* registration decision).

# Original BES Definition

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“As defined by the Regional Reliability Organization, the electrical generation resources, transmission lines, interconnections with neighboring systems, and associated equipment, generally operated at voltages of 100 kV or higher. Radial transmission facilities serving only load with one transmission source are generally not included in this definition.”



# Original BES Definition—Issues

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- Regional discretion.
- Subjective/subject to debate with auditors.
- No defined appeals process.

# Orders 743 and 743-A

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- Nov. 2010 and March 2011, respectively.
- FERC concerns:
  - Regional Entity discretion.
  - In particular, NPPCC's impact-based methodology.
- Directed NERC to get rid of the regional discretion, and “ensure that the definition encompasses all facilities necessary for operating an interconnected electric transmission network.”

# NERC Process

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- 2-phase standard development process:
  - Phase 1 to address FERC directives.
  - Phase 2 to handle more complicated or controversial issues.

# BES Phase 1

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- Filed at FERC January 2012.
- Adds specificity (e.g. criteria for transformers and generation).
- Creates new NERC process for requesting exceptions (inclusion and exclusion) to the bright-line definition—necessary for making sure the right Elements are included.

# Structure of New BES Definition

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- Core Definition: >100 kV.
- Bright-line Exclusions: e.g., radials serving load and/or <75 MVA of non-BES generation.
- Bright-line Inclusions: e.g., >20 MVA generators connected at >100 kV.
- Exception Process: include or exclude facilities not correctly categorized by the core, Exclusions, and Inclusions.

# Are You In or Out?

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- Apply the core definition, Inclusions, and Exclusions to the Element in question; refer to BES Reference Document (once it's available).
  - Like today, entities make initial determination.

# Application of Revised Definition

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- In the absence of bad faith, Regions and NERC can't reverse entity's determination; they must instead use exception process if they disagree.
- If you determine that an Element that had been treated as BES is no longer BES under the new definition, notify your Regional Entity.
  - The requirement is notification, *not* justification.

# Fine-Tuning

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- The core definition, Inclusions, and Exclusions are bright-line, across-the-board.
- Exception process is case-by-case.
- If you, another entity, or the Region think the definition reaches the wrong result in a specific case, seek an exception.
- Two flavors: exclusion exception and inclusion exception.



# Exception Process

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- Request: By owner, operator, Regional Entity, PA, RC, TOP, TP, BA.
- Recommendation(s): Regional Entity conducts study; Technical Panel study if RE recommends denial.

# Result of Exception Process

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- NERC panel proposes decision; NERC CEO decides, subject to BOTCC and FERC review.
- ROP provide for implementation plans (i.e. new compliance obligations don't start on Day 1) for granted inclusion exceptions, and for denied exclusion exceptions if the Element wasn't previously BES.

# Orders 773 and 773-A

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- Dec. 2012 and April 2013, respectively.
- Approved the Phase 1 definition, with important exceptions:
  - 100+ kV facilities looped below 100 kV.
  - Interconnected Generation.
  - Local Distribution Exemptions.

# 100+ kV Facilities Looped Below 100 kV

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- Interprets radial exclusion (Exclusion E1) as unavailable to 100+ kV radials connected by a sub-100 kV loop.

“A group of contiguous transmission Elements that emanates from a single point of connection of 100 kV or higher.”

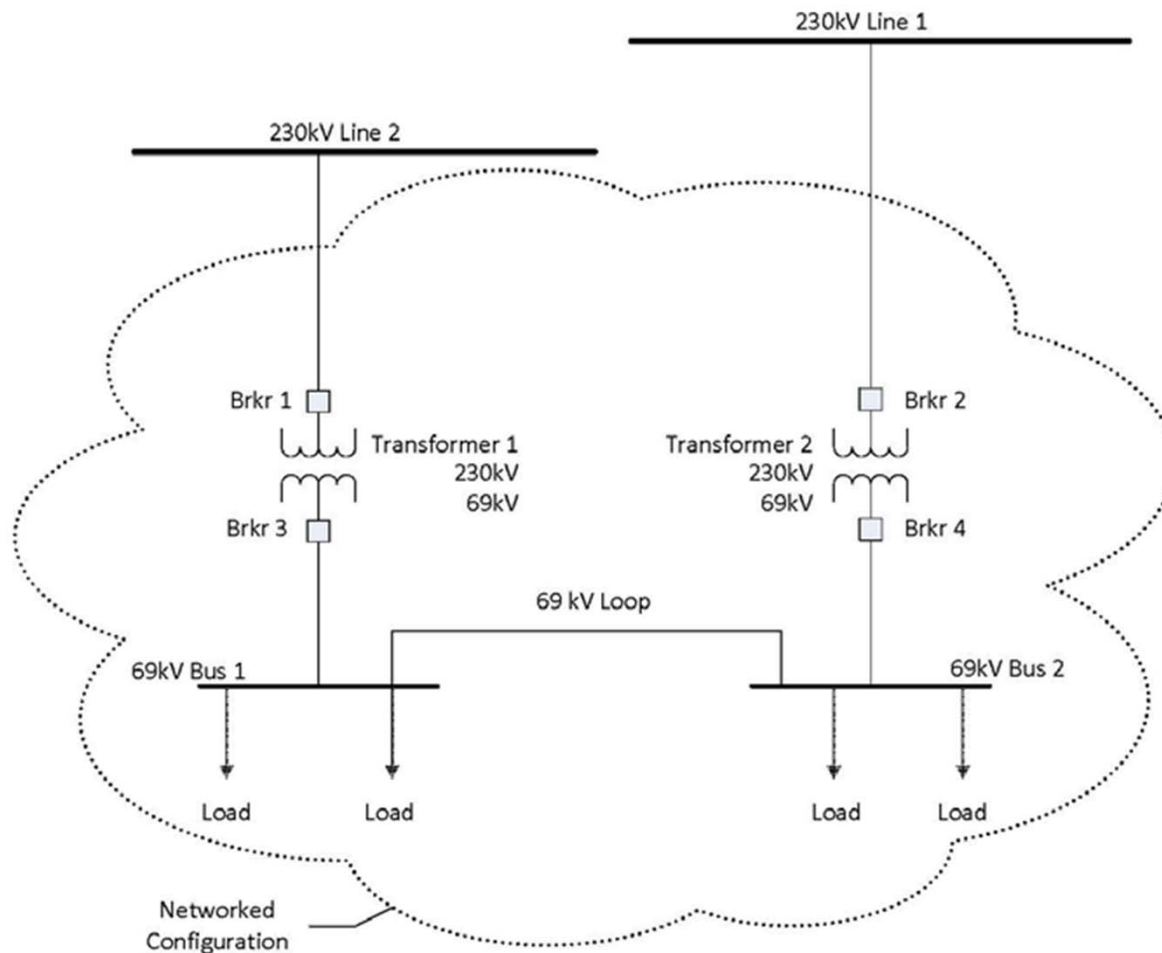
# 100+ kV Facilities Looped Below 100 kV

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- Directs NERC to remove 100 kV floor from local network exclusion (Exclusion E3) so that configurations that no longer meet Exclusion E1 can qualify for E3.

“A group of contiguous transmission Elements operated at or above 100 kV but less than 300 kV that distribute power to Load rather than transfer bulk power across the interconnected system.”

# 100+ kV Facilities Looped Below 100 kV



# Interconnected Generation

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- Directs NERC to make Exclusions E1 and E3 inapplicable to facilities connecting BES generation to the grid.

# Local Distribution Exemptions

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- FERC process separate from the NERC exception process.
- To ensure that Section 215 jurisdictional limit is respected.
- FERC will use the Order 888 Seven-Factor Test, but will consider other factors as well.
- Can be done at the same time as appeal of NERC's decision on an exception request.



# Extension

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- Order 773 created a problem: radial exclusion is unavailable to 100+ kV facilities looped below 100 kV under Phase 1, but 100 kV floor won't be removed from local network exclusion until Phase 2.
- NERC decided to address by asking FERC for a 1-year delay of Phase 1, so that Phase 2 can (hopefully) catch up.
- On June 13, 2013, FERC granted extension.

# Phase 2

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- Second draft (Sept. 4) failed by a very narrow margin.
- Need to get something to the NERC Board for November meeting, to be filed at FERC by December 31 deadline (imposed by June 2013 extension order).

# Phase 2 Second Draft—Highlights

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- Clarify what portions of dispersed generating resources are included by I4.
- Make the presence of any BES real power generation disqualify a system from E1 and E3 (radial exclusion and local network exclusion, respectively).
- Allow 100+ kV radials connected by a loop at 50 kV or below to qualify for Exclusion E1.
- Remove the 100 kV floor from Exclusion E3.

# Effect on Registry Criteria

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- Must at minimum revise to use the new BES definition.
- BES Standard Drafting Team could recommend additional changes.

# Dates to Note

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- For now, operating under the original BES definition.
- July 1, 2014: New definition, exceptions process, and FERC local distribution process.
- July 1, 2016: Any new compliance obligations resulting from the new definition.
- Revised BES Reference Document: not anticipated until Phase 2 definition is nailed down.



# COMPLIANCE AND ENFORCEMENT: RAI AND FFT

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# FFT: “Find, Fix, Track, and Report”

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- Original process:
  - No penalties; streamlined processing.
  - Completed mitigation sufficient; no formal Mitigation Plan required.
  - Only minimal-risk issues.

# Incremental Improvements

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- June, 2013 FERC order approving enhancements to FFT program:
  - Allows some moderate-risk issues to qualify.
  - Issues with open mitigation, but must be completed within 90 days after posting.
  - Posting (rather than filing) with 60-day review window.



# FFT in Practice

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- Consistency of FFT application is improving between Regions, but not there yet.
- FFT has yielded process improvements for NERC and the Regions, but more can be done for Registered Entities.
  - Uncertainty after audits or self-reports, until FFT decision is made.
  - Self-reporting all FFT-eligible violations remains resource intensive.

# Processing Time

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- NERC recognizes that FFT processing time is an issue for registered entities.
- As of March 2013, average 10 months; down to 6.9 months as of mid-August.
- NERC recognizes the need for more communication with registered entities while an FFT request is being processed.

# Next Steps for FFT

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- Speedier determination of FFTs—eliminate bottlenecks in the process.
- “Early triage” (60-day average) process.
- Move towards “Find, Fix, Record” (compliance only, not enforcement) for certain minimal-risk issues.
- Reduce burden of self-reporting minimal risk potential violations, e.g. aggregation of multiple issues if internal controls adequate.

# The Goal

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“End state”: enforcement only for issues that pose a serious grid reliability risk; otherwise, let NERC/Regions exercise discretion not to prosecute.

# Reliability Assurance Initiative

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“It is not practical, effective or sustainable for the ERO Enterprise and Registered Entities to monitor and control all compliance to the same degree. Further, it is not practical, effective, nor sustainable for the ERO Enterprise and Registered Entities to treat all findings and discrepancies, as violations triggering the same degree of enforcement and evidentiary documentation.”

NERC RAI White Paper, Incorporating Risk Concepts into the Implementation of Compliance and Enforcement at 1, available (along with the other 4 concept papers) at <http://www.nerc.com/page.php?cid=3%7C443>.

# What Is RAI?

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- Reliability Assurance Initiative is a “new paradigm” for compliance and enforcement.
- Goal is to focus on high reliability-risk areas and reduce unnecessary administrative burden.
- Reserve enforcement proceedings for significant matters by creating a new path outside of enforcement.
- But RAI remains a high-level concept, to be implemented over 3-6 years. Pilots are just beginning now.

# Audits in the Existing Paradigm

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- Audits focus on Actively Monitored List; utility dumps volumes of data on auditors.
- All violations must go through enforcement process (even if just FFT).

# Audits in the RAI Paradigm

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- Risk-based scoping of audits, basing scope on risk profile of the utility and quality of its “internal controls.”
- Regions can decline to pursue enforcement if strong “internal controls” are present.



# Current NERC Initiatives

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- Develop a common ERO auditor handbook.
  - Completion Q4 2013; training regional auditors beginning Q1 2014.
- Pilot programs to develop a means of assessing an entity's internal controls.
  - Including public power.
- Improve FFT, risk-based enforcement processing activities.
- Improve self-report process.

# Opportunities for RAI

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- Sensible, risk-based audits tailored to each entity's actual risk to the BES.
  - But requires trained, trusted auditors.
- Focus industry, FERC, and NERC resources on the most significant risks to the BES.
- Potential to move away from “zero-defect” compliance.

# Concerns About RAI

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- Registered entities must know how their internal controls will be judged by NERC/Regions.
- Expectations of internal controls need to be calibrated to entity size.
- RAI should not become a new layer of compliance obligations on top of the already mandatory reliability standards.
- RAI is intended to result in improvements for registered entities as well as for the Regions.



**STANDARDS DEVELOPMENT:  
P 81, RISC, INDEPENDENT EXPERTS  
REVIEW PANEL, AND STANDARD  
PROCESSES MANUAL**

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# The Problems

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- Substance
  - Mandatory standards adapted from the voluntary, pre-EPA Act 2005 NERC standards.
  - Requirements are vague, ambiguous, duplicative, or not relevant to reliability.
- Process
  - Existing standards development process was taking too long.

# Paragraph 81

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- In P 81 of March, 2012 order accepting FFT, FERC invited NERC to file to eliminate unnecessary or redundant requirements.
- NERC developed criteria for selecting requirements to eliminate.
- Phase 1 of the P 81 effort filed in February 2013 to retire 34 requirements within 19 Standards—the “low-hanging fruit.”

# Paragraph 81

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- FERC NOPR proposes to approve the retirements, and also to withdraw 41 outstanding FERC directives.
- Supported by APPA, TAPS, LPPC, and others.
- Going forward, P 81 criteria to be considered as part of NERC's regular standard review.

# Reliability Issues Steering Committee

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- Risk-informed triage, priorities, scope of standards.
- Reports released in January and July 2013 recommending high, medium, and low-priority issues.



# Independent Experts Review Panel

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- Five industry experts.
- Independent review of the set of NERC reliability standards, other than CIP.
- Final report released June 2013.

# Independent Experts Report

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- Recommends retirement of a number of requirements from the Actively Monitored List and consolidation of the remainder.
- Notes remaining requirements that need work.
- Other recommendations, e.g. realign standards from 14 families to 10 families; risk analysis.
- Identifies some reliability gaps, e.g. 3-part communications.

# Standard Processes Manual

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- FERC accepted June 26, 2013.
- Intended to streamline standards development, reduce burden on all involved.
- Controversial shortcuts in informal development.
- Time will tell.



## QUESTIONS?

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