

# Electric Reliability Organization Enterprise Performance Metrics

In 2014, NERC and the Regional Entities introduced a common set of ERO Enterprise performance metrics. These metrics are intended as indicators of the overall effectiveness of the ERO Enterprise in achieving its mission and the goals and objectives outlined in the ERO Enterprise Strategic Plan, 2014-2017. There are four overarching metrics focused on overall effectiveness in addressing bulk power system risks and improving reliability. There are a number of supporting measures that assess the effectiveness of the key operational elements of the ERO Enterprise.

The intent is to report the results of these metrics on an ERO Enterprise-wide basis, and also as applicable distinguish results for NERC and individual regions. NERC and the Regional Entities are encouraged to further use relevant portions of these measures in their internal corporate performance management programs.

## Metric 1: Reliability Results

*Measure* – Determine the frequency of BPS events, excluding weather<sup>1</sup>, flood, or earthquake. The target is fewer, less severe events during 2014-2017; no Category 4 and 5 events and Category 3 events are trending down.

## Metric 2: Assurance Effectiveness

*Measure* – Assess all Category 3 and above events. The target is to reach zero gaps in Reliability Standards and compliance monitoring by 2017.

## Metric 3: Risk Mitigation Effectiveness

*Measure* – Review the BES risk profile each year to determine actual and potential risks. The target is to identify, select and mitigate the high priority risks (and issue specific metrics for each established project).

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<sup>1</sup> Terrestrial weather excluded from metric, however space weather (GMD) is included in metric.

1. **Changing Resource Mix** - As the generation and load on the power system changes, new vulnerabilities may be exposed that the system was not previously designed to address or respond to. Fundamental operating characteristics and behaviors are no longer a certainty and focused action is needed to address this risk.
2. **Extreme Physical Events** – Risk mitigation efforts (reducing the potential consequence) are underway, but additional focus is needed to address and minimize both the magnitude and duration of the consequences of an extreme physical event.
3. **Protection System Misoperations** – NERC’s 2012 and 2013 State of Reliability Reports identified protection system misoperations as a significant threat to BPS reliability. Additional activities are needed to ensure this risk is managed adequately.
4. **Cold Weather Preparedness** - Lack of generator preparedness for cold weather extremes may result in forced outages, de-ratings, and failures to start. Insufficient availability of intra-regional generation and limits on import transfer capability may result in insufficient generation to serve forecasted load, resulting in load shedding.
5. **Right of Way Clearances** - Transmission Owners and applicable Generation Owners may have established incorrect ratings based on design documents, rather than on the actual facilities built. Managing to stay within SOL and IROL limits that are based on incorrect ratings may be inadequate to prevent equipment damage and/or cascading, instability, or separation.
6. **345kV Breaker Failures** - NERC has identified a potential trend of 345 kV SF6 puffer type breakers failing. Circuit breaker failures, in conjunction with another fault, may lead to more BES Facilities removed from service than required to clear the original fault. This poses a risk to the reliability of the BES.

#### **Metric 4: Program Execution Effectiveness**

*Measure* – Sum of the weighted sub-metrics.

**Sub metric A (Primary NERC)** - Percent of all board-approved standards<sup>2</sup> meet quality criteria and results-based construct<sup>3</sup>.

The Standards Committee and NERC Staff will work together to develop a periodic review process for steady state Reliability Standards. The process will include a quality and content review and the use or adaptation of the 2013 Independent Expert Review Team’s quality and content scoring system will be considered during development. The review will be conducted by a cross-functional task force that will consist of Committee chairs, NERC management, NERC and stakeholder subject matter experts, and

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<sup>2</sup> Regional standards are not included, this applies to NERC only.

<sup>3</sup> Based on Independent Expert Review Team scoring method 3 out of 3 on content and at least 10 out of 12 on quality.

other parties as deemed necessary and appropriate. This review may also be incorporated into the current Standards Processes Manual periodic review process to avoid duplication of effort. So that the task force will be able to identify Reliability Standards for inclusion in the 2016-2018 Reliability Standards Development Plan, the task force will be operational no later than mid-2015 to allow ample time for the development of the annual task force review timeline.

**Sub metric B (Primary NERC)** - Quality, up-to-date Reliability Standard Audit Worksheets, or any successor guidance, developed for board-approved Reliability Standards.

2014 = Every standard that goes to ballot will have a posted RSAW alongside. Every standard that is reviewed as part of the 5 year review cycle will have a current up-to-date RSAW or successor.

2015 = All RSAWs are converted to the new format and are available to industry.

2016 – 2017 = Violations for new standards do not occur at rates higher than the average rate for standards (or for which they replace) and repeat violations for standards is trending down.

**Sub metric C (Joint ERO Enterprise)** – Implementation of risk-based registration criteria to achieve efficient and effective allocation of compliance obligations. Registration is commensurate with risk and RAI and in light of new BES definition implementation.

2014 = Assessment complete with recommended framework and registration criteria. Implementation plan following assessment, criteria and framework completed.

2015 = Business processes / tools

2016 = Implementation launch

2017 = Stable state

**Sub metric D (Joint ERO Enterprise)** – Timeliness and transparency of compliance results: 12 month rolling average of the ERO Enterprise caseload index trending favorably.<sup>4</sup> Maximum age of unclosed cases is less than 24 months and improving.

2014 = ERO Enterprise caseload index less than or equal to 7 months, with all Regional Entities above average trending downward. ERO Enterprise average violation aging less than or equal to 13.5 months.

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<sup>4</sup> ERO Enterprise Caseload Index is defined as Violations in ERO Inventory (defined as Active violations that have not been filed with FERC) divided by the total number of violations filed with FERC over previous 12-months (NOPs, SNOPs, FFTs and Dismissals) multiplied by 12.

2015 = ERO Enterprise caseload index of 8 months, with all Regional Entities above average trending downward. ERO Enterprise average violation aging less than or equal to 13 months.

2016 = ERO Enterprise caseload index of 8 months, with all Regional Entities above average trending downward. ERO Enterprise average violation aging less than or equal to 12.5 months.

2017 = ERO Enterprise caseload index of 8 months. ERO Enterprise average violation aging less than or equal to 12 months.

**Sub metric E (Joint ERO Enterprise)** - Percent of self-identified non-compliances (includes self-reports and self-certifications).

2014 = 70%

2015 = 74%

2016 = 78%

2017 = 80%

**Sub metric F (Joint ERO Enterprise)** - Mitigation aging curve improving<sup>5</sup>.

2014 = Percentage of the noncompliance items discovered in that year that are mitigated as of December 31, 2014)

- 2013: 80%
- 2012: 95%
- 2011: 98%
- 2010 (and older): 100%

2015 - 2017 = Mitigation aging curve trending favorably.

**Sub metric G (Joint ERO Enterprise)** - RAI reforms and percent of total findings (excluding dismissals) not going to enforcement or filed with FFT or spreadsheet.

2014 =

- ERO auditor handbook deployment;
- RAI compliance reform design complete and reflected in the CMEP implementation plan for 2015;

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<sup>5</sup> Final metrics to be discussed and approved at the February 2014 BOTCC meeting.

- Enforcement pilots completed and FERC filings made, if required;
- Train at least two partnering entities to complete maturity model assessments and complete either directly or through trained partners 20 maturity model assessments;
- At least 75% of noncompliance posing a minimal or moderate risk to the BPS is processed through discretion (i.e.: does not trigger an enforcement action), FFT or SNOP;
- Average time from discovery to posting FFT is 6 months;
- Average time from discovery to decision to enforce or not (i.e.: the triage process) is 60 days.

2015 = Higher percentage of lower and moderate risk violations staying in compliance through exercise of discretion to initiate an enforcement action; audit scope based on common ERO methodology.

2016 = Compliance and enforcement end state designs implemented; continued increase in lower and moderate risk violations staying in compliance through exercise of discretion to initiate an enforcement action.

2017 = Achieve fewer, less severe violations. Positive trend in number of matters dispensed outside of enforcement.

**Sub metric H (Primary NERC)** - Participation in ES-ISAC increased (2013 statistics used as baseline)

2014 =

- 90% of all RCs and TO/TOPs;
- 10% increase in enrollment of all other registered entities;
- 20% increase in information share activity on portal (baseline 2013 uploads figures).
- Develop an ES-ISAC mission performance program, including Key Performance Indicators (KPIs) and benchmarks, by end of Q3.

2015 - 2017 = KPIs trending favorably.

**Sub metric I (Joint ERO Enterprise)** – Assessment of quality and availability of planning and engineering models and data.

2014 = Methodology to validate models developed and endorsed by appropriate technical committees.

2015 = Acquire data and capability for set up / start up.

2016 = Assessment of state and quality of modeling. Establish plan to implement assessment recommendations.

2017 = Implement plan.

**Sub metric J (Joint ERO Enterprise)** – Achieving transition laid out in oversight model regarding ERO Enterprise personnel and ERO Enterprise (NERC and Regional Entity) infrastructure and applications qualifications.

2014= Report quarterly progress and achieve 25% completion of action items.

2015= Report quarterly progress and achieve 50% completion of action items.

2016= Report quarterly progress and achieve 75% completion of action items.

2017= Report quarterly progress and achieve 100% completion of action items.

**Sub metric K (Joint ERO Enterprise)** –Stakeholder annual satisfaction/perception survey of the ERO’s effectiveness to manage risk, budget and stewardship.

2014 = Develop questionnaire with stakeholder input and vetting. Survey complete and benchmarks Established.

2015 – 2017 = Performance trending favorably.