WECC

Reliability and Security Indicator Dashboard

Quarter 1 — 2026

Reliability Risk Management
August 5, 2026

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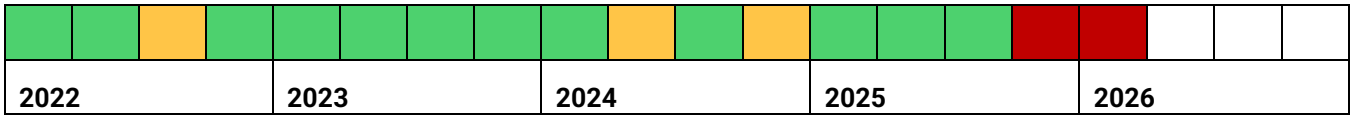
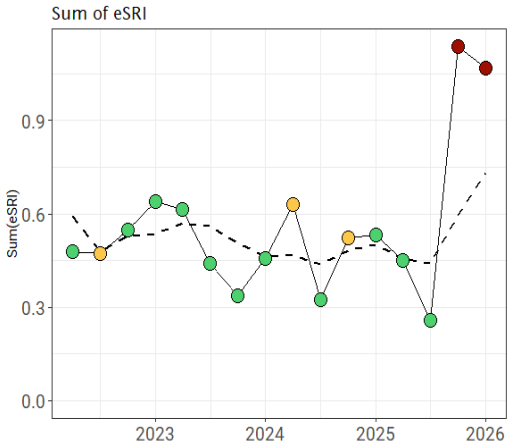
Indicator 1: Reportable Events

Indicator 1 Performance History—by Year and Quarter



Trend Charts



Quarterly Evaluation

During Q1 of 2026 there were four category 1a events with a combined total of .18 for eSRI. In addition, there were two Category 1c events with a combined total of .28 eSRI and a 1h event that was 0 eSRI. The event with the highest eSRI score was a 2f event (.61 eSRI). A 2f event, though not the highest category event, is a significant event in which there is an uncontrolled loss of 300 MWs or more of firm system load for 15 minutes or more. This significant 2f event is the main reason the indicator is red for the quarter. The entity in whose system this event took place has presented in closed EPAS and PCS meetings to share what they have learned from the event.

What it measures

Indicator 1 measures the frequency and severity of events that occur on the system each quarter. This measurement is based on the NERC Event Analysis Process to track and evaluate events. The indicator measures only reported events evaluated through that process.

How it is measured

Indicator 1 is based on two characteristics of reported events:

1. Sum of the Event Severity Risk Index (eSRI) number for each event every quarter.

2. Number of Category 2 and higher events each quarter.*

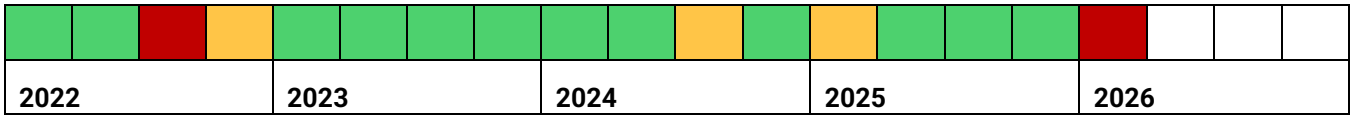
Why this matters

Events pose a risk to system reliability. Category 2 or higher events are more significant events that have severe impacts on the system.

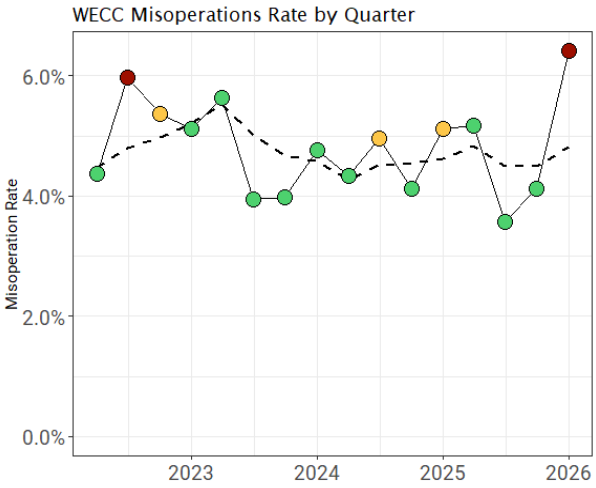
*Category 2 and higher events are rare, typically fewer than one per year. One Category 2 event occurred in Q3 2022.

Indicator 2: Protection System Misoperations

Indicator 2 Performance History—by Year and Quarter



Trend Charts



Quarterly Evaluation

There were 61 misoperations reported in Q1 2026 along with 998 operations resulting in a misoperations rate of 6.11%. The leading causes for misoperations in the first quarter of 2026 were Incorrect Settings (27) and Relay Failures/Malfunctions (8). There were three events that occurred on two entities' systems that resulted in a total of 11 misoperations. These events, resulting in multiple misoperations, contributed to the high number of misoperations for the quarter.

There were two failure-to-trip misoperations with a fault on the system in the quarter. Both of these contributed to the larger events described above. This type of misoperation is more severe than misoperations resulting in unnecessary trips because it allows the fault to be left on the system longer than designed and requires remote protection to clear the fault. The higher number of misoperations, combined with a relatively low number of operations for the quarter, leads to this indicator being red for the quarter.

What it measures
Indicator 2 measures the effectiveness of protection systems in safeguarding system reliability.

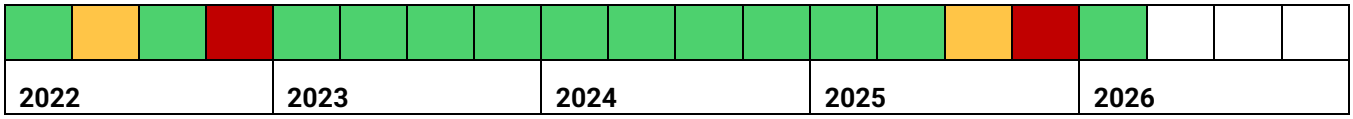
How it is measured
Indicator 2 tracks the ratio of protection system misoperations to the total number of protection system operations.

Why this matters
System reliability is reduced when protection systems fail to operate, or they operate incorrectly ("misoperation"). Misoperations are a major contributor to transmission outage severity.

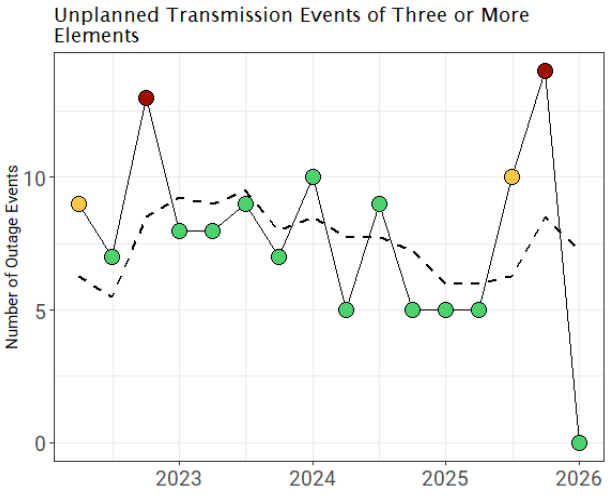
Data Source:
Misoperation Information Data Analysis System (MIDAS)

Indicator 3: Transmission Outages

Indicator 3 Performance History—by Year and Quarter



Trend Charts



Quarterly Evaluation

The indicator is green, as there were no unplanned transmission events of three or more elements in this quarter.

What it measures

Indicator 3 measures how often potentially high-risk, unplanned transmission outages occur on the system.

How it is measured

Indicator 3 tracks the number of unplanned transmission events involving three or more Bulk Electric System elements each quarter.

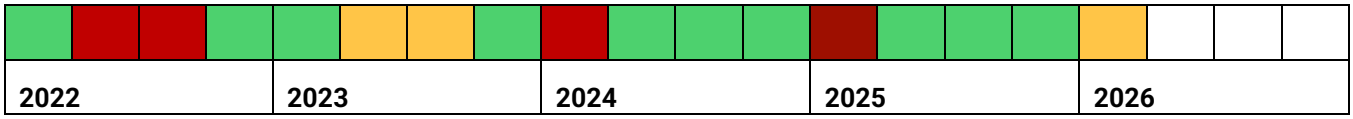
Why this matters

While most transmission events involve an outage of a single element, some events involve multiple elements. Though relatively uncommon, events involving three or more elements pose a higher risk because they are more extensive than the n-1 and n-2 contingencies typically considered by planners.

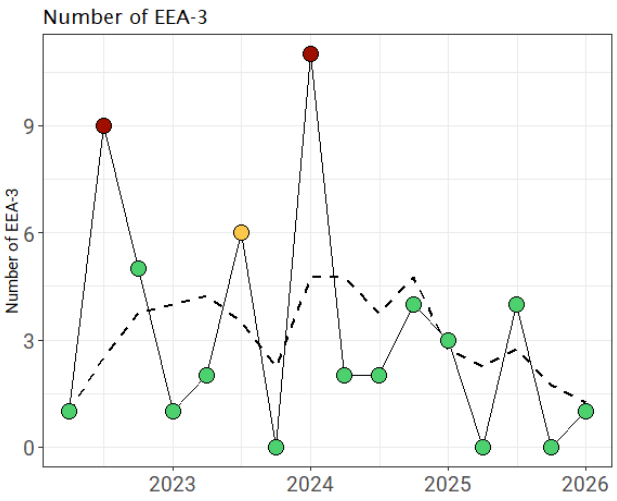
Data Source:
Transmission Availability Data System (TADS)

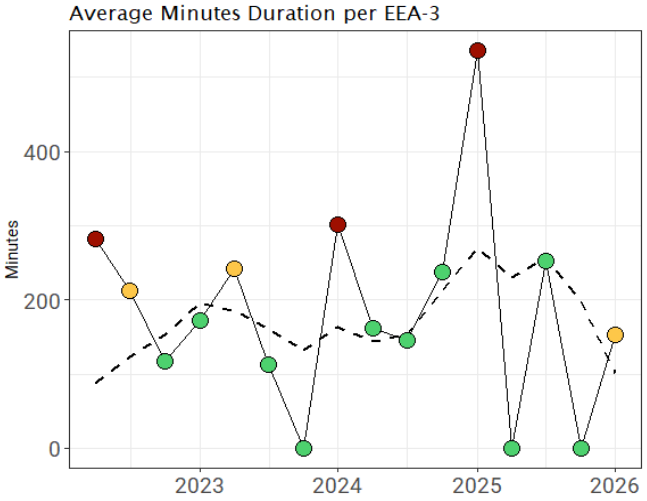
Indicator 4: Energy Emergency Alerts

Indicator 4 Performance History—by Year and Quarter



Trend Charts





Quarterly Evaluation

The indicator rose to yellow for the quarter due to a single EEA-3 lasting 153 minutes. The EEA-3 was the only EEA during the quarter. The BA had 1,300 MW of generation offline for scheduled maintenance. March is considered a shoulder month, and most companies perform routine maintenance on equipment during spring and fall when loads are down. With the generation offline, the BA had a contingency that forced them to deploy all available reserves, leaving them in need of assistance for the next three hours.

What it measures

Indicator 4 measures the number and duration of Level 3 Energy Emergency Alerts (EEA-3) issued to Balancing Authorities each quarter. An EEA-3 alert is defined as a situation in which firm load interruption is imminent or in progress.

How it is measured

Indicator 4 is based on two metrics related to EEA-3 alerts:

1.The number of EEA-3 alerts issued each quarter.

2.The mean duration of the EEA-3 alerts issued each quarter.

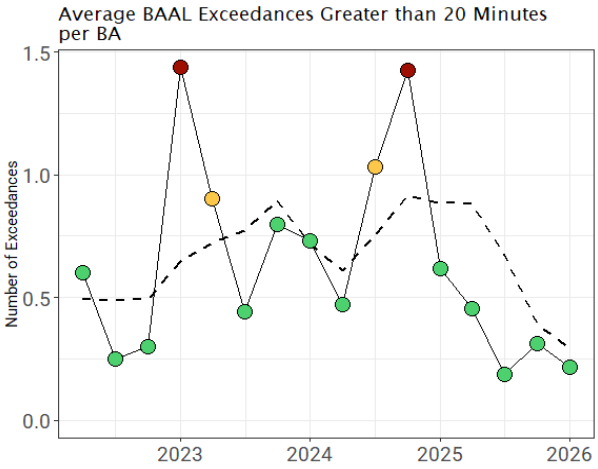
Why this matters

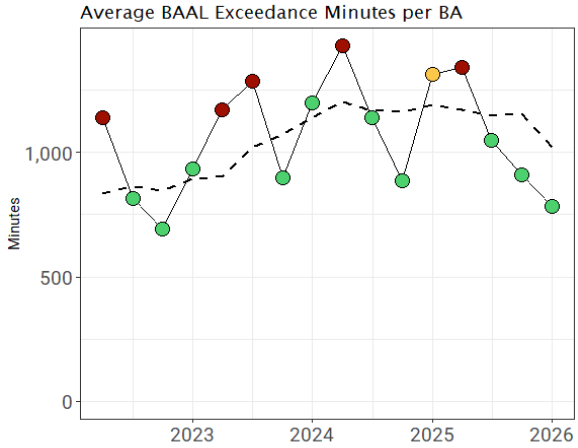
EEA-3 alerts can indicate a lack of sufficient bulk electric system generation capacity, energy, or transmission capability. EEA-3 alerts are an important indicator of system operational reliability.

Indicator 5: Operation Outside BAAL

Indicator 5 Performance History—by Year and Quarter

Trend Charts





Quarterly Evaluation
For the third consecutive quarter, this indicator remained green. System Operators continue to do an excellent job of maintaining load demand to generation balance and ACE.

What it measures
Indicator 5 measures the system's ability to maintain frequency within defined limits.

How it is measured
Indicator 5 is based on two metrics related to Real Power Balancing Control Performance:

1. The mean number of Balancing Authority Area Control Error (ACE) Limit (BAAL) exceedance minutes per BA each quarter.

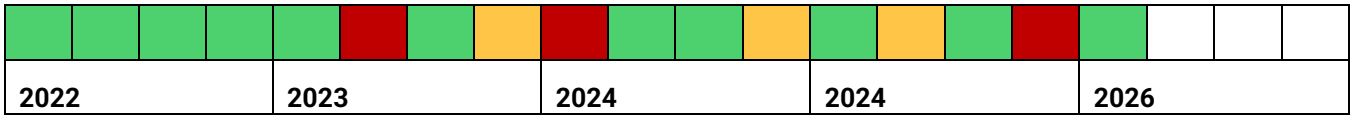
2.The mean number of BAAL exceedances greater than 20 minutes per BA each quarter.

Why this matters
Operation within the BAAL supports reliability by maintaining system frequency within defined limits. Instances where the BAAL is exceeded may put the reliability of the interconnection at risk.

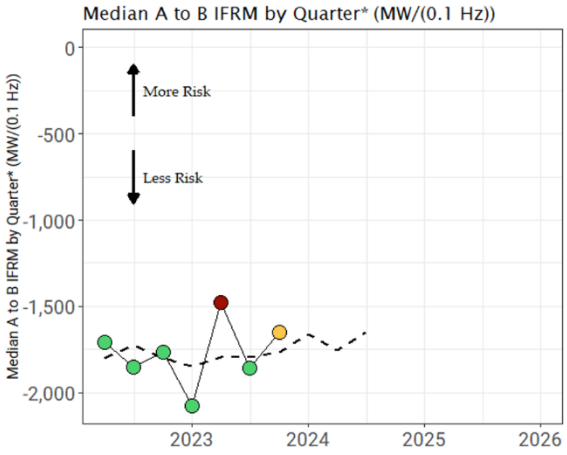
Data Source:
NERC BA Submission Site (BASS)

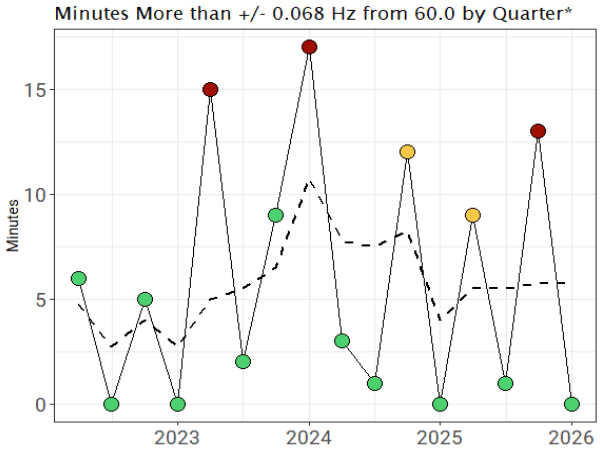
Indicator 6: System Frequency

Indicator 6 Performance History—by Year and Quarter



Trend Charts





Quarterly Evaluation

Beginning with Q1 2022, Indicator 6 has been modified to use the "operating calendar," rather than the "standard calendar." Per the operating calendar, December 2021 through February 2022 represents the first quarter of the 2022 operating year. This change will align Indicator 6 with the meeting, data availability, and reporting schedule of the NERC Resources Subcommittee (RS), which is the source of the IFRM data supporting this indicator. Other indicators will continue to use the standard calendar.

Use of the IFRM metric has been suspended due to insufficient measurement events. Therefore, Indicator 6 is currently based entirely on frequency performance.

The indicator is green because there were 0 minutes in the quarter in which the system frequency was more than 0.068 Hz from 60 Hz.

What it measures
Indicator 6 measures the system's ability to respond to changes in frequency and maintain 60 Hz frequency.

How it is measured
Indicator 6 is based on two characteristics of system frequency:

1. Frequency response to large disturbances—Frequency stability in response to events such as sudden generation or load loss, measured by NERC's A-B IFRM metric.

2. Frequency performance under normal frequency behavior—Frequency stability at all times, measured as the number of minutes with a mean frequency exceeding +/-0.068 Hz from 60 Hz.

Data Source:
NERC IFR Master Event List (Redacted)

Indicator 6: System Frequency

Why this matters

Frequency should be kept as close to 60 Hertz as possible. When large disturbances occur, frequency should not deviate far from 60 Hertz and should be restored quickly. Maintaining frequency is a coordinated effort among BAs to balance generation and load. When one BA is unable to perform this balance, it can adversely impact the entire interconnection and, if not resolved, can lead to issues on the BPS that may include shedding firm load.