

**PROJECT NO. 54248**

**SELECTION OF THE  
RELIABILITY MONITOR FOR  
THE ERCOT POWER REGION**

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**THE PUBLIC UTILITY  
COMMISSION OF TEXAS**

**ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.'S  
2024 FOURTH QUARTER RELIABILITY MONITOR REPORT**

The Public Utility Commission of Texas (PUC/Commission) order directing Electric Reliability Council of Texas, Inc. (ERCOT) to assume the duties and responsibilities of the reliability monitor for the ERCOT power region (ERM)<sup>1</sup> directs ERCOT to file a quarterly report summarizing its previous quarter ERM activities. The ERM hereby provides the following information for the Fourth Quarter (Q4) of 2024.

**I. Executive Summary**

In Q4, the ERM opened 18 new Incident Reviews and referred 25 to the PUC's Division of Compliance and Enforcement (DICE). The ERM's performance metrics are as follows:

| Priority <sup>2</sup> | Opened in Q4 | Referred to DICE<br>in Q4 |
|-----------------------|--------------|---------------------------|
| Critical              | 2            | 4                         |
| High                  | 3            | 4                         |
| Medium                | 3            | 17                        |
| Low                   | 10           | 0                         |
| Total                 | 18           | 25                        |

Of the four High Priority matters referred to DICE in Q4, one<sup>3</sup> involved 45 separate ERCOT Market Participants that failed to timely complete the new generator commissioning process under ERCOT Planning Guide (PG) § 5.5(3).<sup>4</sup> The ERM completed the Preliminary Assessment Report and referred it to DICE December 14, 2024.

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<sup>1</sup> Project No. 54248 [https://interchange.puc.texas.gov/Documents/54248\\_3\\_1250231.PDF](https://interchange.puc.texas.gov/Documents/54248_3_1250231.PDF) dated 11/2/22.

<sup>2</sup> The ERM staff assess an event's impact on ERCOT System reliability and categorize events such as the loss of generation, frequency, or voltage excursions, *etc.* as "Critical." The ERM categorizes other events as "High," "Medium," or "Low" depending on such factors as: whether the incident occurred during an Energy Emergency Alert (EEA), number and size of the facilities involved, if the event is local versus widespread, whether an issue relates to only an administrative matter, *etc.*

<sup>3</sup> Tracking No. ERM2024-088.

<sup>4</sup> ERCOT stakeholders revised the PG through [PG Revision Request 103, which requires market participants to complete part 3 of the process within 300 days of completing part 2.](#)

Since November 2022 when ERCOT assumed the ERM role, it has opened 290 Incident Reviews for an average of 11.6 Incident Reviews per month.

| Status                             | No. of Cases | Percent of Total | Avg. Days Open |
|------------------------------------|--------------|------------------|----------------|
| Closed by DICE – No Enforcement    | 1            | .3               | 335            |
| Closed by ERM – No Violation       | 15           | 5.2              | 126            |
| Consolidated                       | 47           | 16.2             | N/A            |
| Enforcement Open                   | 31           | 10.7             | 485            |
| Enforcement Complete               | 16           | 5.5              | 196            |
| Investigation Begun/Legal Drafting | 27           | 9.3              | 298            |
| Reviewing Report                   | 24           | 8.3              | 347            |
| Management Review                  | 1            | .3               | 344            |
| Opened                             | 56           | 19.3             | 241            |
| Referred to DICE <sup>5</sup>      | 71           | 24.5             | 311            |
| Supporting DICE                    | 1            | .3               | N/A            |
| Total                              | 290          | 100.0%           | 298            |

During 2024, the ERM averaged 3.7 Incident Reviews per month referred to the Commission.

Major topics of Incident Reviews opened in 2024 include:

- Planning Guide § 5.5(3) violations (1 report with 45 MPs)
- Failure to update Current Operating Plan (COP) & HSL (18)
- COP Performance (10)
- Failure to timely provide reactive testing results (14)
- Ancillary Services (10)
- Primary Frequency Response (10)
- Voltage Ride-Through (8)

The most significant events on which the ERM is focused involve the failure of Inverter-Based Resources and certain Wind-Powered Generation Resources to remain connected to the ERCOT System during voltage excursions.<sup>6</sup> The ERM is also focusing on telemetry data accuracy and COP submittal performance.

In Q4, the ERM completed its second Compliance Audit of 2024. The audit assessed ERCOT's compliance with Protocols and Operating Guides requiring it to evaluate the

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<sup>5</sup> This does not include matters in the Enforcement Open, Closed by DICE – No Enforcement, and Enforcement Complete categories.

<sup>6</sup> The Commission recently approved Nodal Operating Guide Revision Request 245 to address the ride-through issue.

performance of Resources providing Ancillary Services and act based upon its evaluation. The ERM intends to report the result of the audit to Commission staff during the first quarter of 2025.

Currently, the ERCOT Legal and Compliance Departments are not fully staffed for the ERM role – ERCOT Compliance has one open position and Legal has one open ERM-focused position.

## **II. Changes to Reliability Requirements to Promote Improved Reliability**

The ERM is tracking the following revision requests that could impact system reliability:

|                                 |   |
|---------------------------------|---|
| <a href="#"><u>NPRR1257</u></a> | Limit on Amount of RRS a Resource can Provide Using Primary Frequency Response  |
| <a href="#"><u>NPRR1265</u></a> | Requirements for Unregistered Distributed Generators                            |
| <a href="#"><u>NOGRR272</u></a> | Advanced Grid Support Requirements for Inverter-Based ESRs                      |
| <a href="#"><u>PGRR117</u></a>  | Addition of Resiliency Assessment and Criteria to Reflect PUCT Rule Changes     |
| <a href="#"><u>PGRR119</u></a>  | Stability Constraint Modeling Assumptions in the Regional Transmission Plan     |
| <a href="#"><u>PGRR120</u></a>  | Subsynchronous Oscillation Prevention   |
| <a href="#"><u>PGRR121</u></a>  | Related to NOGRR272, Advanced Grid Support Requirements for Inverter-Based ESRs |
| <a href="#"><u>PGRR122</u></a>  | Reliability Performance Criteria for Loss of Load                               |

In addition to the foregoing, the ERM continues working with Subject Matter Experts (SMEs) on the following issues to improve ERCOT System reliability:

- Telemetry accuracy;
- Resource dispatch performance;
- Model data accuracy and timeliness; and
- Voltage support.

### **III. Routine Compliance Monitoring**

In addition to investigating individually reported potential violations, the ERM performs routine monitoring activities of Market Participant and ERCOT compliance with Reliability Requirements. Specifically, ERM analysts monitored compliance with the following Protocols each month:<sup>7</sup>

- Resource Ancillary Service Qualification Compliance – § 8.1.1.1(1)
- Quick Start Resource Performance – § 8.1.1.2(17)(a)
- QSE Ancillary Service Capacity Compliance – § 8.1.1.3(3)
- Generation Resource Energy Deployment Performance (GREDP) for Non-Intermittent Renewable Resources – § 8.1.1.4.1(7)
- GREDP for Intermittent Renewable Resources (IRRs) – § 8.1.1.4.1(8)
- Controllable Load Resource (CLR) Energy Deployment Performance – § 8.1.1.4.1(9)
- Energy Storage Resource (ESR) Energy Deployment Performance – § 8.1.1.4.1(9)
- Responsive Reserve Service (RRS) Deployment Performance – § 8.1.1.4.2
  - RRS from Generation Resources and Controllable Load Resources (CLRs) – § 8.1.1.4.2(1)(a)
  - Resources with Insufficient Frequency Responsive Capacity – § 8.1.1.4.2(1)(b)
- RRS from Non-Controllable Load Resources (NCLRs) – § 8.1.1.4.2(1)(a), (4), (6)
  - Non-Spin Reserve Service (NSRS) Deployment Performance – § 8.1.1.4.3
  - NSRS from Generation Resources – § 8.1.1.4.3(3)(a) and (b)
  - NSRS from CLRs – § 8.1.1.4.3(3)(a), (d)
  - NSRS from NCLRs – § 8.1.1.4.3(3)(e), (4)
- ERCOT Contingency Reserve Service (ECRS) Deployment Performance – § 8.1.1.4.4
  - ECRS from Generation Resources and CLRs – § 8.1.1.4.4(1)(a)
  - ECRS from NCLRs – § 8.1.1.4.4(1)(a), (4), (6)
- Emergency Response Service (ERS) Performance – § 8.1.3
  - Testing – § 8.1.3.2(1)(a)(ii)
  - Availability – § 8.1.3.3.3(1)(a)
  - Event Performance – § 8.1.3.3.4
- Primary Frequency Response (PFR) Performance – § 8.5.1.1(1), 8.5.2.1(1)

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<sup>7</sup> References are to Protocols unless otherwise noted.

- PFR 12-Month Rolling Average Performance – Operating Guide § 2.2.8, Attachment J
- Current Operating Plan (COP) Performance Errors – § 3.9.1
- Transmission and/or Distribution Service Provider (TDSP) Transmission Operator (TO) Representation – § 16.19(1)

For each category, ERM analysts retrieve ERCOT data from the ERCOT Market Information System to validate failures before reviewing data, analyzing performance, and comparing performance data to performance metrics to determine which incidents to include in a quarterly report to DICE. The ERM initiated new Incident Reviews because of these analyses.

#### **IV. Overall State of ERCOT System Reliability**

The overall state of ERCOT System reliability is good. The ERM continues to identify the following areas of concern based on discussions with ERCOT SMEs:

- COP performance
- Primary frequency response (PFR) performance
- Voltage control
- Telemetry quality
- Voltage ride-through
- Fault recording and sequence of events recording data requirements
- Installation of phasor measurement recording equipment
- Data recording, redundancy, retention, and reporting requirements
- Updates to the resource dynamic planning models
- Dynamic data for Generation Resources and Settlement Only Generators
- Dynamic data for equipment owned by Resource Entities.

#### **V. Areas for Future Audit**

In coordination with Commission staff, the ERM has identified the reliability requirements it will audit in 2025. In separate audits, the ERM will evaluate compliance with reliability requirements related to Back-up Control Center Plans<sup>8</sup> and Constant Frequency Control Testing.<sup>9</sup>

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<sup>8</sup> Operating Guides §§ 3.2.1(2), (3) and § 3.7(3).

<sup>9</sup> Operating Guides § 2.2.4.3(2).

The ERM stands ready to provide any additional information requested by the Commission.

**Dated:** January 8, 2025

Respectfully submitted,

/s/ Chad V. Seely

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