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**A. Introduction**

- 1. **Title:** Generation Planning Reserve Requirements
- 2. **Number:** MRES-001-0
- 3. **Purpose:**

To [define requirements for and to](#) ensure that a common methodology is used to determine the minimum level of generation reserves required in the Midwest Reliability Organization (MRO) footprint for the short term and long term planning horizon.

**4. Applicability**

- 4.1. Regional Reliability Organization
- 4.2. Reserve Sharing Group
- 4.3. Resource Planner
- 4.4. Planning Authority
- 4.5. Load Serving Entity

- 5. **(Proposed) Effective Date:** January 1, 2006.

**B. Requirements**

**R1.** The Load Serving Entities, Reserve Sharing Groups, Resource Planners and/or Planning Authorities, based upon their responsibilities, shall perform a generation reserve requirement analysis. To be valid the generation reserve requirement analysis shall:

**R1.1** Be performed [at least once every three years, however, when](#) changes to system conditions, ~~warrant such analysis shall be performed annually.~~ **R1.2**

Determine minimum generation requirements on a representative basis for the near-term (years 1 through 5) and the longer-term (years 6 through 10) planning horizons.

**R1.3** Meet a loss-of-load expectation (LOLE) of no greater than 0.1 day in one year or one day in ten years.

**R1.4** Employ an LOLE methodology that combines the generation capacity outage probability with the expected demand to give an expected risk of load exceeding [available](#) capacity.

**R1.5** Include, at a minimum, consideration of the following:

**R1.5.1** Resource Availabilities

**R1.5.2** Resource Ratings

**R1.5.3** Load Forecasts

**R1.5.4** Load Forecast Uncertainty

**R1.5.5** Load Diversity

**R1.5.6** Emergency Assistance from Other Interconnected systems including multi-area assessment considering transmission limitations

**R1.5.7** Maintenance Schedules

**R1.5.8** Transmission Limitations

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R1.5.9 Inability to dispatch non-conventional sources, e. g., wind, cogeneration, etc.

R1.5.10 Energy limitations of hydroelectric units.

R1.5.11 Uncertainty in unit forced unavailability.

R1.5.12 Extreme weather/drought conditions

R1.5.13 Merchant plant commercial unavailability.

R1.5.14 Proper hourly load modeling (firm, critical, interruptible)

R1.5.15 Demand Response

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R2. The Load Serving Entities, Reserve Sharing Groups, Resource Planners and/or Planning Authorities shall document the results of the generation reserve requirement analysis and provide the results to the Midwest Reliability Organization.

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R3. Load Serving Entities shall document that it has met, on an after-the-fact basis, the near-term reserve level as defined by MRES-001 R1 for all of its firm loads served in the MRO for the previous calendar year and provide such documentation to the Reserve Sharing Group, the Planning Authority and the MRO.

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C. Measures

M1. The Load Serving Entities, Reserve Sharing Groups, Resource Planners and/or Planning Authorities shall have a valid assessment and have evidence that it reported the documentation of results per MRES-001\_R1 and MRES-001\_R2. If it is determined that an annual study is not warranted in a given year, the responsible entities shall have available a written document justifying the decision to defer the annual review.

M2. The LSE and/or Resource Planner shall have evidence that it provided the documentation required by MRES-001\_R3.

D. Compliance

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1. Compliance Monitoring Process

1.1. Compliance Monitoring Responsibility

Midwest Reliability Organization

1.2. Compliance Monitoring Period and Reset Timeframe

One calendar year

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1.3. Annual Data Retention

The RRO and LSE shall each keep documentation of the annual analysis and evidence of implementation for 10 years. In addition, entities found non-compliant shall keep information related to non-compliance until found compliant.

The Compliance Monitor shall keep the last audit and all subsequent compliance records.

1.4. Additional Compliance Information

None specified

2. Levels of Non-Compliance

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**Standard MRES-001-0, Generation Reserve Requirements**

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2.1 Level 1 Generation reserve requirement analysis was performed, but did not meet the Reliability Standard MRES-001-0\_R1.5 in one area

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2.2 Level 2 Generation reserve requirement analysis was performed, but did not meet the Reliability Standard MRES-001-0\_R1.5 in more than one area or reporting procedures were incomplete.  
[Incomplete reporting procedures include failing to report either generation analysis or the after-the-fact comparison.](#)

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2.3 Level 3 **Not Applicable**

2.4 Level 4 Generation reserve requirement analysis was not performed or [after-the-fact, the near term reserve was not met for the previous calendar year.](#)

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**Version History**

Version	Date	Action	Change Tracking
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