



MISO Probabilistic Assessment Results LOLE Best Practices

November 7-8, 2011

MISO's Probabilistic Assessment

- Internal Areas were modeled as one entity
- External Areas formed seven different zones
- The software utilized was GE MARS
- MISO MRA Metric Results:

Calculated Indices	Year	
	2011	2014
EUE (MWh/yr)	9.0	67.2
LOLH (hrs/yr)	0.009	0.054

**EUE = Expected Unsupplied Energy*

LOLH = Loss Of Load Hours

Demand Modeling

- **MISO used a historic 2005 load-shape for this analysis, which was a typical load pattern year for the MISO region.**
- **Load Serving Entities (LSEs) provide Peak Demand Forecasts through the Module-E process (currently, MISO non-coincident).**
- **The Peak Demand Forecast is applied to the 2005 load-shape and aggregated into study model areas/zones or regions.**
- **After aggregation, the MISO coincident study peak can be found.**

Demand Modeling Cont.

- **50/50 Peak Seasonal Demands:**

Total Internal Demand (MW)	Year			
	2011		2014	
	Summer	Winter	Summer	Winter
LTRA	98,068	79,052	95,228	77,725
MARS	98,242	78,024	100,587	79,916

- **Net Energy for Load**

Net Energy for Load (GWh)	Year	
	2011	2014
LTRA	497,080	480,432
MARS	526,755	539,478

Capacity Modeling

- **The MISO PowerGADS (Generator Availability Database System) is the major data source for all MISO generators**
- **This includes:**
 - Forced Outage Rate Statistics
 - EFORd: Equivalent Forced Outage Rate demand
 - Planned Maintenance Information
 - Installed Capacity: Generation Verification Test Capacity (GVTC)
- **If a unit has less than 12-months of data, it receives a MISO class average forced outage rate and maintenance period. There must be 30 or more units reporting data in a class, otherwise NERC class average data is used for classes with less than 30 MISO units.**
- **Ventyx-PowerBase & Energy-Velocity data are the sources for external unit data.**

Capacity Modeling Cont.

- **MISO Seasonal Capacities (LTRA):**

Subcategory	Year			
	2011		2014	
	Summer	Winter	Summer	Winter
Total Seasonal Capacities (MW)	131,978	131,978	135,255	135,255
Controllable Capacity Demand Response	7,819	7,819	15,638	15,638
Intermittent and Energy-Limited Resources	1,069	1,069	1,310	1,310
Traditional Dispatchable Capacity	123,090	123,090	118,307	118,307
Sales	0	0	0	0
Purchases	4,894	4,894	4,894	4,894

- **The capacities used for this assessment were pulled from a different data source than the LTRA data. Going forward, the data used for the LTRA and Probabilistic Assessment will come from the same source.**

Contact Information

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