Indiana Utility Regulatory Commission

2015 Summer Reliability and Future Challenges

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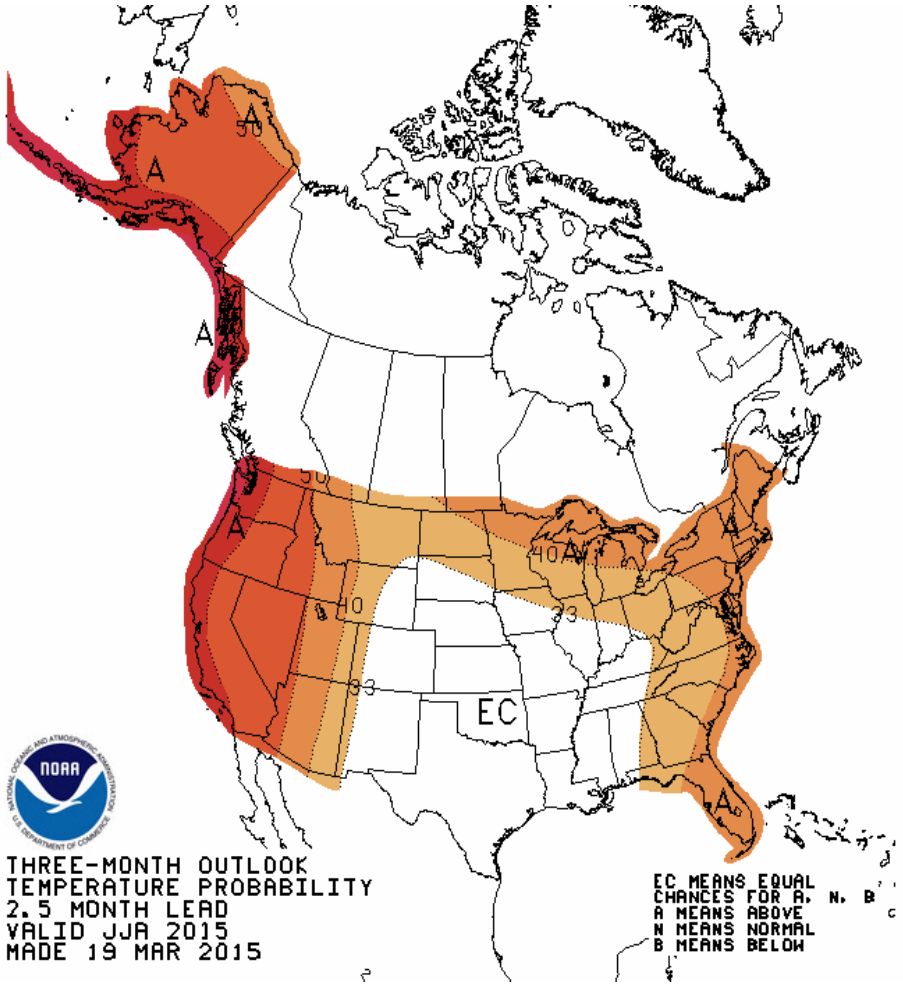
President and Chief Executive Officer
May 1st, 2015

Executive Summary

- MISO projects adequate footprint-wide reserves to meet 2015 Summer Peak demand based on an expected (50/50) forecast.
  - The Planning Reserve Margin Requirement is 14.3%
  - The 2015 projected Reserve Margin is 18.0%
  - This is consistent with the OMS-MISO survey which projected margin in 2015/2016 of 17.0%
- Individual utilities need a reserve margin of 5.4% - reflecting a diversity benefit of 9% versus what they would need as stand-alone entities.
- Reliability risk associated with lower reserve margins is increasing with Mercury and Air Toxics implementation in 2016 and the Clean Power Plan in 2020.
- MISO continues to work with stakeholders to develop and implement a broad response to the footprint's changing energy landscape. We remain focused on ensuring reliability and maintaining least-cost energy delivery for consumers.

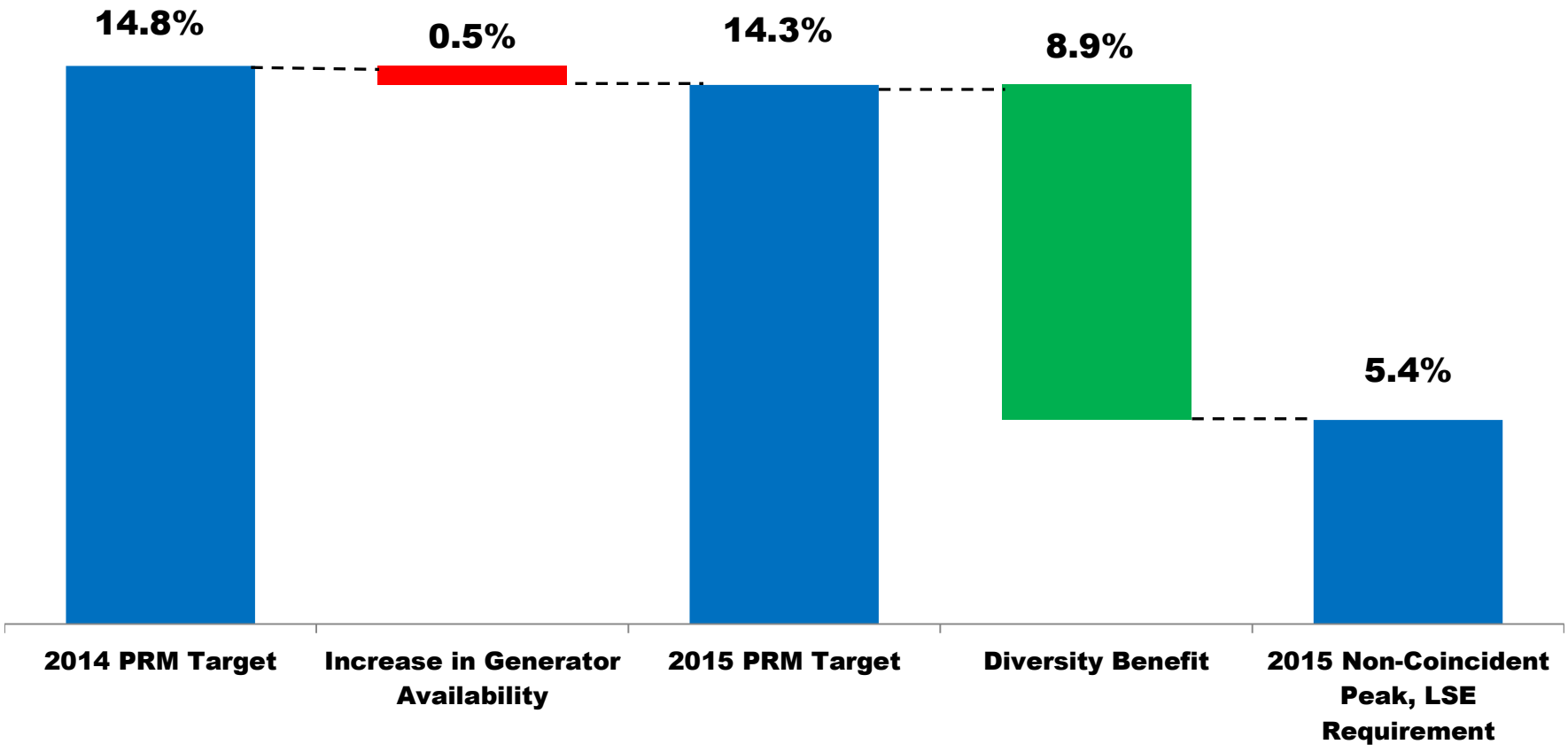
The 2015 summer weather forecast is for higher than normal temperatures

- Summer 2015 is forecasted to be hotter than normal, with near-normal precipitation.
- The hottest periods are forecasted to be in early June, mid- to late July, and mid- to late August for the Great Lakes region with increased hurricane risks to the Gulf Coast region.



MISO's 2015 reserves are slightly lower than 2014 levels

MISO's footprint diversity continues to provide substantial benefit to members and their customers

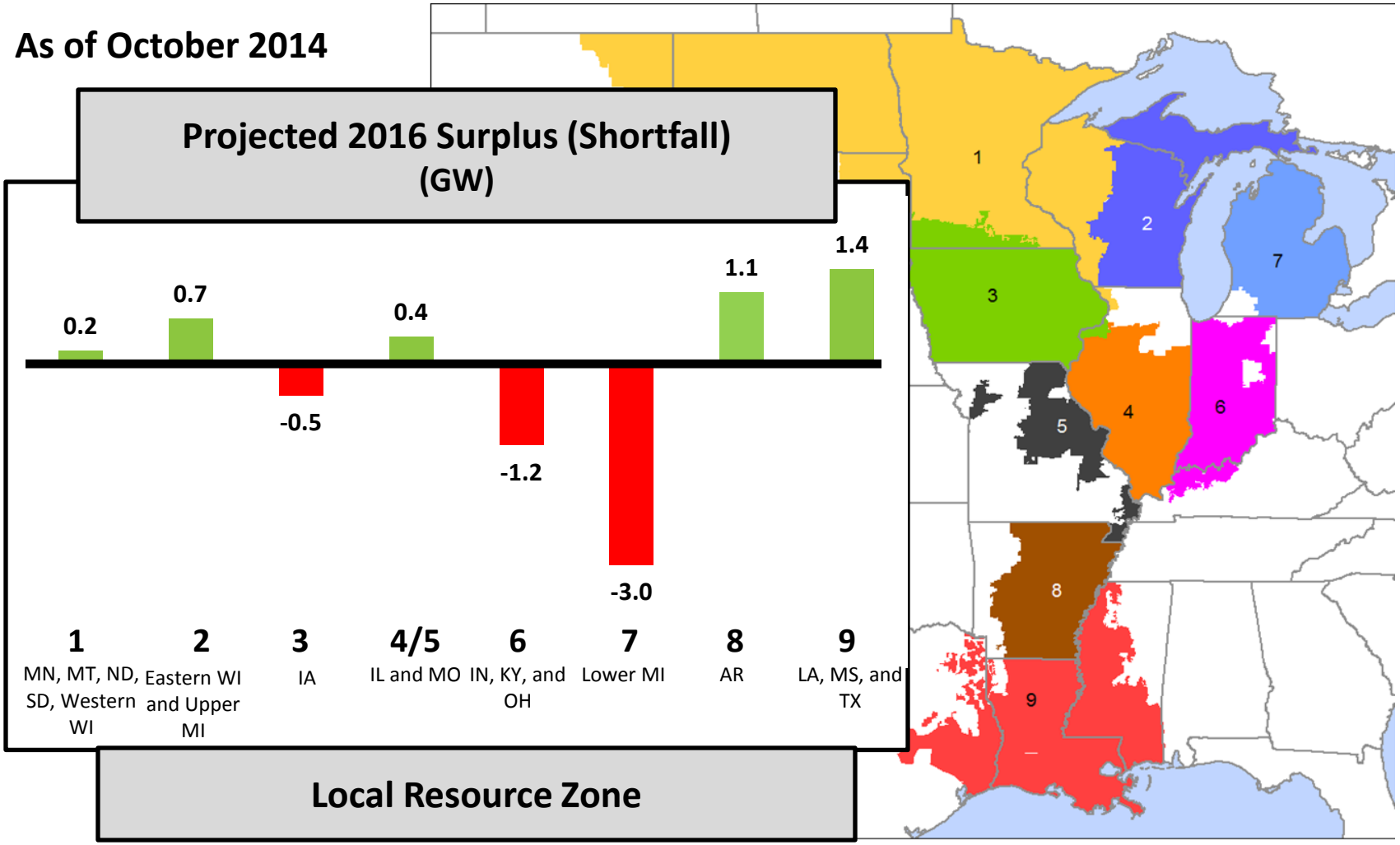


The generation fleet in MISO is being affected by fuel prices and energy policies

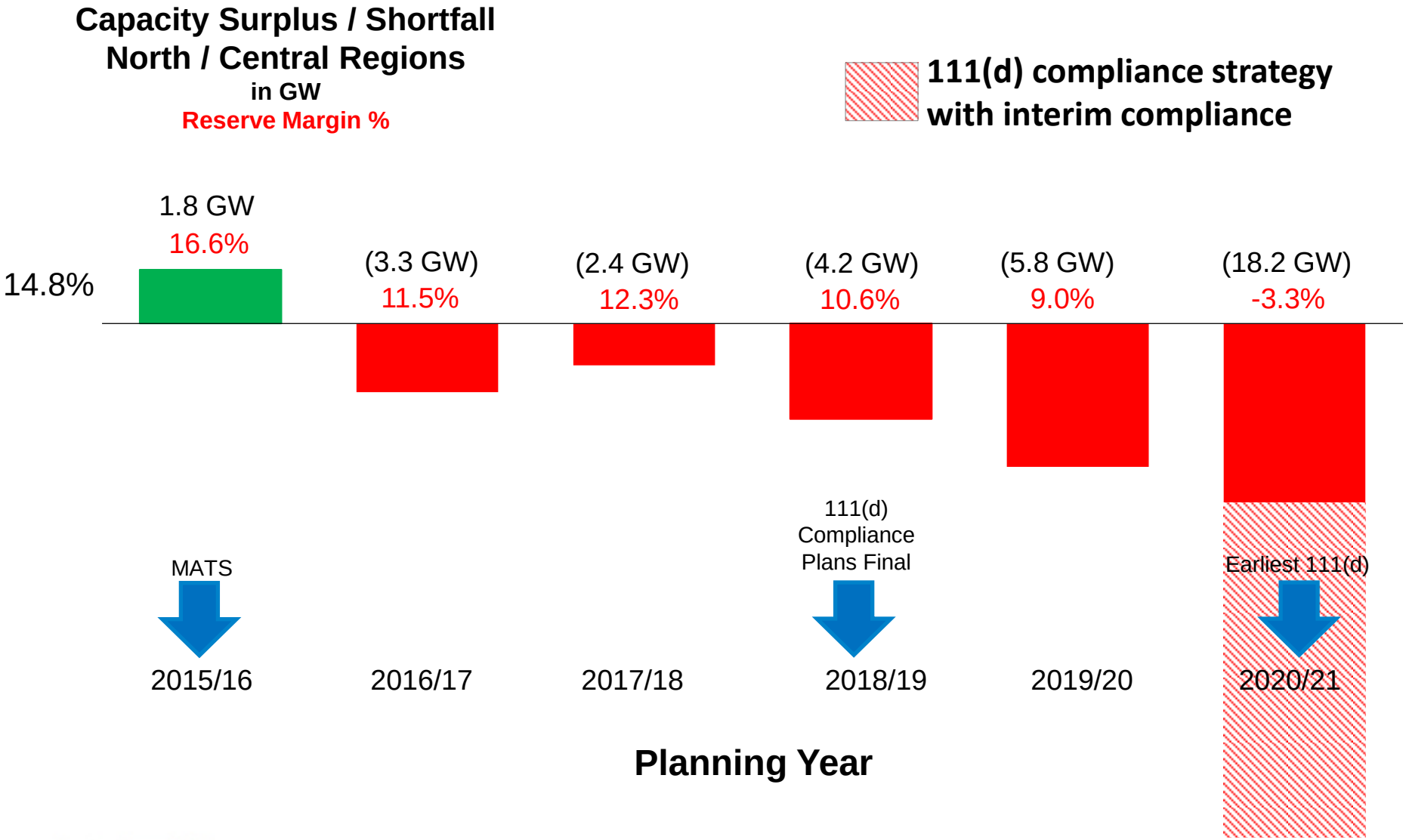
	MATS	CSAPR & CWIS	Draft Clean Power Plan 111 (b) & (d)	Ozone NAAQS, Coal Ash
Regulation	Mercury and Air Toxics Standards	Cross State Air Pollution Rule and Cooling Water Regulations (316(b))	CO_2 from existing and new power plants	New air quality standards/ Coal ash storage
Compliance Dates	2015 / 2016	As early as 2015	2015/16 (New) Beginning in 2020 (Existing)	2015 and beyond
Impacts	• Significant coal retirements • Outage coordination challenges • Shrinking reserve margins around MISO • Growing dependence on natural gas	• NOx requirements tightened • Higher plant compliance costs influence retirement decisions	• New coal requires CCS; base load capacity options reduced • Significant coal retirements • Increased dependence on gas and CO_2 neutral resources	• Increased costs • Other potential impacts depend on regulations

The 2014 OMS / MISO survey showed zonal resource adequacy risks in 2016

As of October 2014



The region is showing a need for additional resources to meet projected load growth (0.8%)



A broad response to the nation's changing energy landscape is necessary

- **Environmental Regulations –** managing transition to Mercury and Air Toxics Standards (MATS) and preparing for carbon regulations
- **Resource Adequacy** – efforts being taken to ensure adequacy through the year and accommodate changing generation portfolios
- **MISO Processes & Procedures –** review/revise to re-align as the industry continues to evolve
- **Natural Gas/Electric Coordination** - MISO is actively working with stakeholders to enhance its electric/gas coordination initiatives as the footprint transitions to greater reliance on natural gas
- **Seams Management & Optimization** – enhancing reliable movement of resources to minimize costs to end user

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