



414 Nicollet Ave
Minneapolis, MN 55401

**PUBLIC DOCUMENT
TRADE SECRET DATA EXCISED**

November 16, 2015

- Via Email and Federal Express -

Darrell Nitschke, Executive Director
North Dakota Public Service Commission
State Capitol Building, Dept 408
600 East Boulevard
Bismarck, ND 59505-0480

RE: NORTHERN STATES POWER COMPANY
ADVANCED DETERMINATION OF PRUDENCE – MANKATO PPA
APPLICATION
CASE NO. PU-15-096

Dear Mr. Nitschke:

Northern States Power Company, doing business as Xcel Energy, respectfully submits Late Filed Exhibits NSP-LF1 and NSP-LF2 in the above referenced matter.

During the hearings held on October 15, 2015, additional information was requested by the Commission. These items were identified for the record and pre-admitted as “late-filed exhibits” and are labeled as Exhibits NSP-LF1 and NSP-LF2. Exhibit NSP-LF1 provides information supporting discussion of MISO’s concerns with respect to resource adequacy in 2014. Exhibit NSP-LF2 provides information pertaining to capacity sales that the Company has entered into for the 2015/2016 and 2016/2017 planning years.

Exhibit NSP-LF2 contains trade secret information. In accordance with Section 69-02-09-02 of the North Dakota Administrative Code, an Application for Trade Secret Protection is being provided along with a single copy of the trade secret version of the Application and supporting testimony in a sealed envelope marked **TRADE SECRET-PRIVATE**. We note that the information contained in Exhibit NSP-LF2 is highly sensitive competitive information relating to sales of

**PUBLIC DOCUMENT –
TRADE SECRET DATA EXCISED**

capacity including pricing and quantities which could be of value to market participants, including the Calpine Corporation that is a party to this proceeding. The Company has discussed the handling of this information with the other Parties and understands that Calpine has waived any right to review the trade secret information in Exhibit NSP-LF2. The Company looks forward to working with the Parties, if necessary, to determine the most appropriate way to handle this information.

Please contact me if you have any questions regarding this filing at Alison.c.archer@xcelenergy.com or 612-215-4662.

Sincerely,

/s/

ALISON C. ARCHER
Assistant General Counsel
Enclosures



2016 Resource Adequacy Forecast

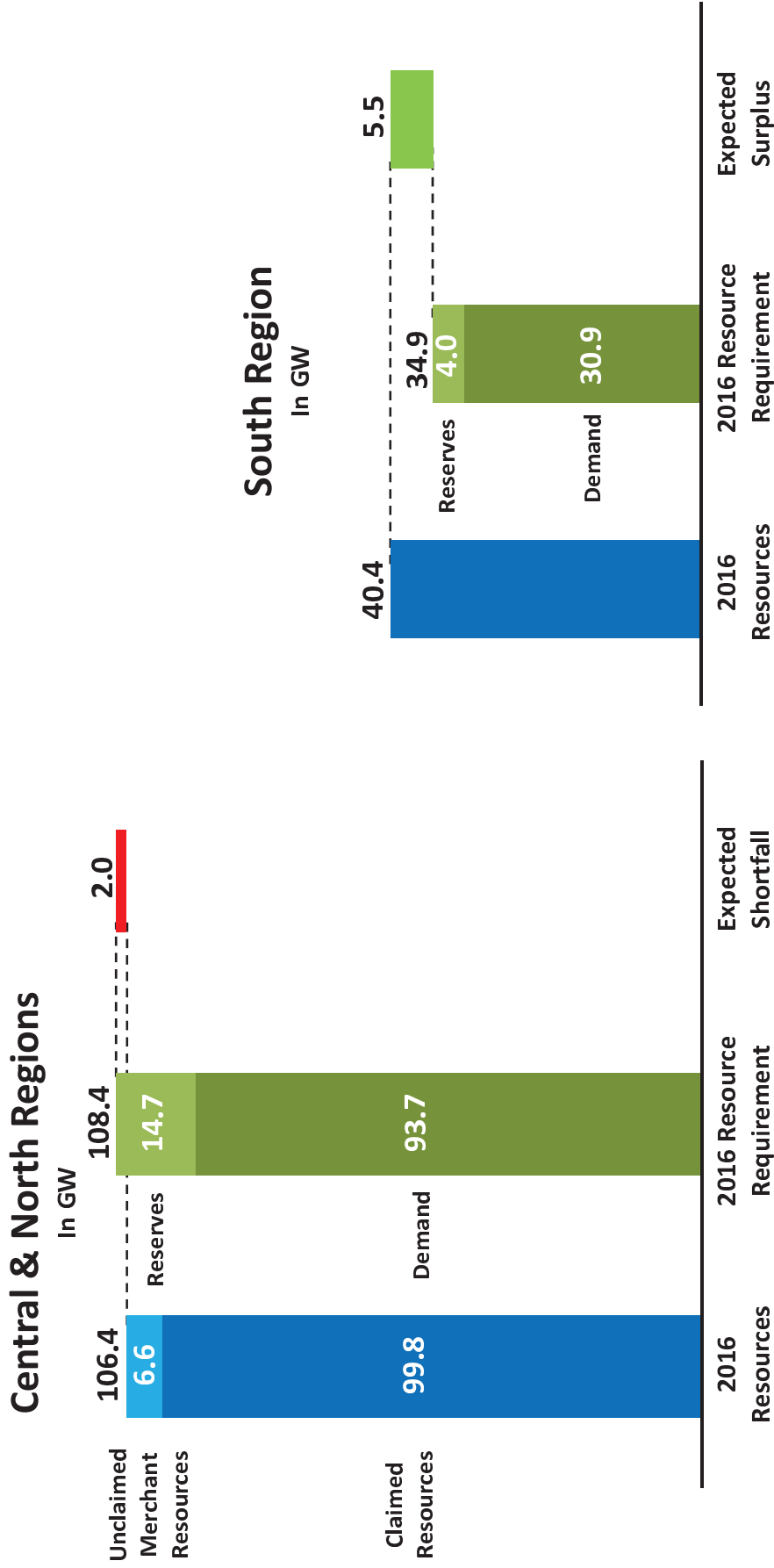
June 5, 2014



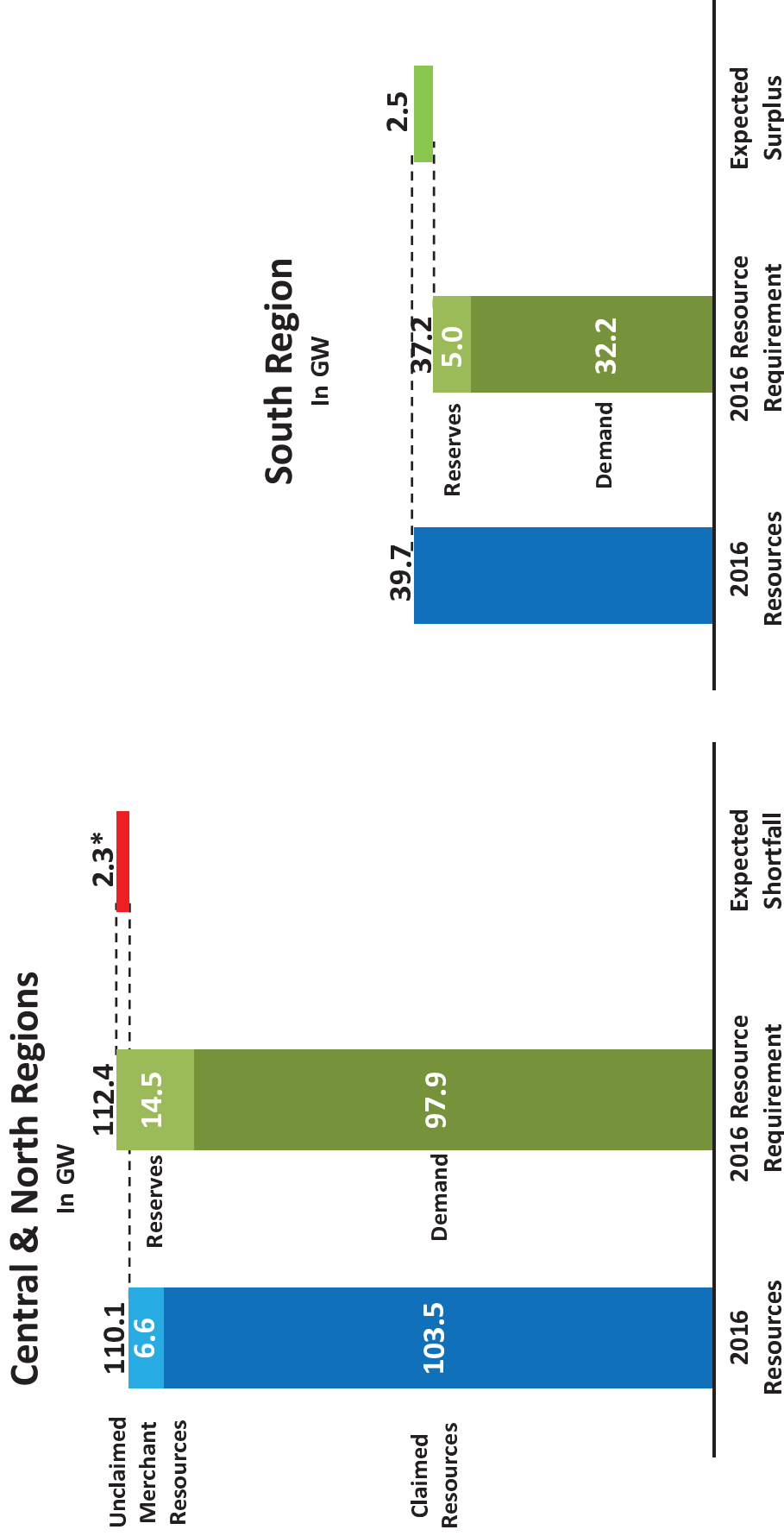
2014 OMS-MISO Survey Update

- **2016 Year Summary:**
 - 2.3 GW reserve margin shortfall in North and Central regions
 - North and Central region zones: Reserve Margin shortfalls in three of seven zones; marginal surpluses in remaining zones
 - 2.5 GW reserve margin surplus in South region
- **Reconciliation:**
 - Reconciliation with Module E demand forecast - 0.85% annual growth rate for next three years
 - Reconciliation of generation retirements with MISO-EPA survey
- **Major changes and assumptions:**
 - Continued accounting of all merchant generation as MISO capacity (only exclusions of units cleared in PJM RPM)
 - 2.0 GW of generators reclassified from retirement / low confidence to high confidence
 - About 2 GWs of capacity additions – DRs, purchases, new builds

2016 Resource Adequacy Forecast As of January 31, 2014



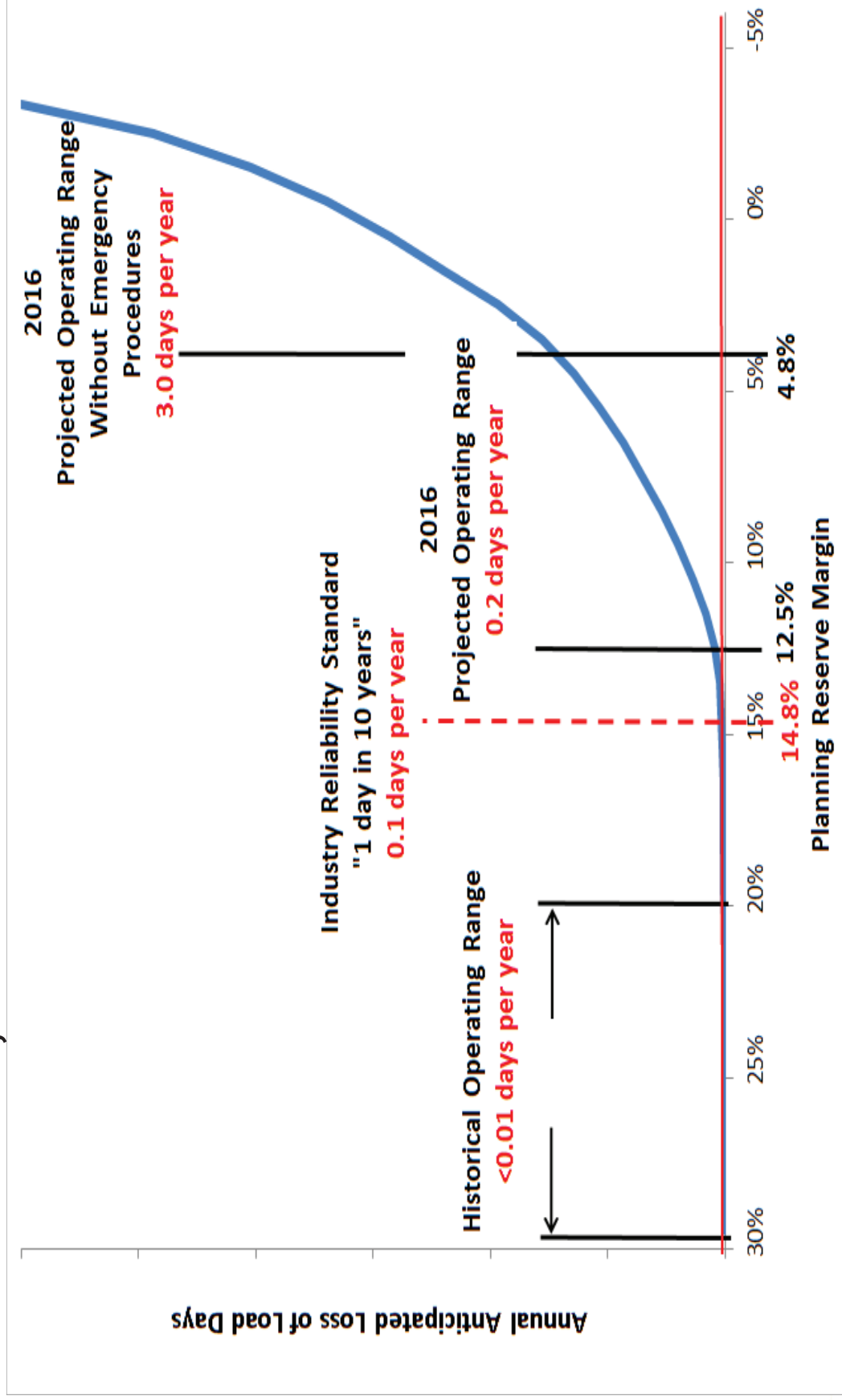
2016 Resource Adequacy Forecast As of June 2, 2014



*A shortfall figure means that the probability of a loss of load event increases. A 2.3 GW shortfall would result in a 12.5% PRM, resulting in approximately a .2 day/year probability of a loss of load event. See the graph on Slide #4 for more detail.

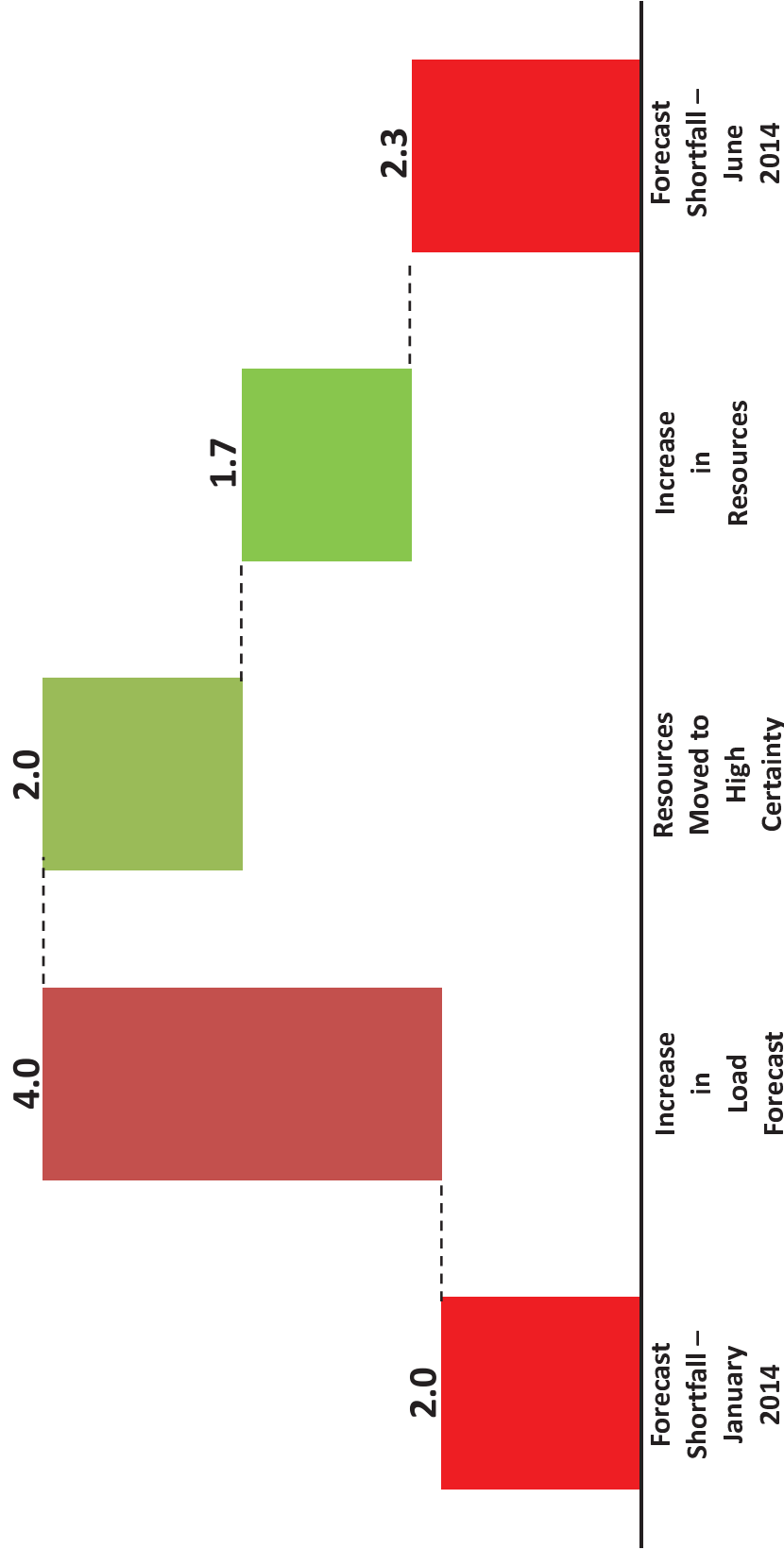
As planning reserves erode, the probability of loss of load and reliance on Emergency Operating Procedures will increase

- As of June 2, 2014

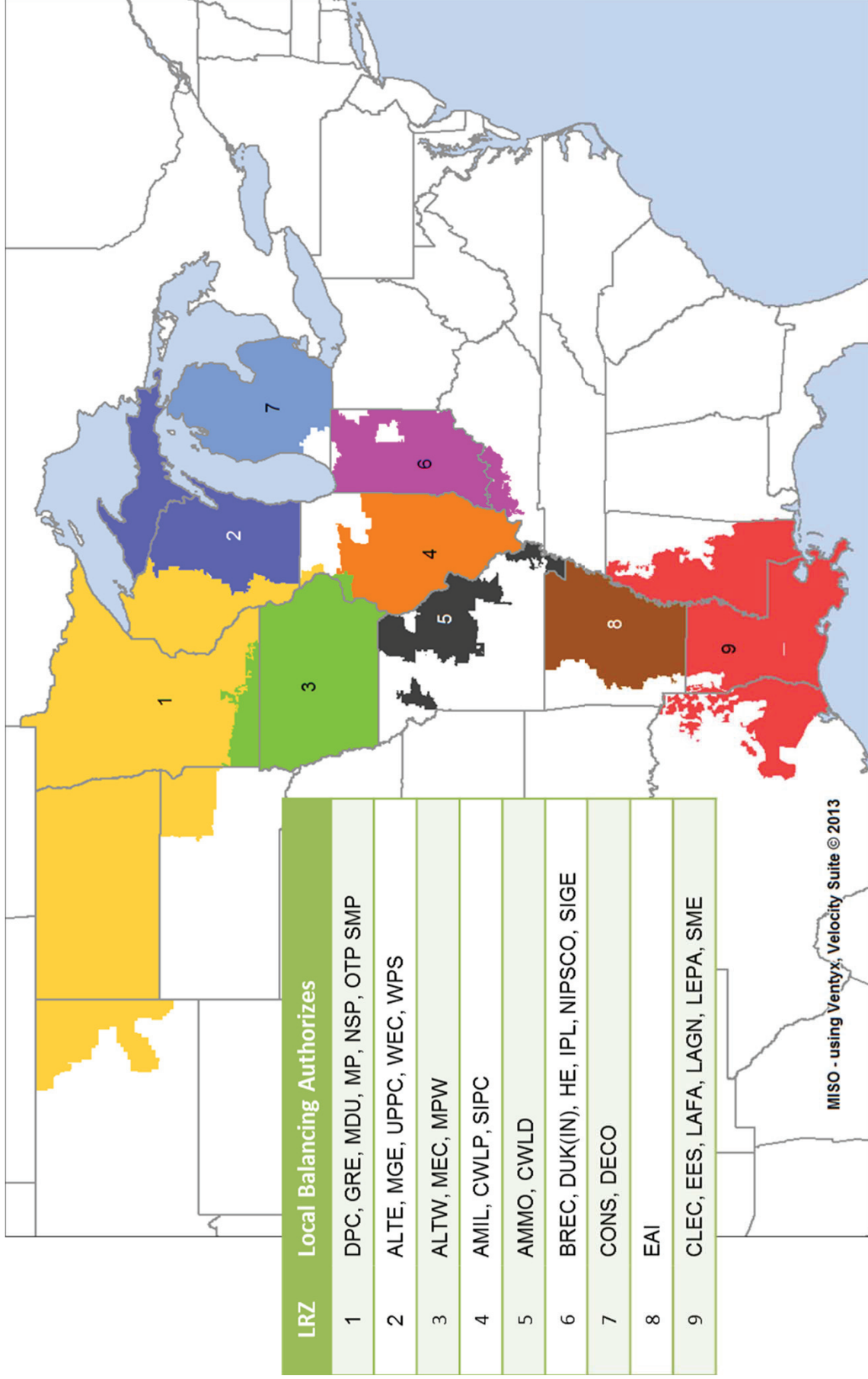


2016 Resource Adequacy Forecast Reconciliation from January to June

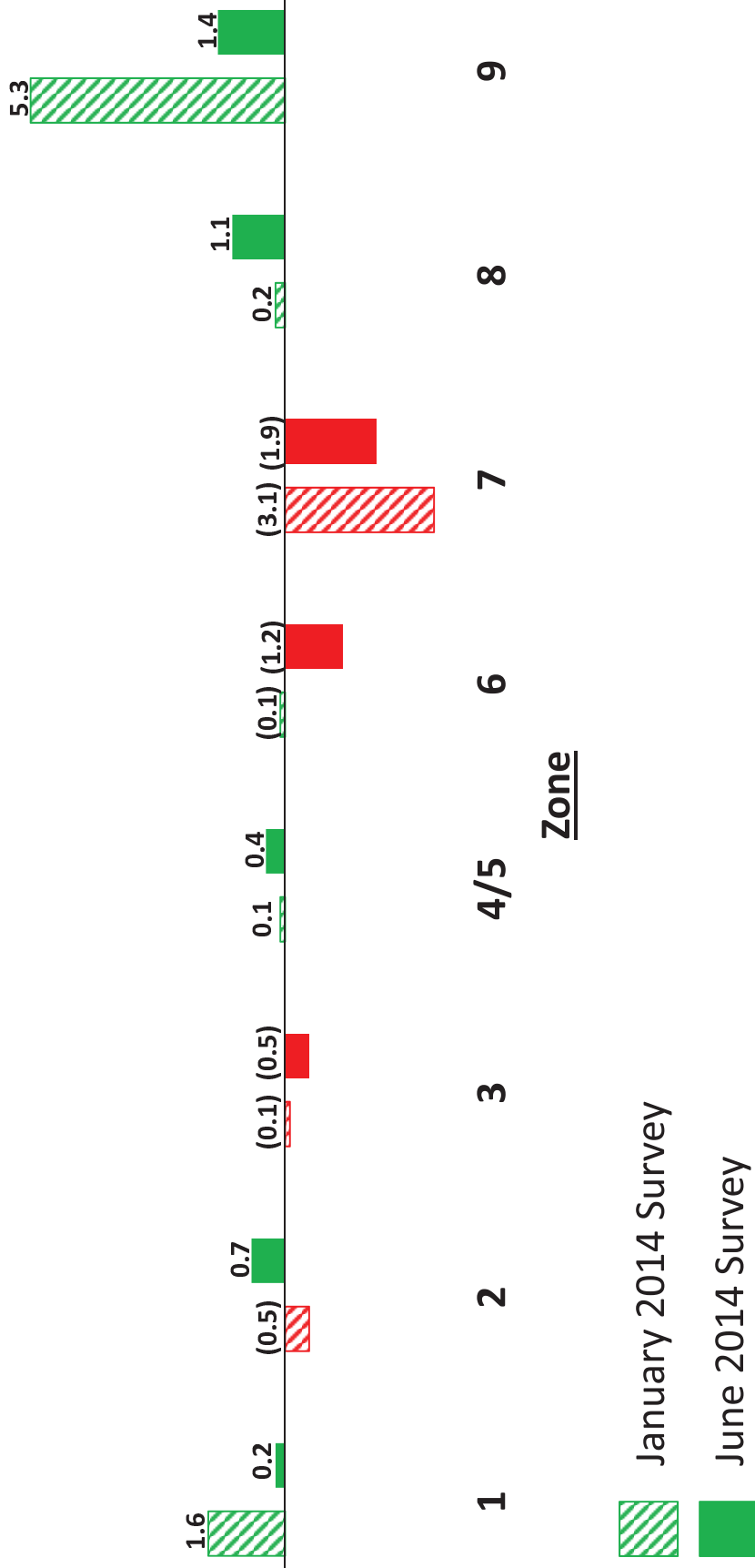
Central & North Regions In GW



MISO Local Resource Zones

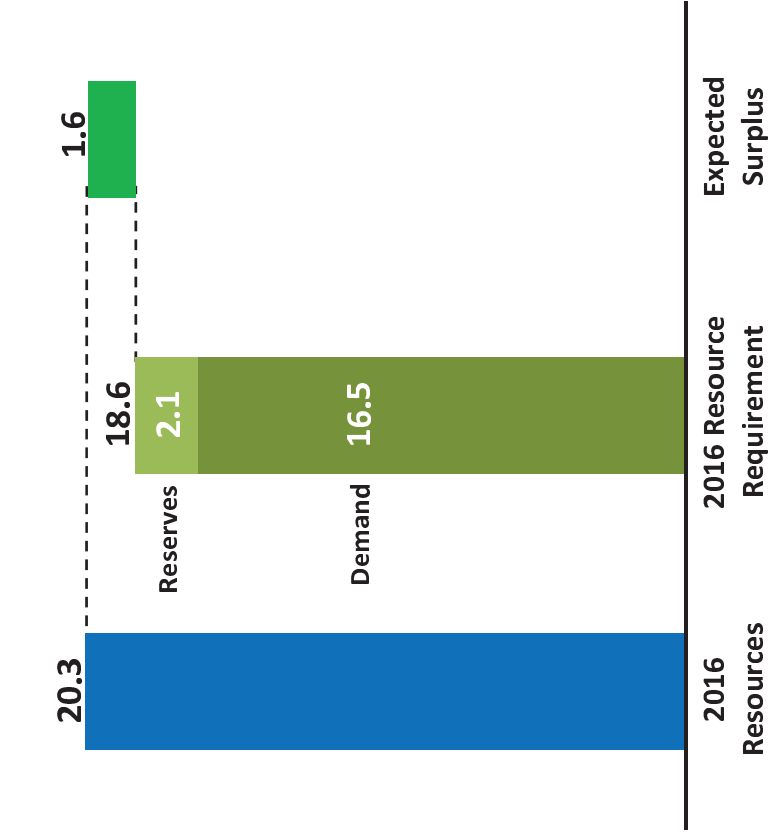


2016 Resource Adequacy Forecast Zone Summary

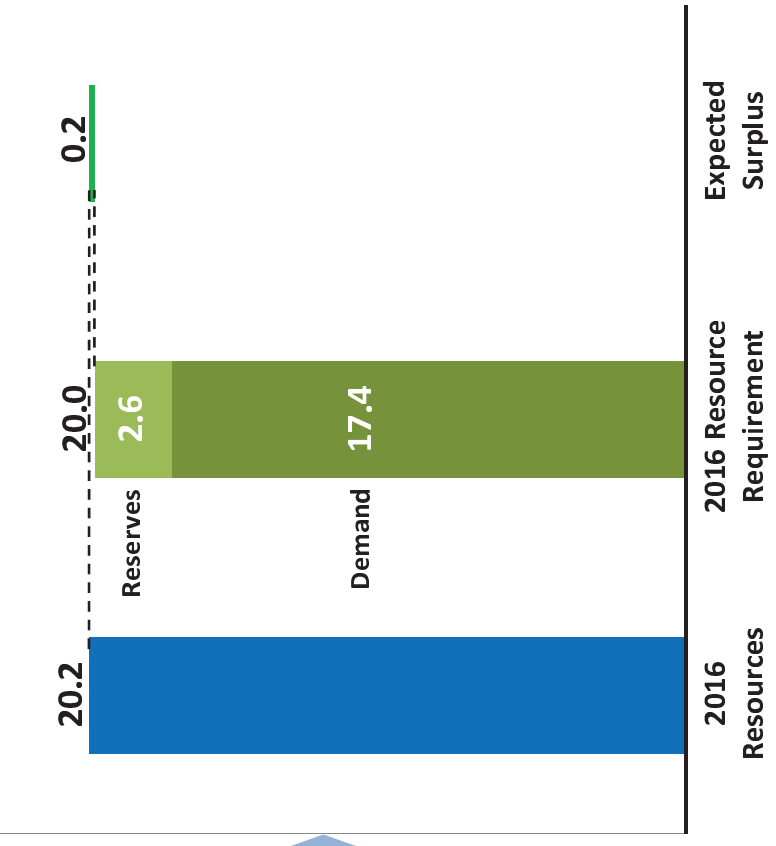


2016 Resource Adequacy Forecast Zone 1

As of January 31, 2014
In GW

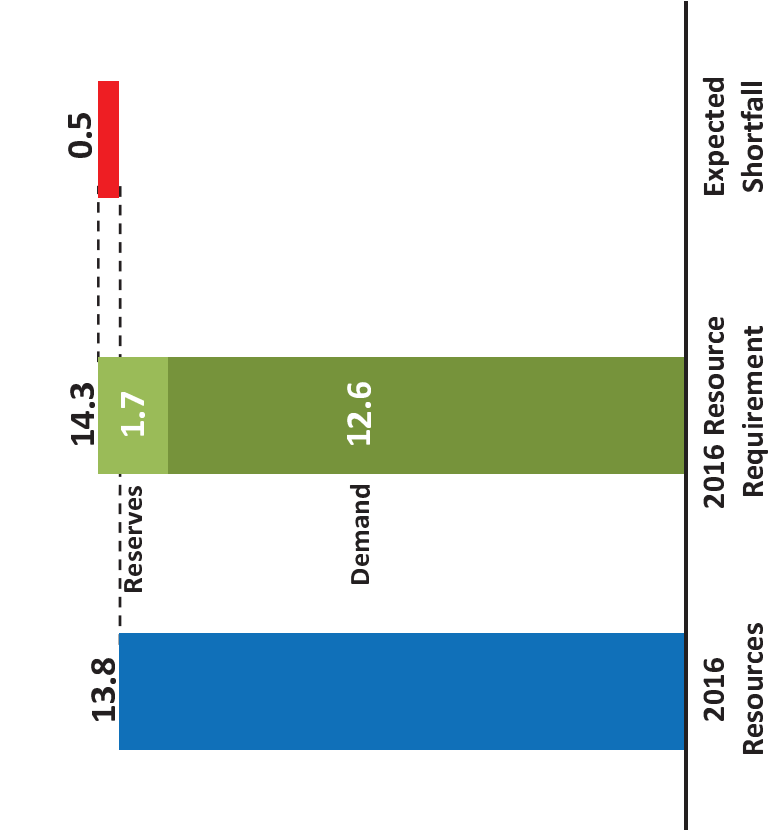


As of June 2, 2014
In GW

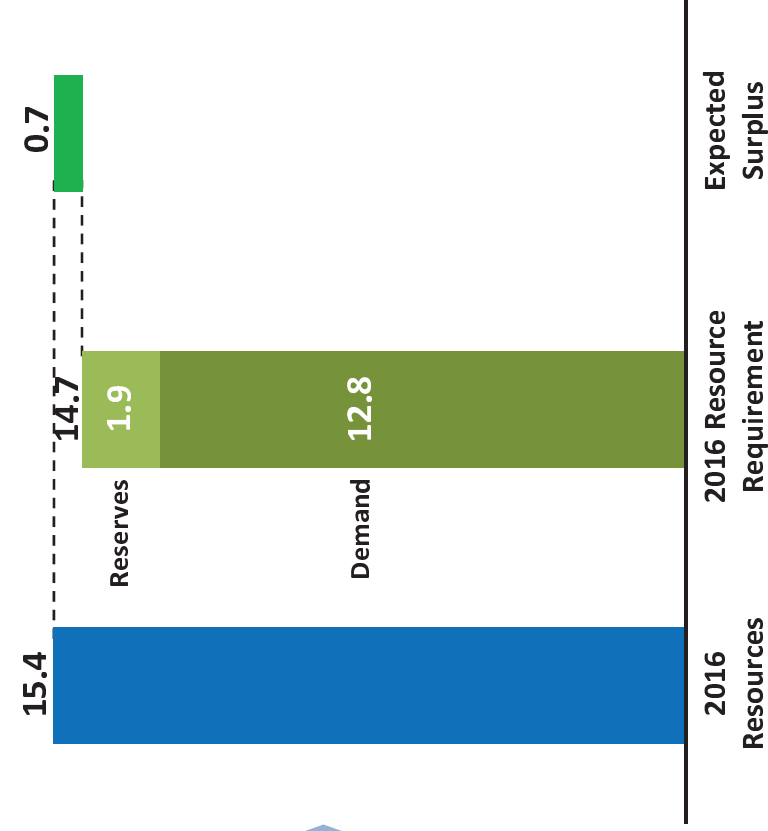


2016 Resource Adequacy Forecast Zone 2

As of January 31, 2014
 In GW

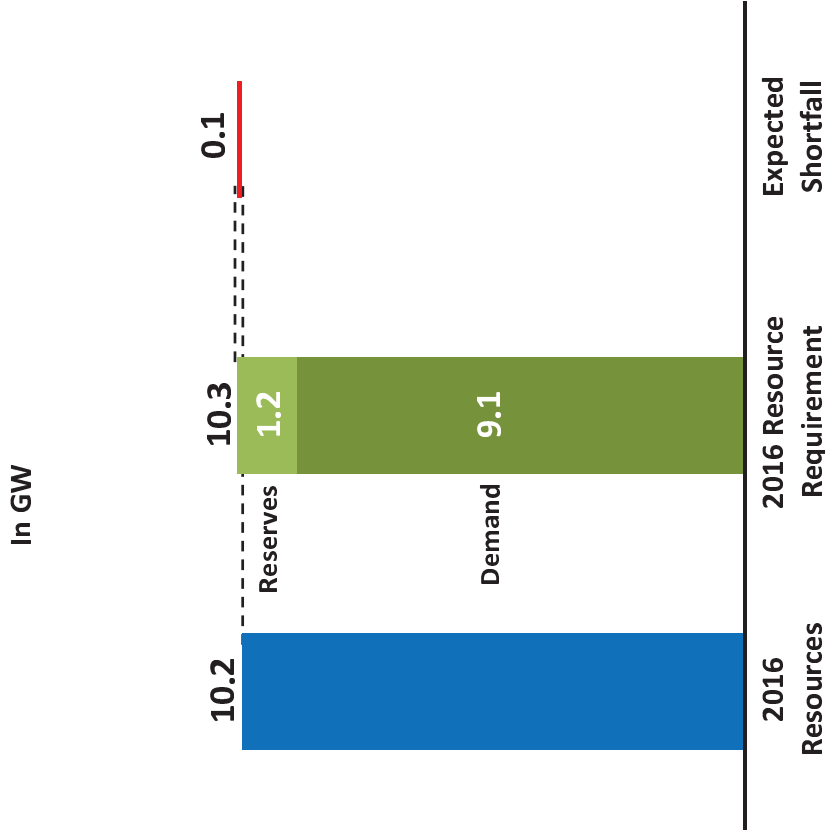


As of June 2, 2014
 In GW

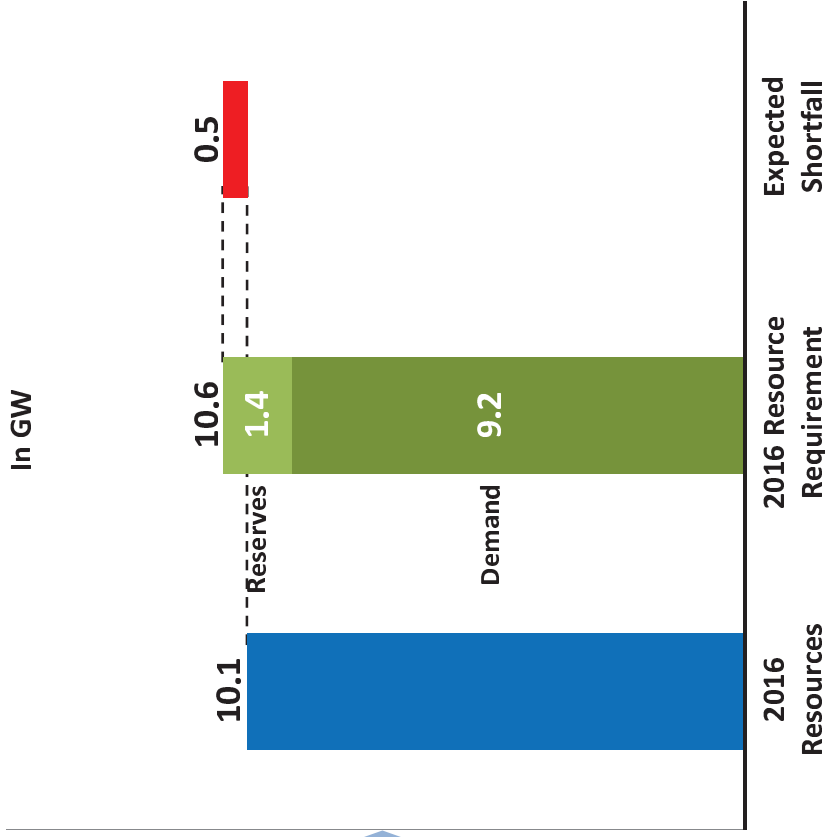


2016 Resource Adequacy Forecast Zone 3

As of January 31, 2014

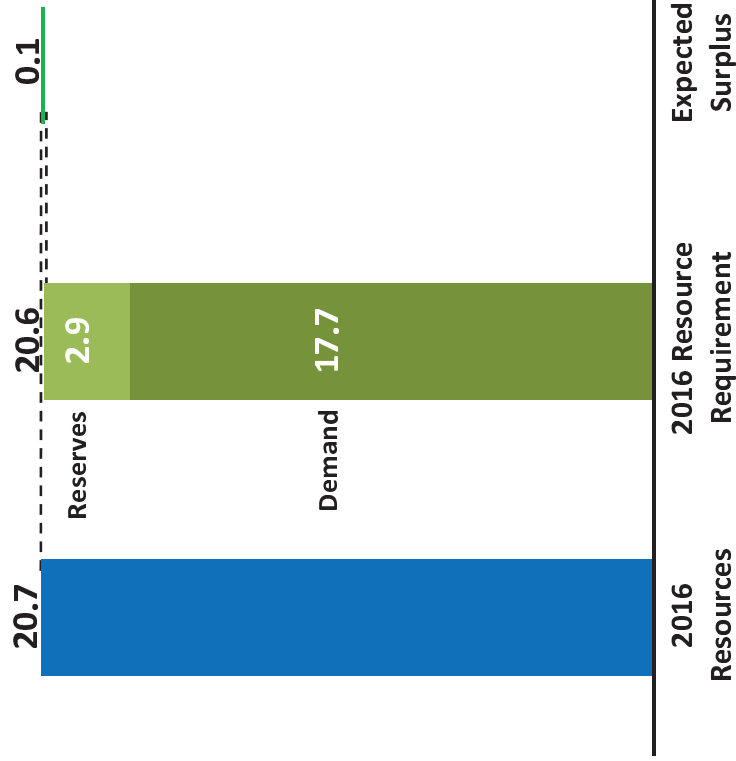


As of June 2, 2014

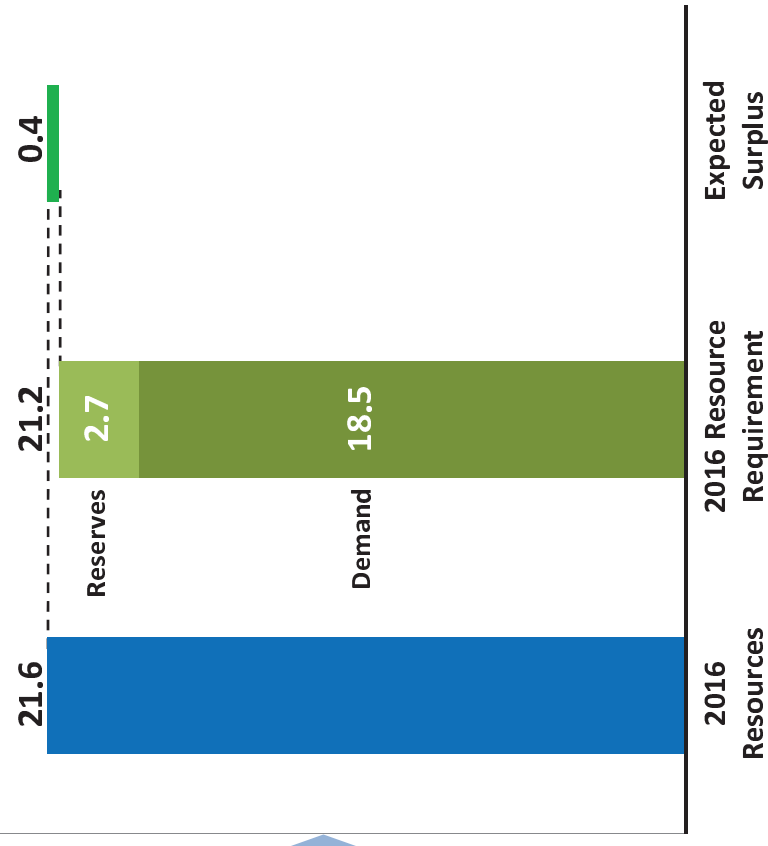


2016 Resource Adequacy Forecast Zones 4 and 5

As of January 31, 2014
 In GW

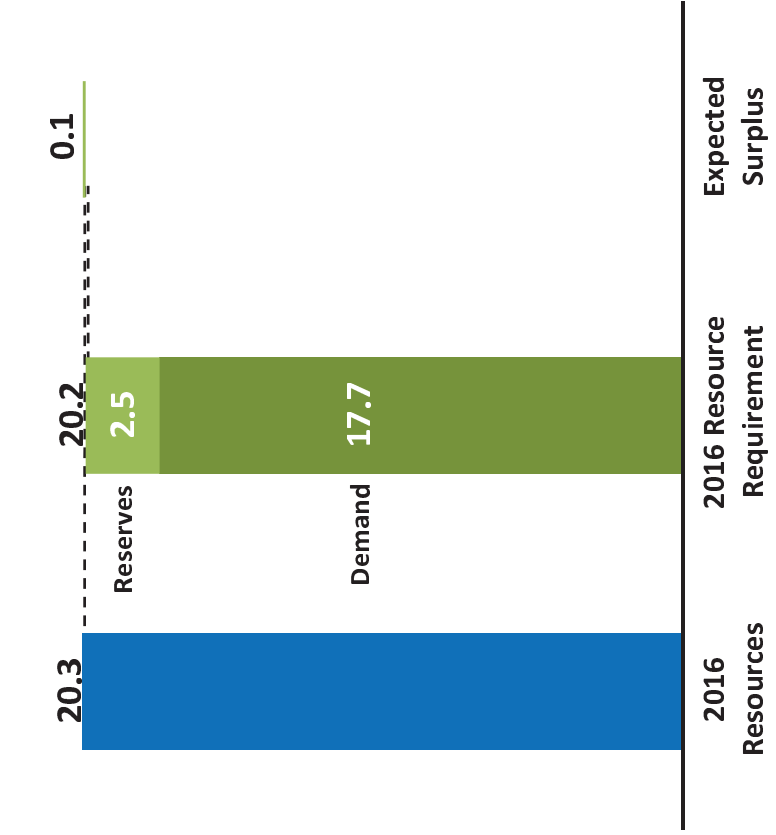


As of June 2, 2014
 In GW

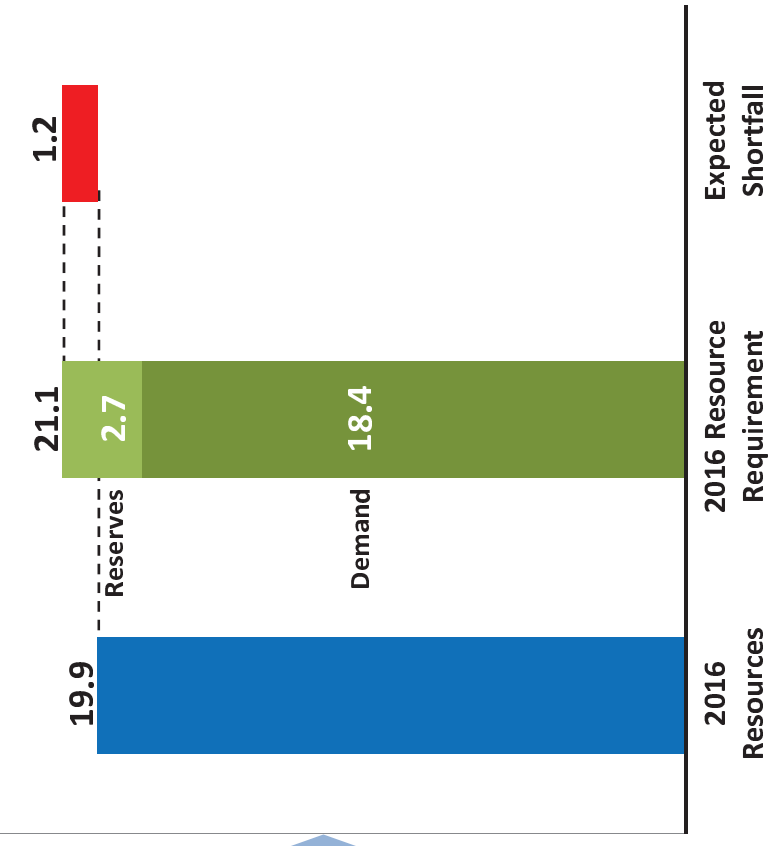


2016 Resource Adequacy Forecast Zone 6

As of January 31, 2014
 In GW

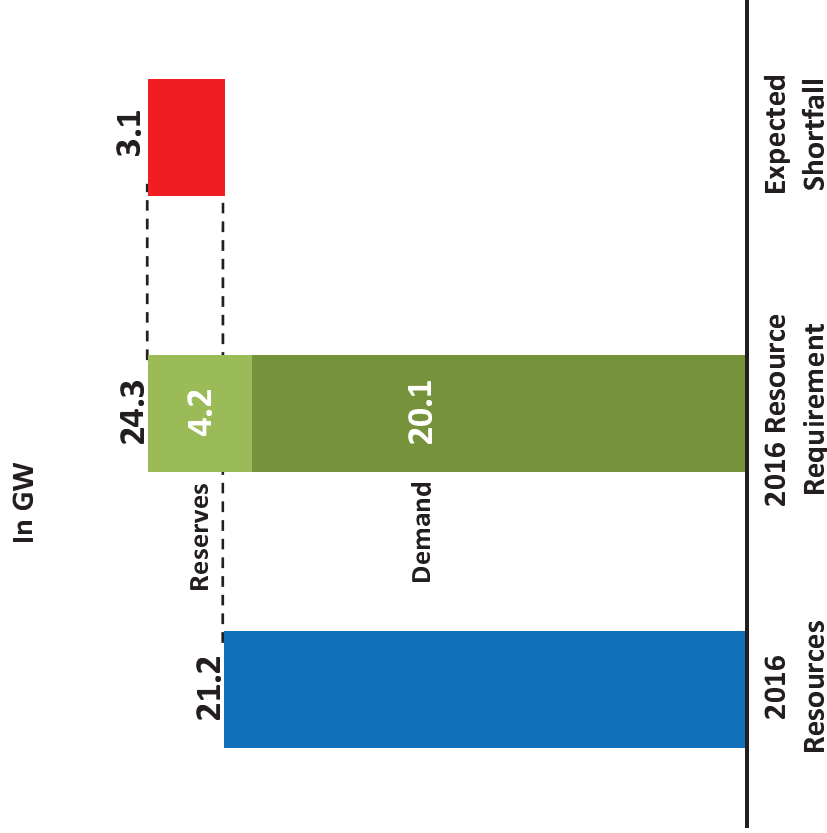


As of June 2, 2014
 In GW

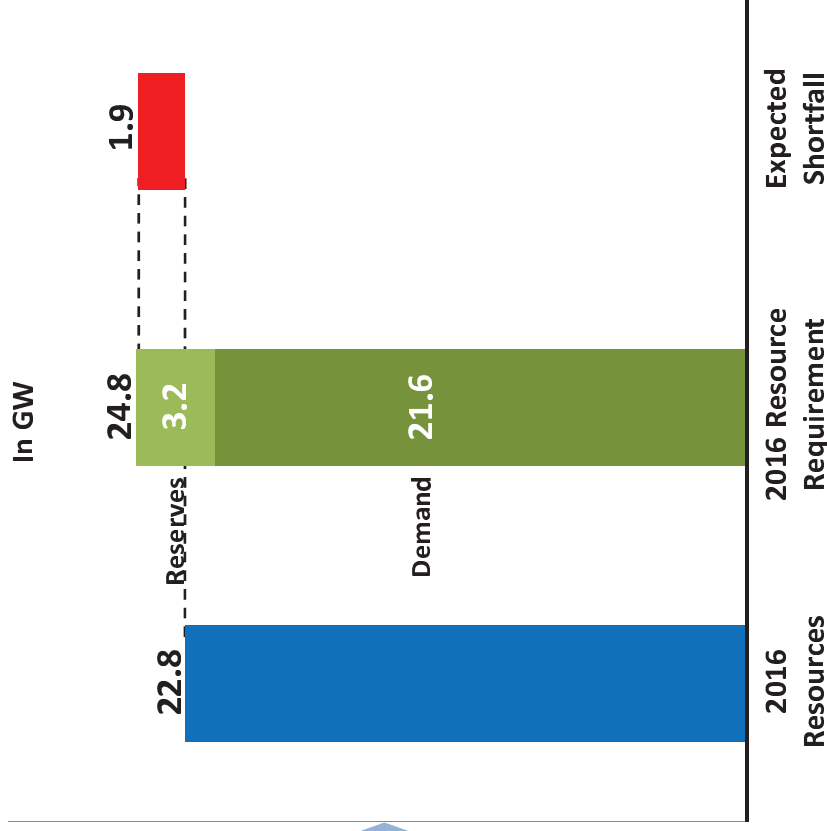


2016 Resource Adequacy Forecast Zone 7

As of January 31, 2014

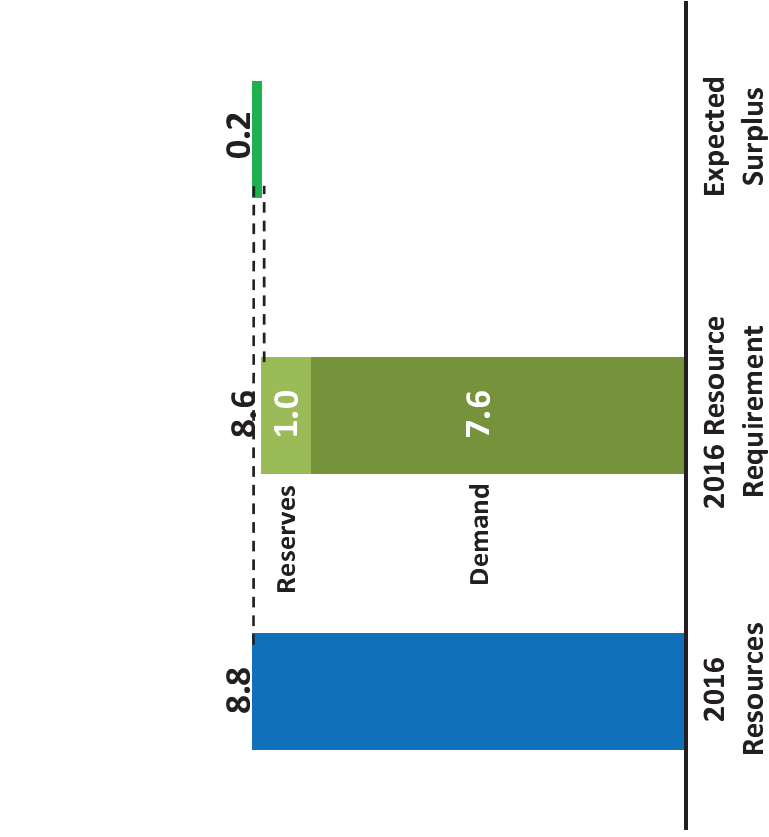


As of June 2, 2014

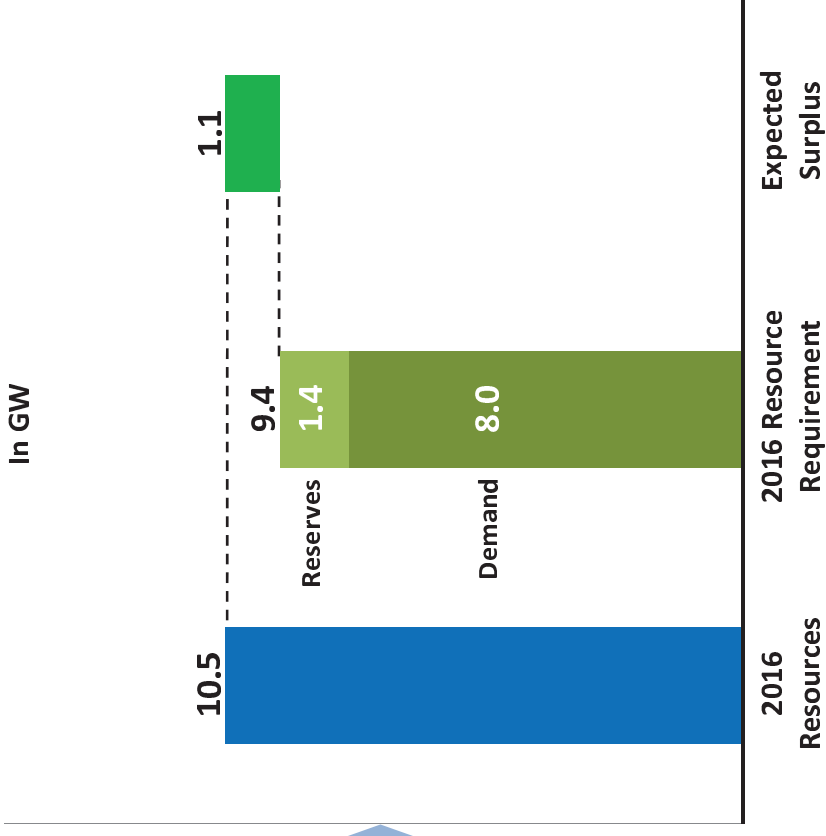


2016 Resource Adequacy Forecast Zone 8

As of January 31, 2014
In GW

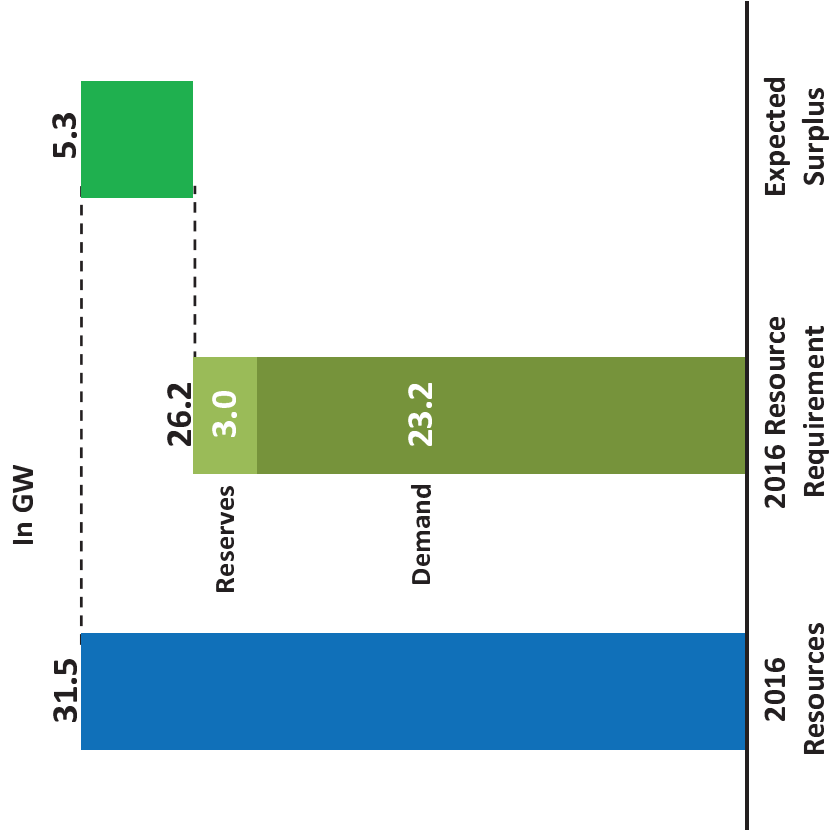


As of June 2, 2014
In GW

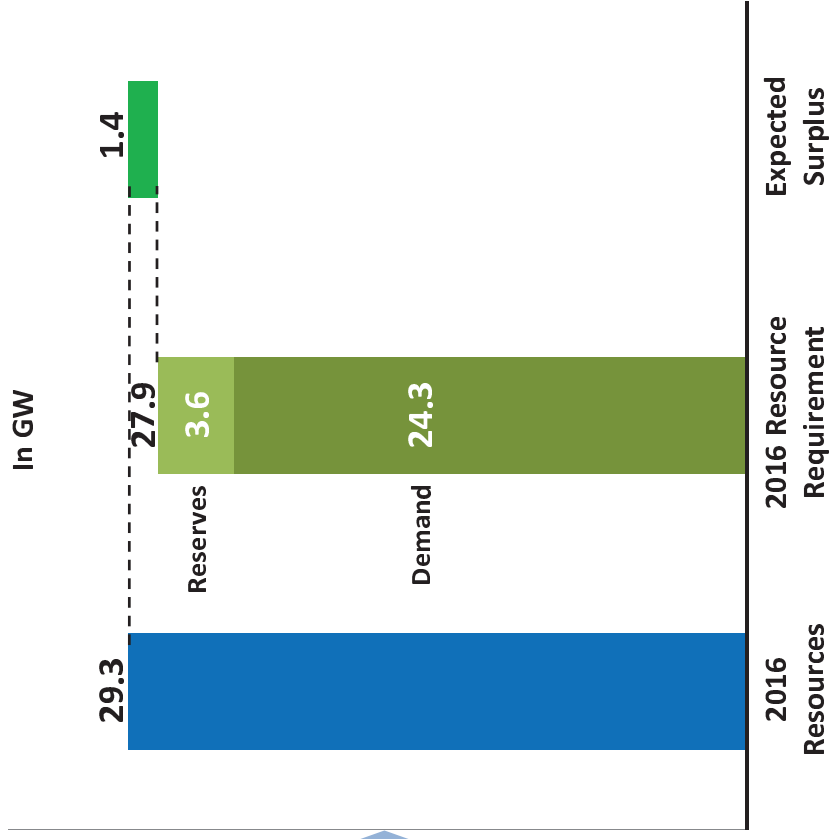


2016 Resource Adequacy Forecast Zone 9

As of January 31, 2014

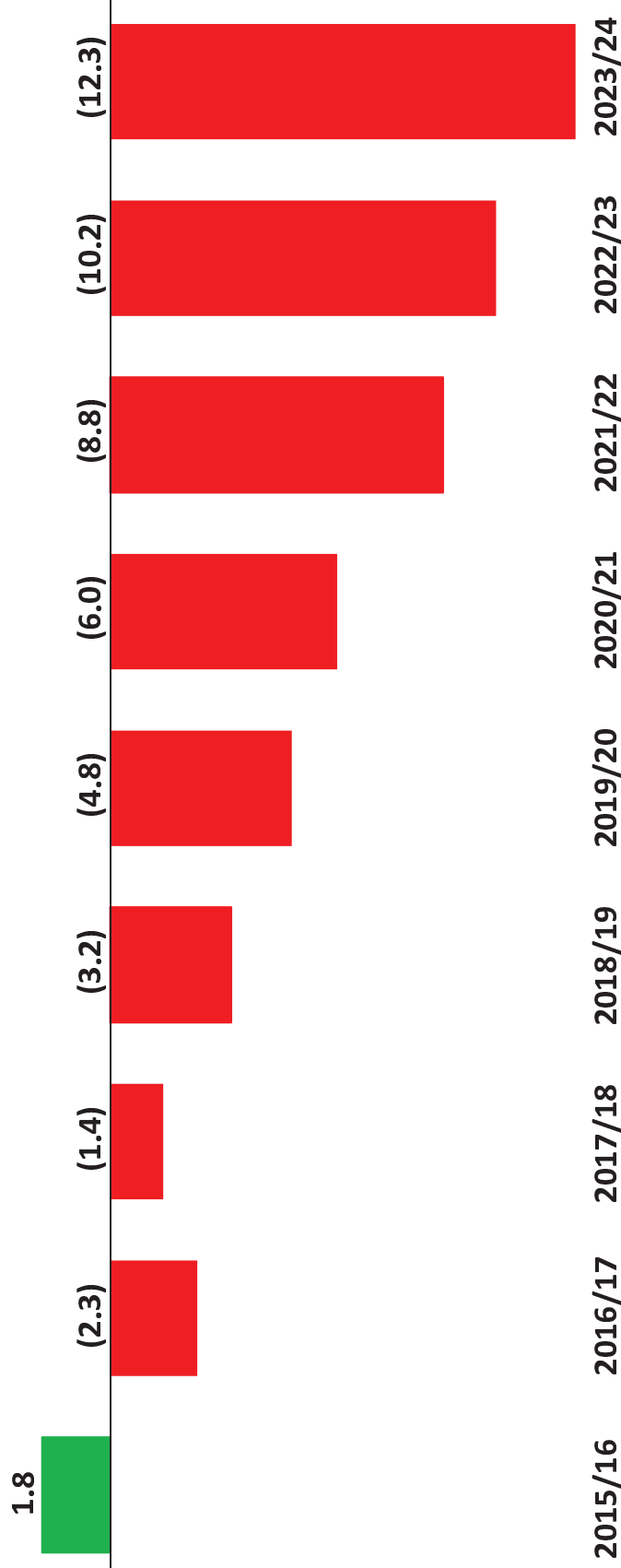


As of June 2, 2014



The region is preliminarily forecasting little new generation to serve continuing load growth

Capacity Surplus / Shortfall
North / Central Regions
In GW



Planning Year

This slide shows a **preliminary forecast** of a 10-year period, as is required for the NERC Long Term Reliability Assessment. MISO fully expects that **these figures will change significantly as future capacity plans are solidified** in the future by load serving entities and state commissions.

Work initiated by MISO to ensure all possible resources were available for use in 2016 is progressing

- Evaluation of unused / trapped generation capacity
 - Study indicated that 1,363 MW across 119 units might be accessible
 - Studies and cost estimates should be complete by September
- Load Modifying Resources have been catalogued and processes / procedures to provide for more efficient use are being refined with Load Serving Entities
- South to Central / North transfer limits have been held at 1,000 MW during SPP settlement negotiations



MISO Update Talking Points

EEI Fall Board and Chief Executive Meetings

2015090

Slide 1 (Agenda/Intro)

- Good afternoon everyone, and thanks for the opportunity to visit with you today.
- As many of you know, the **Environmental Protection Agency (EPA) recently issued the final version of its Clean Power Plan (CPP)** on August 3. The EPA designed the CPP to reduce carbon dioxide emissions from existing power plants. With this final version, it is clear that this is **a transformational event for MISO** and the electricity industry as a whole. I look forward to discussing several critical issues facing MISO and how the **MISO team is working through those challenges.**

Slide 2 (Executive Summary)

- ...which include an update on the effort to streamline the stakeholder process; our collaboration with stakeholders on evaluating the Clean Power Plan; the ongoing discussions around a few key Resource Adequacy issues; the status of our continued work along the Seams; and the highlights of MTEP15.

Slide 3

- **The stakeholder process is extremely important to MISO and stakeholders, but it is not working effectively.**
- Although there is general consensus between MISO and stakeholders on the need to improve the stakeholder process, **MISO's assessment shows a need for substantive enhancements**—streamlining the structure, instituting a consistent prioritization process, and establishing formal requirements for introducing issues—while some stakeholders feel that simply adhering to the existing Stakeholder Governance Guide is sufficient.
- An **updated process is needed** that matches the maturity and complexity of MISO's modern markets and **positions us to address the significant policy matters that we are increasingly facing.**
- We are **working closely with stakeholders** in a series of workshops **to develop proposed changes that will benefit everyone.**
- There is agreement on the principles; **focus is now turning to:**
 - **Consolidating entities** with overlapping roles and responsibilities to streamline the structure;



MISO Update Talking Points

EEI Fall Board and Chief Executive Meetings

2015090

- **Instituting an effective prioritization process** to improve resource allocation and ;
- **Establishing a more formal issue identification process** to increase the overall efficiency in how issues are managed.

Slide 4

- **At the end of this effort**, we hope stakeholders have a process that is significantly **streamlined, void of overlapping responsibilities** and results in consistently **high-quality meetings**.
- A key risk is that **some stakeholders don't see the value of instituting substantive improvements**. Some have expressed that enforcing the existing Stakeholder Governance Guide is the primary solution; MISO believes this may help, but is only a part of the solution.
- Key stakeholder statements (paraphrased) from Workshop #2:
 - **I don't see why prioritization is needed**. Would it cause stakeholders to do anything differently?
 - **The number of Committees is a symptom of the problem, but it is not the problem**.
 - **It might be overkill to create issue statements for all issues**. Some might not be worth writing down if they are limited.
 - If we consolidate committees and meetings but do not address the total number of issues, the result will just be longer meetings.
 - Stakeholders need a mechanism to force issues up.
 - **The problem is that there is no enforcement mechanism** (for the Stakeholder Governance Guide); **MISO should establish an enforcement liaison**.

Slide 5

- While **EPA's Clean Power Plan** is without question **one of the most far-reaching federal environmental regulations in U.S. history**, it is **just one of numerous EPA rules** that affects the electric power sector.



MISO Update Talking Points

EEI Fall Board and Chief Executive Meetings

2015090

- While we don't take policy positions on these regulations, **we do have an interest in understanding and sharing the potential and real impacts to the region**, so we follow these closely.
- Most everyone's attention right now is justifiably on the Clean Power Plan, which we will discuss further in a moment, but **we're also monitoring the EPA's efforts to make the national air-quality standard for ground-level ozone more stringent**, as that could be very impactful to existing resources and increase the difficulty in getting new plants built.

Slide 6

- Regarding the Clean Power Plan... **EPA made a number of changes to the final rule** compared to the draft version.
- **Some** of the changes **reflect the "asks" that MISO, other energy-industry players and states made in public comments to EPA**, such as relaxing the "interim" compliance period.
- **Some changes may be steps in the right direction in terms of safeguarding reliability** and the principle of regional economic dispatch, **but this is *not* to say that they will reduce the overall compliance costs** associated with the CPP.
- On the other side of the coin, **the final CPP also includes some changes that—**depending on numerous factors—**could make compliance even more difficult compared to the rule as it was initially proposed**, such as a more stringent CO₂ requirement.

Slide 7

- **We learned a number of important things by analyzing the draft CPP:**
 - **Regional (footprint-wide) compliance is less costly** than state-by-state or other sub-regional compliance approaches.
 - **Generation dispatch will dramatically change** from current practices.
 - **Multi-billion dollar transmission build-out necessary** for compliance.
- Building on these lessons learned, **we are now working with our stakeholders to define the scope of our analysis of the final rule.**



MISO Update Talking Points

EEI Fall Board and Chief Executive Meetings

2015090

- While no final scope-related decisions have been made, **we believe there could be value in analyzing several different “future scenarios” to understand potential outcomes across a range of possibilities.**
- **We will also be evaluating the impacts of rate vs. mass compliance approaches and their equivalency...**

Slide 8

- ...As you know, **the final rule expresses states’ CO₂-reduction goals in three different forms:**
 1. A rate-based goal measured in pounds of CO₂ per megawatt-hour of energy produced;
 2. A mass-based goal measured in total tons of CO₂ emitted over a given amount of time;
 3. A mass-based goal that also counts CO₂ emitted from new coal and gas-fired generation.
- **EPA says these three approaches will be “equivalent” if states properly account for various factors**, such as shifting generation to newly constructed gas-fired units that are outside of Clean Power Plan’s authority over existing units (EPA calls this “leakage”).
- **The final rule allows states to choose the rate/mass goal that best suits their particular energy profiles and other state-specific circumstances.**
- **We stand ready to help utilities and states** to assess these and other factors so they can craft implementation plans that best suit their needs, as well as the needs of the MISO footprint as a whole.

Slide 9

- **EPA’s Clean Power Plan could fundamentally transform our business** by impacting generation, resource adequacy and reliability, as well as the economic dispatch model that we use to save the region billions of dollars every year.
- For these reasons, **we’ve been working to analyze the CPP** since EPA issued its draft version, **with a primary goal of providing policymakers and asset owners**



MISO Update Talking Points

EEI Fall Board and Chief Executive Meetings

2015090

with trustworthy and unbiased information they can use in preparing CPP implementation strategies that enable continued efficient reliability.

Slide 10

- While the results of **the 2015 OMS-MISO survey weren't yet available at the time of our last meeting**, I am sure at this point everyone is familiar with the outcome, **so I will just provide a quick recap.**
- **For 2016**, these results show **significant improvements from the 2014 OMS-MISO survey results**, which projected a shortfall against the reserve requirements of 2.3 GW, primarily driven by an increase in committed resources (2.6GW) and a decrease in load forecast (0.8 GW).
- **The increase in committed resources reflects an action taken** by MISO load-serving entities and state regulators **to address potential capacity shortfalls.**

Slide 11

- **While some zones may be short** of capacity for their total needs, **sufficient regional capacity is available to address any zonal deficits.**
- **All zones with deficits have sufficient expected transfer capacity.**
- **Values above include capacity reported by survey participants outside of a given zone**—for example, resources in Zone 4 committed to serving Zone 6 load were included in the Zone 6 balance and excluded from the Zone 4 balance.

Slide 12

- **We continue to collaborate with stakeholders** to identify, validate, and prioritize issues and develop potential solutions.
- Drawing on stakeholder feedback, **MISO has issued straw proposals around the three high-priority policy issues.**
 - **Generation interconnection queue process:** We are looking to **improve study efficiency** on our end and also **ensure folks entering the queue have progressed their planning** enough so that they aren't negatively impacting others' ability to move through the process
 - **Seasonality: Ensure transparency** of resource adequacy **across all seasons and provide flexibility** in meeting load and reserve obligations



MISO Update Talking Points

EEI Fall Board and Chief Executive Meetings

2015090

- **Locational considerations:** The **locational model directly influences the use of resources** to serve load while respecting physical limitations. We **propose revisions to provide additional customer flexibility** to utilize resources to serve load.
- MISO facilitated a **high-level policy discussion at the Advisory Committee** meeting in August to gain additional input.
- **Solutions development for these three issues will occur in the appropriate technical forums**—the Supply Adequacy Working Group (SAWG), Loss of Load Expectation (LOLE) Working Group and the Interconnection Process Task Force (IPTF)—**leading up to a tariff filing in December.**

Slide 13

- We have **received four complaints about the Planning Resource Auction.**
- **Three of those complainants believe the results for Zone 4 (Illinois) are unjust and unreasonable.**
- **The fourth** claimed that two provisions of MISO's tariff are unjust and unreasonable but **did not seek a re-execution of this auction**; rather, the entity **seeks changes in time for next year's auction.**
- **MISO followed its Tariff** when executing this auction, we—along with our IMM—don't believe any changes are needed to our tariff, **and we believe the complaints should be dismissed with prejudice.**

Slide 14

- MISO-SPP JOA Dispute
 - Over the last several months, MISO has been engaged in intensive negotiations on the MISO-SPP JOA dispute, and **we remain hopeful that a settlement can be reached.**
 - **A draft proposed settlement agreement is now being reviewed by all parties to the case.**
 - **Any anticipated settlement will need to meet our objective of providing benefits in excess of costs for our customers.**
 - We are hopeful that a Settlement Agreement can be filed in early to mid-October and **that the uncertainty could soon be behind everyone.**



MISO Update Talking Points

EEI Fall Board and Chief Executive Meetings

2015090

- Interregional Transmission Planning
 - **MISO-PJM:** The 'Quick-Hit' Project Study has completed. **Most of the congestion** found in this study will be **addressed by other already approved projects, but two additional potential projects were identified—one is complete, while another remains under review.**
 - **MISO-SPP:** The Coordinated System Plan Study has also concluded. **Three potential interregional projects** were **identified to move into the regional evaluation. MISO has an obligation** to determine if any of these **projects make economic sense for our members**—if they don't, we can't in good conscious recommend them for moving forward.

Slide 15

- In MTEP15, we will be **recommending over 350 projects totaling more than \$4B in investment** for approval.
- The majority of projects are small local reliability projects, but from a cost perspective we have more Baseline Reliability Projects than in MTEP14.
- Included in Appendix A are the **13 projects that came out of the Voltage and Local Reliability Study, which total \$300M.**
- **We also have one Market Efficiency Project...**

Slide 16

- **...which will be the first project available for competitive bidding.**
- We **continue to study three alternatives** to find the most prudent solution.
- If approved, a **request for proposal issued in January of 2016, developer proposals due in July and developer selection concluding in January 2017.**

Slide 17 (Wrap-up)

- Hopefully, that provides a good overview of our broad focus to ensure we are positioning the region to respond to our changing energy landscape.
- With that, I will take any questions.



MISO Update EEL CEO Meeting

John Bear, President and CEO
Clair Moeller, EVP

September 8, 2015

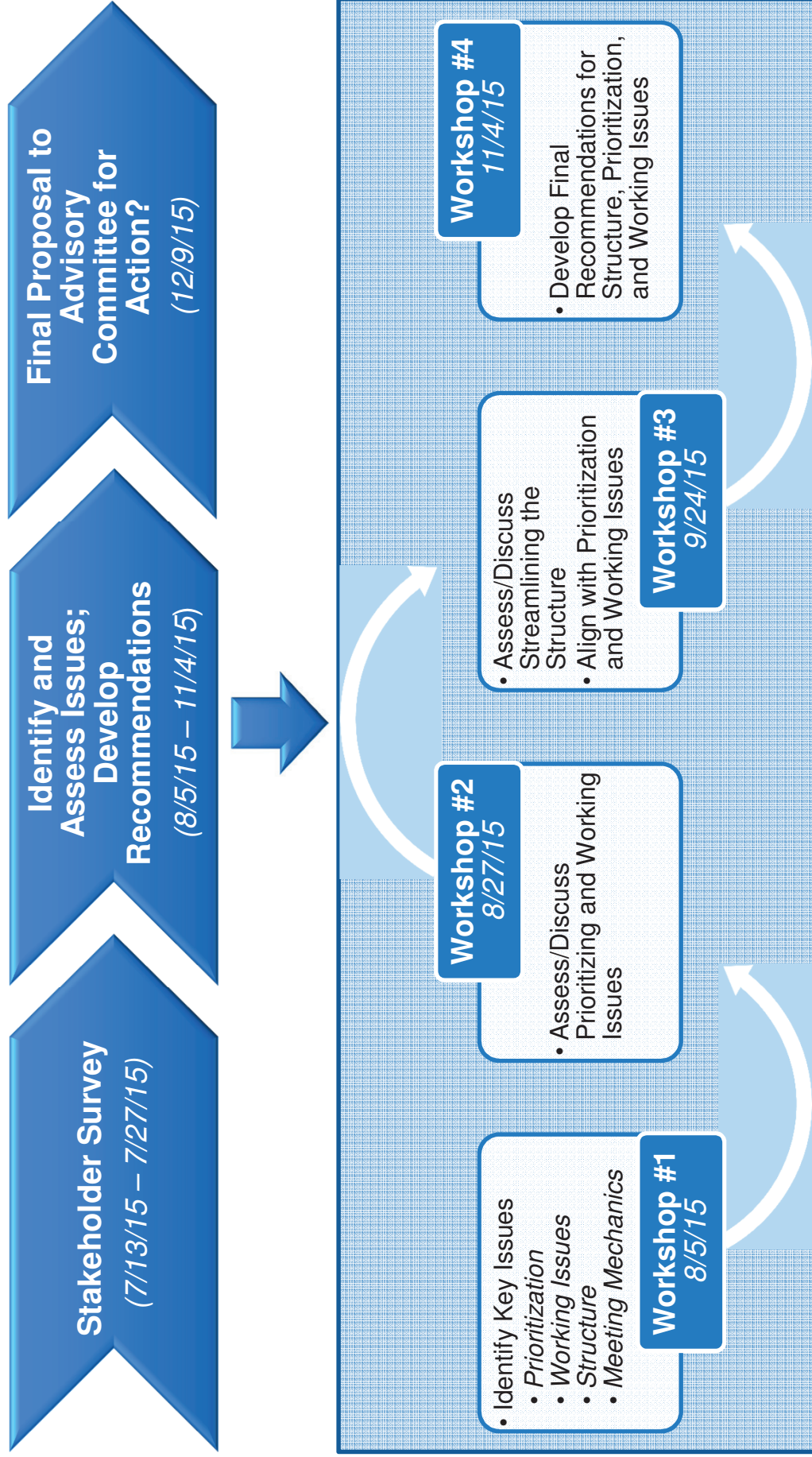
Agenda

- Stakeholder Process Redesign
- EPA 111(d)
- Resource Adequacy
 - 2015 OMS/MISO Survey Results
 - Generation Interconnection Queue Alignment
 - Seasonality
 - Locational Issues
- Planning Resource Auction Complaints
- Other Topics
 - Seams
 - Transmission Planning

Executive Summary

- MISO and stakeholders are working together to streamline the stakeholder process; general agreement exists on need to examine processes for prioritizing, assigning, and solving issues in the MISO stakeholder process
- MISO is collaborating with stakeholders on evaluating the final Clean Power Plan rule using expanded modeling capabilities and lessons learned from analysis of the draft rule
- High-priority Resource Adequacy policy issues (interconnection queue, seasonality, zonal locations) are progressing through a series of workshops with filings anticipated by year-end
- We continue working with SPP and the Joint Parties on settling the transmission capacity sharing dispute by year-end
- \$2.4 billion in investment has been identified in MTEP15, including the first potential project to be available for competitive bidding

MISO and Stakeholders are working together to create a more efficient and effective stakeholder process



Stakeholder Redesign Process desired outcomes



The power industry continues to be affected by environmental regulations



Regulation	Mercury and Air Toxics Standards	Cross State Air Pollution Rule & cooling water intake structure rule (316(b))	CO ₂ limits for existing & new power plants	National Ambient Air Quality Standard (NAAQS) for ozone
------------	----------------------------------	---	--	---

Compliance Dates

In effect

Both in effect

Existing: Beginning 2016¹
 New: Beginning in 2015

In effect, but could be tightened on Oct. 1, 2015

Impacts

- Significant coal retirements
- Outage coordination challenges
- Shrinking reserve margins around MISO
- Growing dependence on natural gas

- NOx requirements tightened
- Higher compliance costs influence plant retirement decisions

- Significant coal retirements
- Greater dependence on gas and CO₂-neutral resources
- Possible impacts on economic dispatch
- New coal builds much more expensive & unlikely

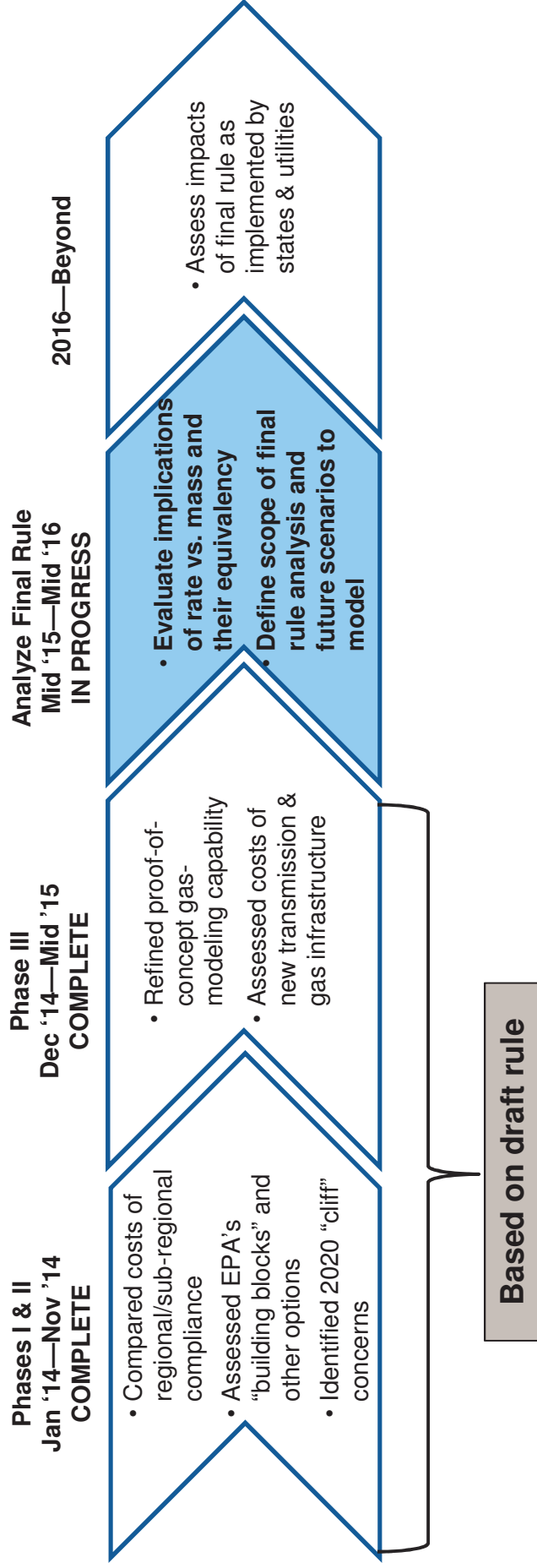
- Existing units could have to install new controls or modify their operations
- Possible retirement of coal and/or gas units
- Harder to build new coal & gas-fired generation in 'nonattainment' areas

EPA's final Clean Power Plan differs significantly from the proposed rule

- The national CO₂-reduction requirement is more stringent
- A new EPA methodology imposes more stringent CO₂-reduction requirements on heavily coal-reliant states
- The start of the “interim” compliance period is delayed by two years
- States have more time to submit their compliance plans
- Multi-state trading schemes are encouraged, and utilities are encouraged to trade emissions/credits with other utilities even in the absence of formal multi-state/regional compliance programs.
- The final rule includes a “Reliability Safety Valve,” and requires states to demonstrate they considered reliability in developing state plans
- State requirements are expressed in both rate and mass forms
- The final rule promotes renewable energy and energy efficiency over increased gas-fired generation as a compliance option
- The energy-efficiency building block is no longer used in determining state requirements

We are now analyzing the final rule

We are working with stakeholders to define the best scenarios to study in order to capture an appropriate range of outcomes possible through 2030 and beyond



The final rule expresses states' CO₂-reduction goals in both rate-based and mass-based forms

- EPA says the rate & mass approaches in the final rule can be “equivalent” if states properly account for certain factors



- States can choose the rate or mass goal that best suits their particular energy profiles and other circumstances
- Factors that may influence states' rate/mass decisions include:
 - Anticipated load growth
 - An interest to participate in multi-state/regional emissions-trading programs
 - An interest in preserving the benefits of broad regional economic dispatch

MISO stands ready to help states and utilities to assess these and other factors so they can craft implementation plans that best suit their needs

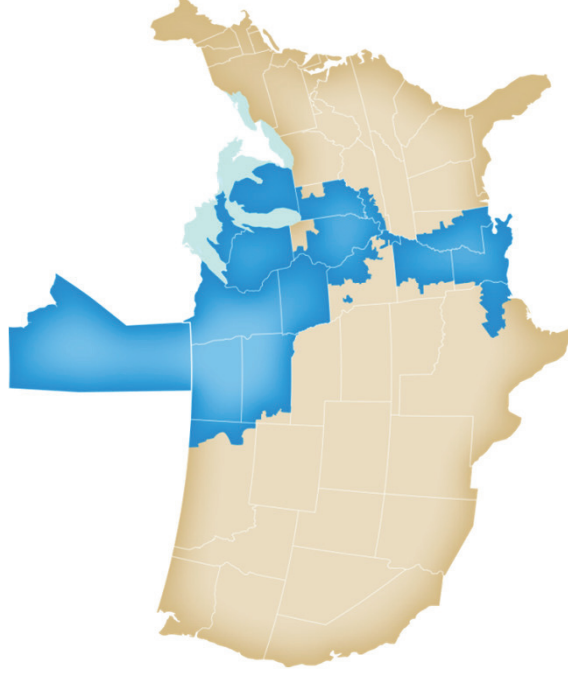
MISO plays key roles with respect to the Clean Power Plan and other forces that impact the footprint, including:

Serving Policymakers and Asset Owners



- Using our planning study and analytical capabilities to help asset owners and policymakers make well-informed decisions.

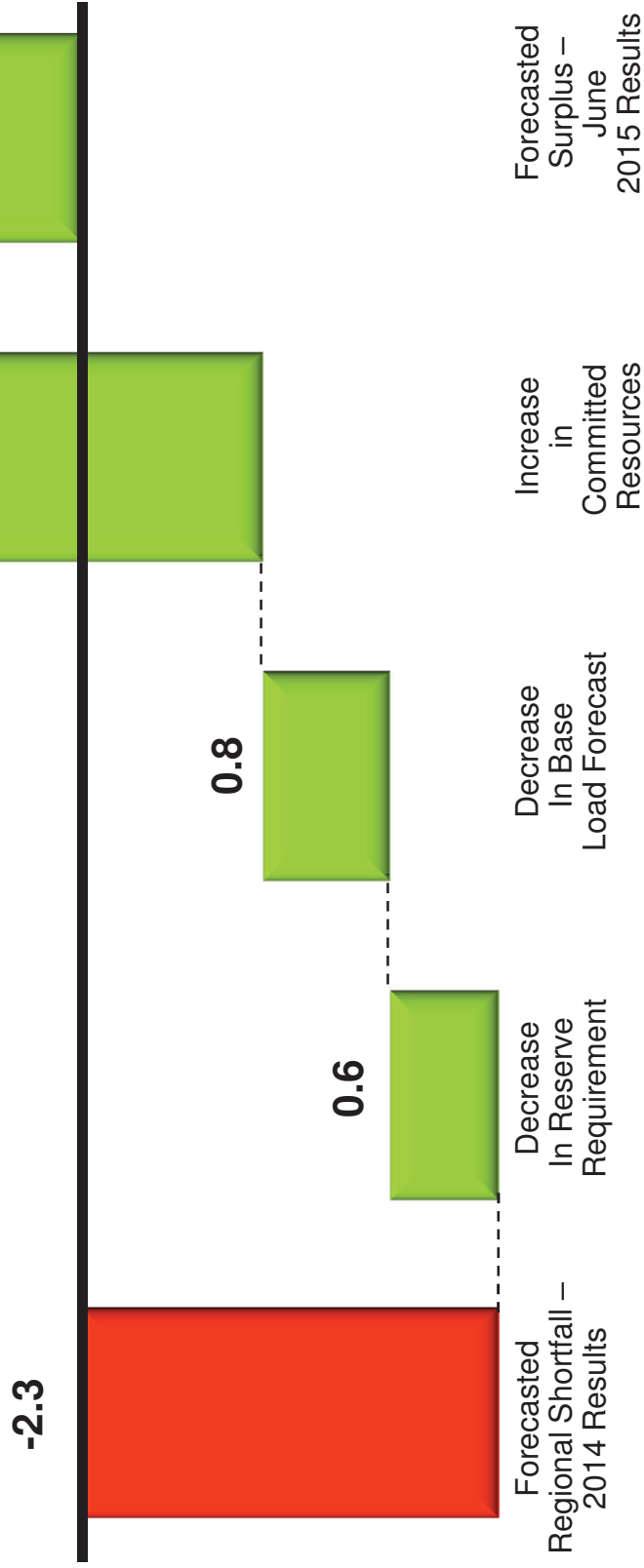
Enabling the Reliable, Efficient Implementation of Policy Decisions



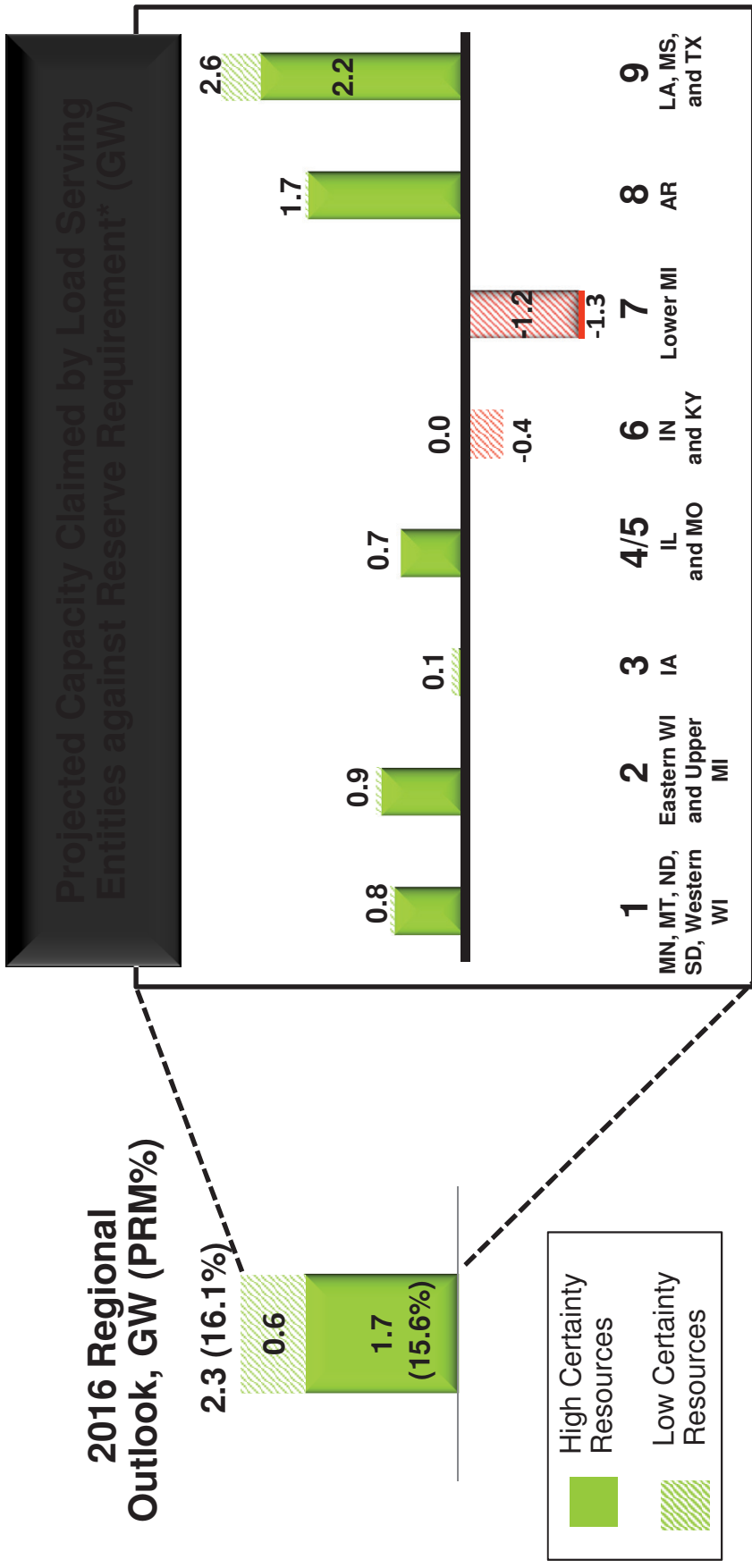
- Once policy makers and asset owners make their decisions, leverage our regional planning and operational capabilities to implement those decisions in a reliable and efficient manner.

2015 OMS-MISO survey shows improvement across the region

2016 Outlook
Comparison of High Certainty Resources
In GW



In 2016, regional surpluses could address deficits for the footprint



* Zonal values reflect capacity claimed in survey results, regardless of capacity location
 Regional outlook includes a 1,000 MW limit on transfers between the South and Central/North zones

MISO and stakeholders are addressing Resource Adequacy Issues to make changes for the 2017-2018 Planning Year

Interconnection Queue Process

- Eliminate restudies
- Implement higher readiness standards
- Reduce facilities study processing times
- Expedite the study cycle timeline
- Reduce commercial uncertainty

Seasonality

- Separate seasonal auctions
- Seasonal resource requirements (Planning Reserve Margin Requirements)
- Achieve transparency, reliability, flexibility, market efficiency

Locational

- Local Resource Zones respecting physical transmission limits and state's jurisdictional authority
- Hedging mechanisms reflective of historical usage and investment
- External resource zones mapped to coordination agreements

2015-2016 Planning Resource Auction

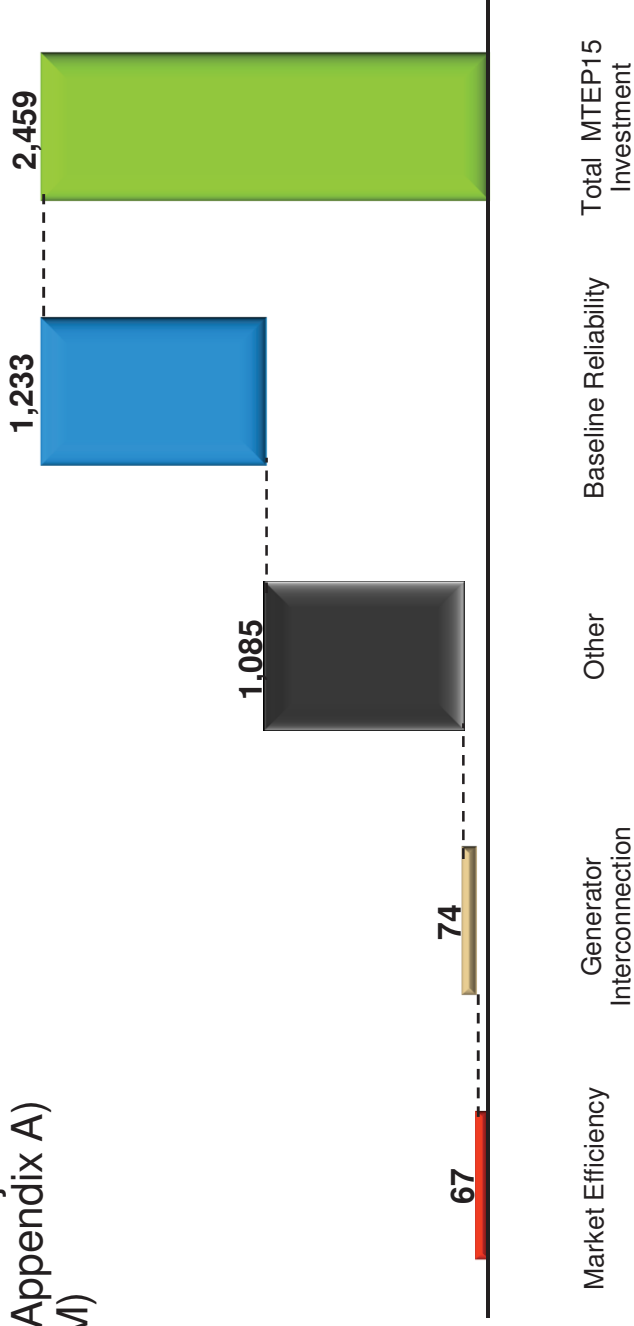
- Several 206 complaints have been filed with FERC related to Zone 4 (Illinois) results
 - Illinois Office of the Attorney General, Southwestern Electric Cooperative, Inc., and Public Citizen claim results are unjust and unreasonable, and suggest the existence and exercise of market power
 - Illinois Industrial Energy Consumers claims that portions of MISO's tariff determining the reference price and how capacity located in a zone that is exported to another market (such as PJM) is accounted for are unjust and unreasonable
- MISO followed its commission-accepted, tariff-based rules, and our Independent Market Monitor confirmed that the auction both complied with the tariff and produced the results it should have produced
- We believe the complaints should be dismissed with prejudice

MISO remains committed to working with seams partners to overcome impacts of regional differences

- **MISO-SPP JOA Dispute**
 - MISO continues to work with SPP and the Joint Parties on a settlement
 - Any settlement will need to meet our objective of providing benefits in excess of costs for our customers
- **Interregional Transmission Planning**
 - **MISO-PJM**
 - “Quick-Hit” study has been completed
 - Most of the congestion identified will be addressed by projects already approved in MISO and PJM Transmission Expansion Plans
 - Study found two other potentially beneficial projects - one is complete, another needs further analysis
 - **MISO-SPP**
 - Coordinated System Plan study identified three projects to move into the regional review phase of the process
 - The regional review is ongoing and focuses on determining if MISO customers see value in the projects

We also continue to find significant investment opportunities through MTEP - \$2.4 billion in MTEP15

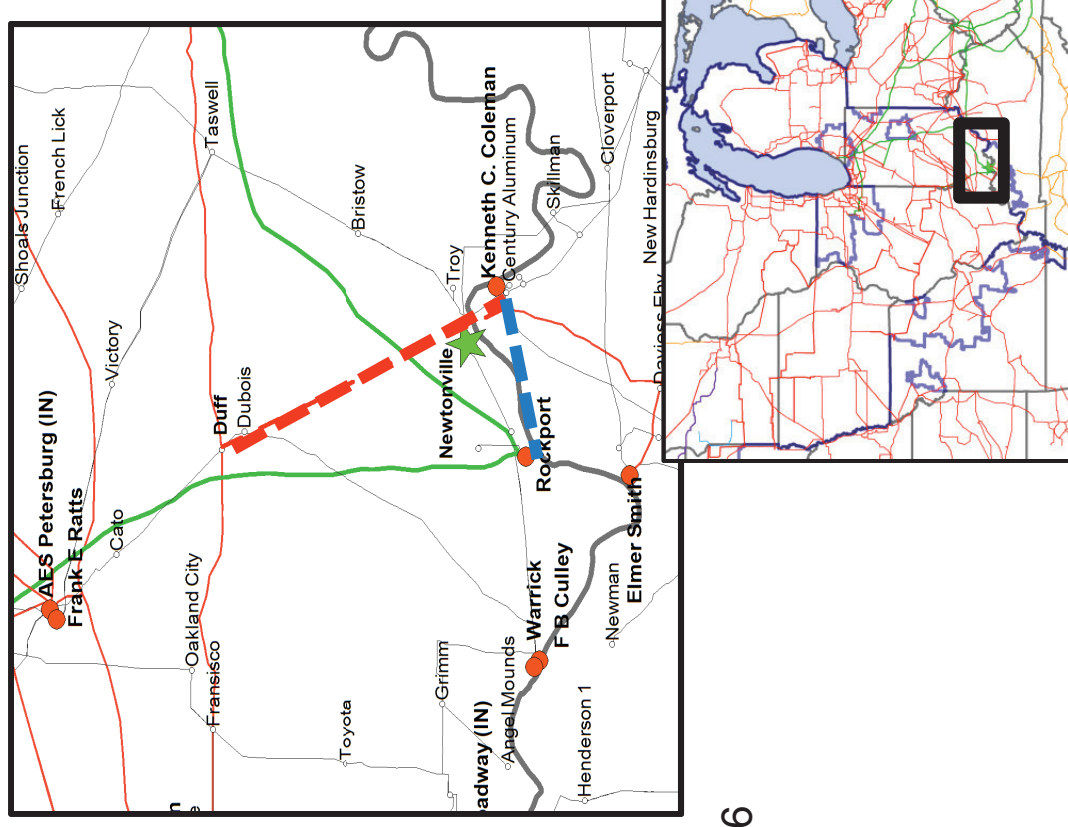
MTEP 2015 Investment Recommended Projects (expected in Appendix A) (\$M)



	Market Efficiency	Generator Interconnection	Other	Baseline Reliability	Total MTEP15 Investment
Number of projects	1	9	251	91	352

First potential competitively bid project being recommended in MTEP 2015

- Southern Indiana Market Efficiency Project; MISO reviewing three alternatives for most prudent solution:
 - Duff - Coleman 345kV (\$67M)
 - Rockport - Coleman 345kV (\$72M)
 - Duff – Rockport – Coleman 345kV
- If approved:
 - Request for proposal posting - January 2016
 - Developer proposals due - July 2016



Executive Summary

- MISO and stakeholders are working together to streamline the stakeholder process; general agreement exists on need to examine processes for prioritizing, assigning, and solving issues in the MISO stakeholder process
- MISO is collaborating with stakeholders on evaluating the final Clean Power Plan rule using expanded modeling capabilities and lessons learned from our analysis of the draft rule
- High-priority Resource Adequacy policy issues (interconnection queue, seasonality, zonal locations) are progressing through a series of workshops with filings anticipated by year-end
- We continue working with SPP and the Joint Parties on settling the transmission capacity sharing dispute by year end
- \$2.4 billion in investment has been identified in MTEP15, including the first potential project to be available for competitive bidding