Resource Adequacy in MISO Zone 4

Summary Report - February 26, 2018

On May 1, 2017, the Midcontinent Independent System Operator ("MISO") sent a letter to Governor Bruce Rauner, expressing concerns that the electric reliability outlook in MISO Zone 4, which includes the Ameren Illinois footprint, "is unclear and uncertain from year to year." MISO stated that while "[h]istorically, a surplus of electric resources has existed across the MISO region to meet customer needs … [n]ow the electric industry is experiencing dynamic shifts in the power supply mix resulting in less supply being available." MISO also expressed support for a resource adequacy mechanism that will ensure sufficient electric resources are available to meet customer needs over the long term.

Subsequent to MISO's letter, the Chairman of the Illinois Commerce Commission ("ICC"), Brien J. Sheahan, received letters from several members of the Illinois General Assembly, including Senator Sue Rezin, Representative Linda Chapa LaVia, and Representative C. D. Davidsmeyer. The letters encouraged the ICC "to investigate and study the issues presented in a timely manner, offer ideas for potential state solutions, if such solutions are deemed warranted, and to keep [them] informed of any efforts or information that can be provided in this regard."

In response to MISO's letter, Governor Rauner asked ICC Staff to provide a white paper on the technical and regulatory background underpinning the current challenges in the MISO Zone 4 market. Governor Rauner further requested the ICC Staff to gather stakeholder input and facilitate an open discussion surrounding these issues to ensure that Illinois can maintain its cheap energy, clean environment, and high-paying electrical jobs downstate.

On November 1, 2017, the ICC Staff provided the white paper to the Governor and other interested parties.[1] The white paper explained that MISO is responsible for planning transmission expansion and operating wholesale electricity markets. The North American Electric Reliability Corporation requires MISO to conduct an annual loss of load expectation analysis that provides a measure of the expected generation resources necessary to meet a forecasted peak load throughout the year. This analysis results in a planning reserve margin percentage that measures the level of resource adequacy throughout the MISO region and represents the sum of the probabilities for loss of load for all days of the planning year being equal to one day in ten years with respect to supply capability. Since 2011, MISO's targeted planning reserve margin in excess of annual forecasted load ranged from 14.2% to 17.4%.

The responsibility for achieving resource adequacy in MISO rests with load serving entities ("LSEs"), with oversight by states, as applicable by jurisdiction. MISO provides LSEs with the following options to meet their resource adequacy capacity obligation: 1) Demonstrate achievement of assigned planning reserve margin requirement through submission of a fixed resource adequacy plan ("FRAP"); 2) Use the "self-supply" option, where the LSE offers into

[1] https://www.icc.illinois.gov/downloads/public/ICC MISO Zone 4 White Paper 11-1-17.pdf

MISO's annual Planning Resource Auction ("PRA") supply resources that are owned by, or committed to, the LSE; 3) Procure capacity through participation in MISO's annual PRA; or 4) Pay a monthly capacity deficiency charge.

Currently, the MISO Zone 4 has 57 utility-scale generating stations, with a combined nameplate capacity of over 16,000 MWs and summer capacity of over 14,000 MWs. These plants are owned and operated by a combination of municipals, merchants and cooperatives and employ diverse fuel types, including water, wind, natural gas, landfill gas, petroleum, nuclear and coal. Coal, natural gas and nuclear plants represent the bulk of electricity production capacity in MISO Zone 4. Coal-fired plants produce the majority of electricity in Zone 4, followed by the zone's sole nuclear plant, Clinton Generating Station.

Dynegy has complete and/or partial ownership of seven power plants in Zone 4 and the Joppa Steam Plant. These plants have a combined capacity of approximately 6,500 MWs, making Dynegy the largest producer of electricity in Zone 4. These plants have been responsible for nearly 50 percent of electricity production in MISO Zone 4. Dynegy has stated that one third of its Illinois coal plants are at "high risk of retirement" and that another third is "under serious consideration for retirement." Dynegy has also made several announcements concerning the potential retirement of portions of the Baldwin and Newton generating stations. The largest actual reductions of capacity in MISO Zone 4 in recent years can be attributed to the retirement of Dynegy plants. In 2016, Dynegy retired its 500 MW Wood River power station in Alton, Illinois and its 617 MW Unit 2 of the Newton power plant in Newton, Illinois. In 2015, Dynegy retired the 136 MW Unit 1 of the Edwards plant in Bartonville, Illinois.

The white paper also explained that, unlike generators that operate under a vertically integrated structure with traditional rate-of-return regulation, most of the power plants in competitive retail markets, such as MISO Zone 4, derive the majority of their revenues through the sale of electricity, ancillary services and capacity in wholesale markets. The sale of electricity can take place through a variety of contractual forms - through "over-the-counter" markets, organized exchanges, RTO spot markets, bilateral contracts, auctions, etc. and are usually for a set duration of time. Ancillary services refer to a variety of generator attributes used by grid operators to maintain grid stability and security. In the MISO footprint, power plants can provide these services through a MISO-operated ancillary services market or rate-based regulated sales. When a power plant sells capacity, it is making a commitment to be fully available for energy production when called on during the commitment period. MISO has operated an annual planning resource auction ("PRA") for capacity since 2013.

While there are numerous factors in the current electric industry's business environment that contribute to generator business risk, merchant generators face an additional risk that traditionally regulated generators do not face. This additional risk stems from MISO's capacity market auction design. MISO's PRA allows competing generators owned or controlled by state-regulated utilities to offer their capacity into MISO's auction at prices that do not reflect the going forward costs that would be faced by a merchant owner of identical generators. Because these utilities recover their revenue requirement through retail rate-base regulation, they

typically use the self-supply option in MISO's PRA and offer their generation capacity at lower prices than a merchant power producer would. On the other hand, generators operating as merchants are dependent on MISO's capacity, energy, and ancillary services markets to recover their revenue requirement and to support investment decisions. To the extent that low offers from traditionally regulated generators lead to low capacity clearing prices in MISO auctions, merchant generators can be faced with economic challenges. Some merchant generators in Zone 4 have taken steps to switch their sales to the PJM capacity market, which generally pays a higher price for capacity than the MISO capacity market. When pursuit of such alternative revenue options fails, pressure increases for premature unit retirement.

The electricity industry is also facing a relatively static demand for electricity and there is an expectation that low load growth may persist in the future. The State Utility Forecasting Group at Purdue University conducts annual load forecasts for the MISO region and in its report for 2017, the forecasted annual growth rate for load in Zone 4 for the time period of 2018-2027 was 0.43 percent.[2] When the study accounted for energy efficiency, demand response and distributed generation, the annual growth rate in summer and winter peak demand for Zone 4 fell to 0.25 and 0.21 percent, respectively.[3] All generators in MISO compete against each other to serve new incremental load. As load growth for the near future is expected to remain relatively modest, this competitive pressure is not likely to go away.

The white paper concluded with briefly describing several possible policy responses the State of Illinois could make regarding MISO Zone 4 long-term resource adequacy, including: 1. Rely on existing competitive forces and market structures; 2. Impose additional capacity requirements on load serving entities; 3. Create a reliability portfolio standard; and 4. Reconfigure RTO participation.

Following the release of the white paper, ICC Staff conducted two workshops and received three sets of written comments. All presentations and comments have been publicly posted on the ICC's website at the following location: https://www.icc.illinois.gov/Electricity/workshops/MISOZone4.aspx.

The first workshop, hosted at the ICC's offices in both Springfield and Chicago with a video connection between the two locations, took place on December 6, 2017 and was attended by about 60 persons and had numerous people participating via phone. MISO, Dynegy, AARP, the Sierra Club, the Environmental Defense Fund, the Illinois Industrial Energy Consumers, Rockland Capital, and several community groups made presentations at the workshop.

The second workshop, hosted at the Montgomery County Courthouse in Hillsboro, took place on January 16, 2018 and was attended by about 150 persons and had a large number of persons participating via phone. In addition to employees of nearby coal plants and local residents, the workshop heard presentations from the Mayor of the City of Hillsboro, the Mayor

[2] See Table 10, *2017 MISO Independent Load Forecast Update*, November 2017. http://www.purdue.edu/discoverypark/sufg/miso/reports-presentations.php

[3] See Tables 19 and 20, *2017 MISO Independent Load Forecast Update*, November 2017. http://www.purdue.edu/discoverypark/sufg/miso/reports-presentations.php

of the City of Newton, the Mayor of the City of Greenville, the Mayor of the City of Coffeen, community groups from the Peoria area, Dynegy, the International Brotherhood of Electrical Workers, the Jasper County Board, the Jasper County School District, the Hillsboro School District, the Montgomery County Board, the Randolph County Board, AARP, IIEC, and Rockland Capital.

At the workshop in Hillsboro, parties discussed the outline of this report as well as the outline of the final comments from interested parties. The comments below were received on or before January 30, 2018. Section VI of the summary report includes additional stakeholder comments received. Comments were received from the following parties:

- American Association of Retired Persons ("AARP")
- Office of the Illinois Attorney General ("AG")
- Ameren Illinois
- American Petroleum Institute ("API")
- City of Coffeen
- City of Greenville
- City of Hillsboro
- City of Newton
- Coffeen plant – Deanna Tarter
- Coffeen plant – Donnie Nowell
- Coffeen plant – Tina Britton
- Community Groups
- Citizens Utility Board ("CUB")
- Dillon Clark
- Direct Energy
- Dynegy
- Environmental Defense Fund ("EDF")
- Environmental Law & Policy Center ("ELPC")
- Exelon
- Foresight/Murray Energy
- Grain and Feed Association of Illinois
- Heather Hampton+Knodle
- International Brotherhood of Electrical Workers ("IBEW")
- Illinois Industrial Energy Consumers ("IIEC")
- International Union of Operating Engineers Local 148 ("IUOE Local 148")
- Jasper County Board
- Jasper County Community Unit District #1 Schools
- Mary Ellen DeClue
- MidAmerican Energy Company
- MISO
- Montgomery County Board
- Montgomery County Board member Glenn Savage
- Montgomery County Clerk and Recorder
- Natural Resources Defense Council ("NRDC")
- Patricia Rykhus

- Peoria area residents postcard comments (118 total)
- PJM
- Randolph County
- Rockland Capital
- Senator Andy Manar, 48th District
- Sierra Club
- Spoon River Partnership for Economic Development

The summary of comments below follows the outline that was distributed to the parties and posted on the ICC's website on January 17, 2018.

I. Resource Adequacy Standards

A. How should resource adequacy be defined and how does resource adequacy compare with or contrast with resiliency and reliability?

[Examples of issues under this question include: Does resource adequacy ensure reliability? What does "capacity shortage" mean? How does the resource mix/resource diversity/generator operating characteristics/generator attributes/fuel characteristics/fuel types/fuel sources etc. relate to resource adequacy?]

AARP Response: Several commenters have noted the two are separate. We will defer to those with more expertise.

AG Response: Resource adequacy is the availability of sufficient resources to provide electric power required to meet customer demand, including generation resources, energy efficiency, and demand response resources. It is a component of reliability and is also a component of the related concept of resiliency. Resiliency, as it is proposed to be defined by the Federal Energy Regulatory Commission ("FERC"), focuses on the grid's ability to resist, withstand, and recover from low-frequency, high-impact events.[4]

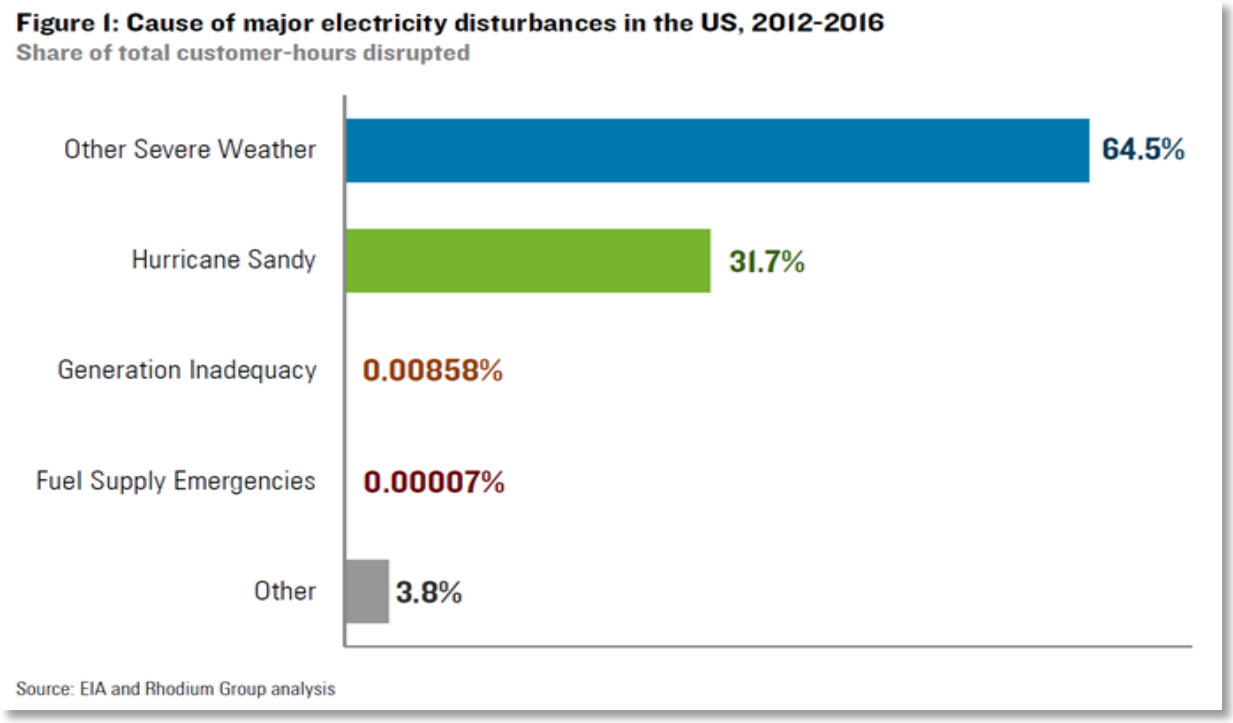
The Midcontinent Independent System Operator ("MISO"), too, has stated its assumption "that resilience is an element of overall grid reliability."[5] Thus, assuring resource adequacy is a necessary, but not sufficient, condition for assuring reliability and resiliency of the grid because the availability of resource adequacy is only one part of a much larger system that requires sufficient and reliable dispatch, transmission, and distribution. Even if all generating resources were guaranteed to be available 100 percent of the time in amounts at or above demand, there

[4] The definition of resiliency, as proposed by FERC, is "[t]he ability to withstand and reduce the magnitude and/or duration of disruptive events, which includes the capability to anticipate, absorb, adapt to, and/or rapidly recover from such.

[5] Comments of the Midcontinent Independent System Operator, Inc. at 1, n.2, FERC Docket No. RM18-1-000 (Oct. 23, 2017) (hereinafter "MISO DOE NOPR Comments"), available at http://elibrary-backup.ferc.gov:0/IDMWS/File_List.asp?document_id=14612502.

must be sufficient functional transmission and distribution infrastructure to move the power generated to the load that requires it.

To illustrate: according to public power industry data, squirrels cause more customer outage-hours by damaging distribution infrastructure than any other cause, including unscheduled generator outages that imbalance generation and load, in an area that includes MISO Zone 4.[6] Similarly, it is transmission line failures and extreme weather events that have been responsible for large-scale, widespread outages over the past several years—not insufficient generating capacity.[7] During outages caused by distribution level events or cascading transmission line failures, resource adequacy has little to do with the problem: having more power available would not prevent the outage. For further illustration, the consulting firm Rhodium Group recently provided a chart of the share of total customer-hours disrupted by cause from 2012-16.[8]



[6] https://www.publicpower.org/blog/defending-against-outages-squirrel-tracker; https://www.publicpower.org/periodical/article/infographic-top-causes-power-outages

[7] See generally, Analysis Group, Electricity Markets, Reliability and the Evolving U.S. Power System (June 2017) at 71-73, available at http://www.analysisgroup.com/uploadedfiles/content/insights/publishing/ag_markets_reliability_final_june_2017.pdf.

[8] Trevor Houser et al., The Real Electricity Reliability Crisis, Rhodium Group (Oct. 3, 2017), available at http://rhg.com/notes/the-real-electricity-reliability-crisishttp://rhg.com/notes/the-real-electricity-reliability-crisis.

Ameren Illinois Response: A key component of long-term resource adequacy is to ensure that the grid has sufficient electric resources to meet customer load requirements in future years. Customers depend on this happening in order to receive a reliable supply of power to their homes and businesses.

American Petroleum Institute Response: Broadly speaking, resource adequacy is a review of generation to ensure that sufficient resources are available to support demand. Illinois has readily maintained sufficient resource adequacy, through the use of markets as a deregulated state. As such, any review or modification to the current system must assure a clear, fuel neutral, and attributes focused approach. Any market or policy measures aimed at ensuring sufficient resources or capacity in Zone 4, like an IPA administered capacity auction, should be guided only by a determination of resource adequacy or reliability needs and not by any other public policy concerns. Policies aimed at promoting economic development or support for a specific type of fuel or generating asset disguised as a resource adequacy fix would severely distort Illinois' competitive marketplace and continuously expose customers to changing political priorities.

Regarding measures of reliability, API supports FERC's recent unanimous rejection of a proposed rule that would have tied resilience to onsite fuel storage. Keeping resources adjacent to a generating plant has no bearing on system reliability, resilience or resource adequacy. In fact, most system disruptions are related to transmission and distribution infrastructure damage due to weather events and have nothing to do with lack of on-site fuel. An analysis by Rhodium Group shows that between 2012 and 2016, fuel supply disruptions caused less than 1 percent (0.00007% to be exact) of all substantial power outages.[9]

Furthermore, the delivery system that moves gas from production sites to power plants through pipeline infrastructure is a significant contributor to reliability. The natural gas delivery system has inherent physical attributes that contribute to a resilient power system for Illinois customers;[10]

- Supply redundancy—multiple pipeline interconnecting points reinforces system integrity. Therefore, a local disruption would not cascade to a system-wide problem as it would in the electric grid. As cited in a report from the Massachusetts Institute of Technology[11], the natural gas system has very few points of failure or single points of disruption that can lead to system-wide shortfalls.

[9] The Rhodium Group, "The Real Electricity Reliability Crisis," October 3, 2017.

[10] For a more comprehensive explanation, please refer to the Natural Gas Council White Paper "Natural Gas Systems: Reliable and Resilient." July,2017. http://www.ipaa.org/wp-content/uploads/2017/07/NGC-Reliable-Resilient-Nat-Gas-WHITE-PAPER-Final.pdf

[11] Massachusetts Institute of Technology, Lincoln Laboratory, "Interdependence of the Electricity Generation System and the Natural Gas System and Implications for Energy Security," May 15, 2013.

- Predominant use of compressor units that run on natural gas— Natural gas flows average around 30 miles per hour—giving system operators plenty of time to respond to local disruptions and easily manage the flow through the system. Thus shortfalls at one point in the system tend to have only very localized effects. Also, the compressibility of natural gas makes it easy to serve as a backup supply to the system.

- Network of physical storage infrastructure— there is an extensive national network of physical storage of natural gas that ensures supply availability. Natural gas is most commonly stored underground in depleted aquifers and oil and gas fields, as well as in salt caverns. It can also be stored above ground in storage tanks as liquefied natural gas("LNG") for use at import and export facilities and at peak shaving plants, or as compressed natural gas ("CNG") for industrial and commercial uses.

- Majority of pipelines located underground—as most natural gas pipelines are buried underground, they are more insulated from physical damage from external forces.

CUB Response: Resource adequacy, reliability, and resilience are separate, but closely related, concepts. CUB recommends defining the three criteria as follows:

Resource adequacy: The bulk electric system's ability to provide capacity adequate to serve peak load. If there is enough supply available to meet peak demand for the foreseeable future, there is no resource adequacy problem.

Reliability: The system's compliance with NERC reliability standards, which look to a system's consistency in serving load under typical circumstances.[12]

Resiliency: "[T]he ability of the bulk power system to withstand or recover from disruptive events," as the Federal Energy Regulatory Commission summarized the consensus view among commenters on consideration of the Department of Energy's Grid Reliability and Resiliency Pricing NOPR.[13]

All of three of these characteristics are resource-neutral and should be treated as such. Assessments of an individual resource's contribution to resource adequacy, reliability, and resiliency should look solely to the traits and performance of the resource itself and the infrastructure connecting the resource to the grid. It would be imprudent to presume one fuel type is inherently more reliable or resilient than another. Further, all three of these metrics are indifferent to whether load is served by increasing supply through generation or decreasing demand through energy efficiency, price-responsive demand, or demand response.

[12] *See* N. AM. ELECTRIC RELIABILITY CORP., RELIABILITY STANDARDS FOR THE BULK ELECTRIC SYSTEMS OF NORTH AMERICA (2017), http://www.nerc.com/pa/Stand/Reliability%20Standards%20Complete%20Set/RSCompleteSet.pdf.

[13] 162 FERC ¶ 61, 102, 61,114 (Docket Nos. RM18-1, AD18-7, Jan. 8, 2018).

Dynegy Response: "Resource adequacy" is defined in the MISO Business Practices Manual as ensuring that Load-Serving Entities (LSEs) in the MISO Region have sufficient Planning Resources to meet their anticipated peak demand requirements plus an appropriate reserve margin. The reserve margin is generally intended to provide for sufficient additional generating capacity to cover (i) load forecasting errors, (ii) transmission contingency events, and (iii) generator forced outages. On November 1, 2017, MISO adopted an increase in the reserve margin requirement ("planning reserve margin" (PRM)) from 15.8% to 17.1% effective June 1, 2018 (the start of the 2018-19 planning year). The increase is due principally to increased forced outage rates being experienced by generators in MISO. PRMs in the range of 15% to 18% are consistent with historic industry norms.

"Resource adequacy" distinguished from "grid resilience" or "grid reliability"

"Resource adequacy" can be distinguished from "grid resilience" or "grid reliability." The FERC, in its recent order in Docket RM18-1-000, stated that "resilience" is the ability to withstand and reduce the magnitude and/or duration of disruptive events, which includes the capability to anticipate, absorb, adapt to, and/or rapidly recover from such an event. 162 FERC ¶61.012 (2018) at P23. Thus, grid resilience is a more dynamic concept than resource adequacy, in that grid resilience reflects the ability of the system to recover from a wide variety of disruptions that may occur at any time.

Resilience could encompass a range of attributes, characteristics, and services that allow the grid to withstand, adapt to, and recover from both naturally occurring and man-made disruptive events. Different types of generating resources can make different contributions to supporting grid resilience. A generating plant may contribute to both resource adequacy and grid resiliency. For example, coal-fueled generating units with large mass rotating parts provide generating capacity to support resource adequacy and can also provide spinning reserve, reactive power, voltage stability, and frequency stability for the bulk power system. Therefore, the retirement of existing generating units would both threaten resource adequacy in Zone 4 and diminish grid resiliency in Zone 4.

Environmental Defense Fund Response: The conflation of resource adequacy with reliability and resiliency is a fallacy. These concepts are separate issues, and the ICC and other bodies currently considering Dynegy's requests must distinguish between the two. "Resource adequacy," as used by MISO and the North American Electric Reliability Corporation ("NERC"), refers to ensuring enough MW of supply capacity for a one day in every ten year peak load event, termed a "Loss of Load Event." Resource adequacy markets pay for that capacity to be available. Separately, reliability, as addressed by MISO and NERC, is the product of activities taken on a day-by-day, hour-by-hour, second-by-second basis in coordination with system owners and the grid operator to serve the physical needs of transmitting and balancing AC power over large geographic areas. A grid can be unreliable despite a surplus of capacity. Conversely, a grid can still be reliable despite a modeled capacity shortfall.

As the wholesale electric system continues to evolve, with a spread of new resources, the grid operators need more and better resources to provide flexibility. Dynegy has proposed the

opposite in this process, seeking to limit market participants that could meet day-to-day reliability needs, taking those functions out of separate markets and requirements and lumping them in with payments for resource adequacy.

The prime example that EDF presented during the workshop was the move in PJM to reform frequency regulation services that support reliability. PJM historically relied on large generators to provide regulation service to help balance the grid to keep it at 60 Hz. Payments were collected from electricity customers and paid to generators for ramping up and down in response to market signals every 10 minutes, and only had to be accurate at least 70% of the time. In response to a FERC Order, PJM determined that it needed greater flexibility on the grid for frequency regulation services, and created a new Reg D signal and associated market. This new signal called for market participants to respond every 2 seconds, which large generators simply cannot do. Instead, the PJM market saw a rapid influx of energy storage systems that could respond to the Reg D signal in less than 2 seconds with greater than 95% accuracy. More than 120 MW of energy storage was deployed in Northern Illinois in a short amount of time to serve this market, providing regulation service faster and cheaper than large generators.

The Dynegy proposal moves in the opposite direction, locking in reliability services that need to be executed year-round to be provided only by large generators that primarily serve peak power needs. This market design creates a pointless, irrational, and detrimental bias toward only incumbent large generators that operate inflexibly, limiting supply and driving up prices unnecessarily.

In its review of the resource adequacy questions in this workshop process, the ICC and other policymakers should separate out the reliability requirements interjected into the discussion and focus solely on the overall topline question of resource adequacy.

Environmental Law & Policy Center Response: Resource adequacy means ensuring that load serving entities have enough capacity to meet their anticipated peak demand requirements plus an appropriate reserve margin. Anticipated peak demand is calculated by the load serving entities based on expected annual load growth; it should include the impact that growing energy efficiency, distributed generation, and a changing economy will have on that growth. The reserve margin reflects the reality that not all capacity may be available during peak due to planned maintenance, unplanned/forced outages of generating equipment, deratings in the capability of generation resources, demand response resources, system effects due to reasonably anticipated weather, and load forecast uncertainty. In this sense, resource adequacy is about ensuring sufficient capacity, not about maintaining reliability. Reliability is about serving actual load and is about compliance with standards set by the North American Electric Reliability Corporation. These reliability standards deal with much more than simply the amount of capacity on the system.

Resource adequacy is designed to meet a single, somewhat arbitrary standard: meeting the one day in ten years loss of load expectation. MISO calculates this standard under the assumption that there are no internal transmission limitations in its footprint. In other words, MISO has enough capacity on its system to ensure that there is a loss of load under normal operating

conditions no more than 0.1 days per year. While this is an important benchmark, the lights don't go off the moment a reserve margin is not met (though we fully anticipate that reserve margins will be met for the foreseeable future in Zone 4).

Resource adequacy does not determine what the optimal resource mix should be within a zone or across MISO as a whole, it only describes the number of mega-watts necessary to meet the one day in 10 years standard. In this sense, capacity shortage is simply a way of saying that a utility has failed to meet its capacity obligation. It says nothing about optimal resource mix or location nor about whether or not reliability will be maintained.

A diverse mix of generation assets across geography, fuel types, and operating characteristics is incredibly important to maintaining reliability, regardless of whether or not a precise resource adequacy target is met or exceeded. As we saw with the polar vortex of 2014, generation characteristics are hugely important when dealing with the events that most stress the system. During that event, demand response and wind resources were crucial to maintaining reliability when fossil resources such as coal and gas generation were unable to perform.

Exelon Response: Exelon and others have acknowledged in several venues that resource adequacy is a concept distinct from both reliability and resiliency. Indeed, all three concepts play an integral role in ensuring that the lights remain on for Illinoisans. Resource adequacy and the regulatory constructs designed to ensure resource adequacy are far more limited in scope than the other two concepts. Resource adequacy ensures that there are enough actual, physical generation resources available on the system to meet electricity demand during peak load in a wide range of operating conditions. MISO's existing capacity construct is targeted toward ensuring there is an adequate supply margin to cover spikes in electricity demand during the prompt planning year.

Reliability on the other hand encompasses both resource adequacy and the management of grid security. With regard to grid security, reliability refers to the ability of the electric system to serve load notwithstanding traditional disturbances based on weather or forced outages.

In contrast to both resource adequacy and reliability, resiliency contemplates the broader system's ability to prepare for, operate through, and recover from what is termed high-impact, low-frequency (HILF) events. Resiliency concerns the type of systemic threat raised by a HILF event that has the potential to impact a large portion of the generation fleet; specifically, threats raised by human forces, whether they be physical or cyber. Resiliency also refers to the interplay between threats raised by human forces and fuel security. Fuel security risks associated with the overreliance on a single type of generation resource grow particularly acute during HILF events.

Murray/Foresight Energy Response: Resource adequacy must <u>first</u> begin with defining those electrical generating assets, which provide <u>baseload</u> electricity. Such baseload generating facilities when defining resource adequacy are the assets required to not only provide the current load required for Illinois, but also factoring in future industrial growth, maintaining the

state's current export levels of electricity, and future potential exports of electricity, which benefits Illinois consumers. .

By understanding and identifying which resources are truly baseload electricity, Illinois will see maximum electricity exports, provide resource adequacy and capacity, security, while providing fair reasonable electrical rates from its diverse portfolio with the "cornerstone" being substantial and sustainable base load facilities. Baseload generation must be defined as those units which have the capacity factors and availability, to provide electricity on a 24/7 basis, daily, on peak and off peak periods, and in all seasons of the year. Onsite fuel or fuel with very limited risk of disruption also should be a consideration in the definition of a baseload electricity. Baseload coal and nuclear plants typically operate at high capacity factors, have stable operating costs, and are not generally exposed to spikes in the cost of fuel.

Illinois' understanding and focus on maintaining baseload coal and nuclear plants will drive grid resilience, offset vulnerability to severe price spikes, and keep electricity costs at reasonable levels on a long-term basis. A capacity shortage occurs when there is no longer enough baseload generation to meet the demand at any given time. Such shortages can occur under a variety of scenarios not limited to weather events, transmission line related events, or driven by a constrained system with no excess capacity where a single, small unit disrupt causes a shutdown due to a capacity shortage. Disruptive events are not selective as to when they occur.

Resilience is a much broader term than reliability for resilience is tested when "the grid" has a reliability interrupting event or blackout. Once the interrupting event occurs, resilience is determined by how quickly the interrupting event can be mitigated, and at what cost. Resilience is also directly related to ensuring the system has the proper infrastructure to minimize the duration of the event and the cost to mitigate the event. The premature closing of 24/7 baseload coal and nuclear generating facilities not only affects the long-term system reliability but also long term resiliency. These baseload units cost less to operate than the cost to replace the megawatts once lost.

Illinois must develop a structure, which ensures adequacy of service and resilience, protects electricity users against long-term wholesale electricity prices that are higher than necessary, and properly defines and accounts for the value of baseload coal and nuclear generation in Illinois diverse energy mix. Illinois must ensure that we maintain wholesale power rates which are just, and reasonable which are mitigated from price spikes, overall economic downturn, and job loss due to not taking into account all previously mentioned concerns.

International Brotherhood of Electrical Workers Response: Local 51's definition of resource adequacy is as follows: The total adequate generation resources throughout the year needed to: 1) meet normal daily load demand during normal weather conditions for any given day, 2) meet demand changes due to the availability of generation resources and, 3) to meet demand changes due to abnormal weather conditions, emergencies and emergent changes to load demands. To meet MISO Zone 4 resource adequacy a significant portion of the adequate generation resources should be located geographically in Zone 4.

When combined with other factors, such as adequate transmission and distribution equipment, Local 51 believes resource adequacy helps to ensure reliability. We believe a capacity shortage exists when inadequate total generation resources exist for a forward-looking period of time. Factors that influence the availability of adequate generation resources are the availability of high capacity factor generation resources geographically located in Zone 4 to meet a majority of the daily load demand, daily fuel resource mix, generator operating characteristics, fuel characteristics, fuel sources, generating unit capacity factors, transmission facilities and distribution equipment.

Illinois Industrial Energy Consumers Response: Resource Adequacy is the ability of supply-side (generation) and demand-side (demand response and energy efficiency) resources to meet total electric demand. Resource adequacy is traditionally pursued with the goal of achieving a loss of load expectation that is on average no greater than one day in ten years. This means the goal is, on average, that there will be no more than one loss of load event every ten years. Such an event occurs when there are insufficient resources to meet total electric demand. Unlike electric transmission and distribution-related reliability events, loss of load events generally do not involve widespread customer outages. They typically involve the involuntary curtailment of some limited amount of customer load during the peak demand hours of the day of the event.

A common approach, used to address the one day in ten year loss of load expectation goal, is to acquire sufficient capacity from supply-side and demand-side resources to cover the forecasted demand at the time of the annual system peak, plus a Planning Reserve Margin (PRM). The PRM is typically expressed as a percentage. It is set to produce a loss of load expectation of one day in ten years based on the expected outage rates of resources and the probabilistic analysis of uncertainties. It is important to note that the failure, in a given year, to acquire sufficient capacity to cover the forecasted demand at the time of the annual system peak plus a PRM does not mean a loss of load event will occur that year. It simply means that the probability of such even event occurring in that year has increased to an amount somewhat greater than one day in ten years.

Resource Adequacy is but one component of electric reliability. Resource Adequacy in itself does not assure reliability. Reliable delivery of power over the transmission and distribution system is also necessary in order to assure electric reliability. Reliable delivery is achieved by ensuring the electric transmission and distribution systems are adequately planned to meet peak loads and operated in a secure fashion. Delivery system events can result in widespread customer outages (e.g., the August 14, 2003 blackout of large portions of the Midwest and Northeast United States, widespread customer outages following severe storms due to insufficient tree trimming, etc.).

Resiliency is a relatively new term in the electric power industry. There is currently no consensus on its definition or whether it is a concept that is ultimately relevant to the industry. As a concept, it appears to at least somewhat overlap with reliability.

There are currently no resiliency standards or requirements in the industry beyond what is already implicitly provided for in the North American Electric Reliability Corporation (NERC)

Reliability Standards for the Bulk Electric System and Regional Transmission Organization (RTO) market rules, such as those for the Midcontinent Independent System Operator, Inc. (MISO). In Docket No. AD18-7-000, the Federal Energy Regulatory Commission (FERC) is currently exploring the resiliency issue and whether any further related action by it is warranted.

MISO Response: The term resource adequacy refers to the electricity industry's ability to have enough supply to serve peak demand, accounting for estimated variances in demand (load uncertainty) and estimated outage rates of supply. Generally, Load Serving Entities ("LSEs"), with oversight from Relevant Electric Retail Regulatory Authorities ("RERRAs"), are responsible for resource adequacy.

Resource adequacy is one of the required components to maintain system reliability. Reliability, as defined by the North American Electric Reliability Corporation, requires that the system be ". . . able to meet the electricity needs of end-use customers even when unexpected equipment failures or other factors [including adequacy and security] reduce the amount of available electricity."[14] The obligation to maintain reliability is the responsibility of multiple entities, including MISO, Transmission Owners, and Generator Owners, while the resource adequacy, as noted above, is owned more specifically by LSEs and RERRAs.

Montgomery County Board Response: Resource Adequacy should be defined by the ability of in-state resources to meet in-state needs. What is at stake is the capacity of Illinois energy generators to meet the needs of Illinois based manufacturers, commercial and residential users. The MISO construct distorts the question of Illinois adequacy given that only a portion of our state is the only deregulated area within MISO.

Whereas, resource resiliency and reliability, should be an integral part of the equation when determining adequacy and would best be drafted by a competitive energy provider to consider the entire resource adequacy in Illinois, not just in MISO Zone 4. The MISO construct distorts the question of Illinois adequacy given that only a portion of our state is the only deregulated area within MISO.

Natural Resources Defense Council Response: Resource adequacy should not be conflated with either resilience or reliability. Reliability is a system's ability to serve load under *typical* circumstances,[15] which includes expected disruptions to the system such as loss of generation or transmission. The more than 100 reliability standards of the North American Electric Reliability Corporation (NERC) primarily address system reliability. Relatedly, ancillary services such as regulation and frequency control, which are used to match generation on a moment-by-moment basis to maintain electrical frequency and system wide stability, support system reliability. In contrast, a system's resilience is its ability to withstand and reduce the magnitude of disruptive events such as extreme weather or cyberattacks, and it includes the ability to anticipate, absorb, and recover from such events. [16]

---

[14] http://www.nerc.com/AboutNERC/Documents/NERC%20FAQs%20AUG13.pdf

15 Citizens Utility Board ("CUB"), Pre-Workshop Comments to the ICC

16 FERC, Grid Reliability and Resilience Pricing, at ¶ 23 (Docket RM18-1, Jan. 8, 2018).

To meet resource adequacy requirements, traditional generators like coal and nuclear plants, provide available capacity and energy during peak hours and during emergencies, but other technologies also can provide capacity and energy. For instance, a diverse portfolio of resources including gas plants, energy efficiency, demand response, solar, wind and can meet resource adequacy needs.

In addition, a thorough review of the future of Zone 4 resource adequacy necessitates an in-depth consideration of both public policy and marketplace directions to determine the most efficient and cost-effective generation mix that will maintain resource adequacy in Southern Illinois. For instance, the Future Energy Jobs Act (FEJA) and the most recent Illinois Power Agency (IPA) renewable procurement plan will significantly increase wind and solar capacity in Illinois.[17] Also, customers are increasingly demanding clean energy, as many businesses now value clean energy sources as both competitive with other energy sources and as a hedge against uncertain fuel and wholesale electricity prices. It also can be a selling point for their commercial image.[18] And if Illinois wants to retain or attract commercial activity, it would need to ensure an adequate amount of clean energy supply to meet these preferences. Thus, given the seemingly inevitable growth in renewable energy capacity in Zone 4, any resource adequacy discussion must be held with an eye towards the near and long-term generating capacity landscape. Subsidizing uneconomic Dynegy coal plants at the expense of competitive, cleaner resources, would produce a capacity mix of both variable generation -i.e. wind and solar- and large, inflexible fossil plants. This is increasingly shown to cause challenges,[19] as multiple studies are concluding that resource adequacy challenges arise when a growing amount of variable generation is integrated with large baseload generators that cannot quickly or economically adjust their generation in response to system needs.[20] Operational flexibility- which could be provided by resources such as demand response, storage and fast-ramping gas plants- is becoming an increasingly important reliability and resource adequacy service, and artificially keeping a set of inefficient and inflexible coal plants online undercuts the system's ability to cultivate flexibility.[21]

---

[17] FEJA is expected to drive 3 GW of solar and 1.3 GW of wind in Illinois – enough wind and solar to power 1 million homes. The IPA plan mandates LSEs in Illinois to purchase the equivalent of 360 MW of *new wind* and 560 MW of *new solar each year* through 2030.

[18] In 2015 alone, more than 3,200 MW of voluntary renewable energy power purchase agreements were signed by commercial and industrial electricity customers.

[19] Studies show that this mix of variable and inflexible capacity can extend resource adequacy concerns from hours of peak demand to periods when the ramping capability of the combined mix is not enough to reliably meet load. The Brattle Report "Advancing past baseload to a flexible grid", Available at http://files.brattle.com/system/publications/pdfs/000/005/456/original/advancing_past_baseload_to_a_flexible_grid.pdf?1498482432

[20] The Brattle Group "Advancing past baseload to a flexible grid", Available at http://files.brattle.com/system/publications/pdfs/000/005/456/original/advancing_past_baseload_to_a_flexible_grid.pdf?1498482432

[21] For example, Astrape Consulting has analyzed these emerging resource adequacy needs in two very different systems – the California wholesale market and the single-utility system operated by PNM Resources in New Mexico- and reached the same conclusion that increasing the flexibility of a system maintains resource adequacy more easily and cost-effectively, and improves system reliability. Astrape, Flexibility Metrics and Standards

To sum up, a crucial feature of ensuring near and long-term resource adequacy in Zone 4 lies in considering the anticipated changes in the capacity mix and positioning Southern Illinois in the most optimal way to reliably meet demand efficiently and cost-effectively. The Dynegy proposal completely overlooks the future and locks Southern Illinois in an increasingly antiquated system that is bound to face reliability challenges in the short and long-term.

PJM Response: PJM: Resource Adequacy refers to the supply of electricity; specifically, the process of determining the amount of generating capacity required to: (a) provide electrical energy to satisfy customer load, especially during peak demand periods such as a heat wave or cold snap; and, (b) ensure an acceptable level of generation system reliability – Adequacy.

Resource Adequacy assures reliability by making sure that there is adequate supply in to the future to meet demand. Resilience assures that the resources can operate through or recover quickly from major, unforeseen disturbances.

Rockland Capital Response: Resource Adequacy, reliability, and resilience are a hierarchy of terms that each build upon the other. The first term, Resource Adequacy, means having enough generation supply to meet consumers' energy demand. Resource Adequacy provides the basis for Reliability.

Reliability refers to the strategic planning process used to calculate future demand and adopt best practices to ensure that investment is made in the infrastructure required to meet this need. You cannot have reliability without Resource Adequacy.

Resilience refers to a higher order of reliability planning to ensure that our energy infrastructure is sufficiently robust to respond to outlier events like cyberattacks, extreme weather events, or sudden changes in fuel availability. Said differently, resiliency is nested within reliability and describes the ability of the Bulk Electric System (BES) to absorb and respond to high impact, low probability events.

The North American Electric Corporation (NERC) defines Resource Adequacy as the ability of electric supply resources to meet electric demand across multiple time horizons.[22] The standard for Resource Adequacy in the Midcontinent ISO (MISO) market is a 1-in-10 Loss of Load Expectation (LOLE). The 1-in-10 LOLE standard required by MISO means that planning reserves are "high enough that involuntary load shedding due to inadequate supply would occur only once in ten years."[23] A capacity shortage means that there are insufficient supply resources in a constrained or unconstrained area to meet demand on a 1-in-10 basis.

Project—a California Energy Systems for the 21st Century (CES-21) Project, January 6, 2016, available at http://www.astrape.com/?ddownload=6826; Astrape, PNM Preliminary Reliability Analysis, April 18, 2017, available at https://www.pnm.com/documents/396023/3306887/04182017-irp-mtg-reliability/66b6bdc0-d9d4-4f72-b1dc-076d8c5c74c2

[22] See, NERC Glossary of Terms at 48.

[23] *See also*, The Brattle Group & Astrape Consulting, *Resource Adequacy Requirements: Reliability and Economic Implications*, prepared for the Federal Energy Regulatory Comm'n at iii (September 2013). The 1-in-10 LOLE

Sierra Club Response: Reliability is defined by the National Electricity Reliability Corporation ("NERC"), which the Federal Energy Regulatory Commission ("FERC") has authorized to develop and enforce reliability standards (among other responsibilities), as consisting of at least two distinct attributes: resource adequacy, and resilience against large and small grid fluctuations. In combining these two distinct attributes, the term attempts to encompass electricity grid ("grid") operators' ability to provide and maintain electricity over their service areas without interruption.

Resource adequacy refers to the presence (or absence) of sufficient electricity supply (including "negawatts" from efficiency and demand response) to meet the anticipated peak electricity demand in the course of a typical day. It ultimately is measured as a bulk amount of power capacity, and the ability of that capacity to predictably produce electricity when needed.

Resiliency (or resilience) refers to the ability of the grid to respond to fluctuations. As an attribute, it is sometimes separated into voltage and frequency stability, and resilience against larger system shocks. Voltage stability, as the name suggests, refers to the consistency of voltage over time and across a grid over time; in practice it mostly comes down to the grid's ability to balance "real" power (the usable power on the grid) with "reactive" power (the unusable power on the grid, also called phantom power). Similarly, frequency stability examines the maintenance of standard frequency across the grid over various time frames (in the United States, this is 60 Hertz, or power cycles/second). Finally, resilience against system shocks refers to the grid's ability to maintain power for users by responding to major events that might destabilize the power grid.

B. What entities currently address resource adequacy, how do they do so, and how sufficient are such current measures?

[Examples of issues under this question include: Does MISO's capacity construct ensure resource adequacy and, if so, how? What are ICC's reserve margin setting rights under MISO's Module E tariff? Does the Illinois Power Agency assure resource adequacy in Zone 4? Does MISO's system support resource designation process relate to or shed light on resource adequacy and, if so, how?]

AARP Response: The state of Illinois (including the ICC) should not cede its authority to anyone including RTOs. The are many entities involved with this issue including NERC, the RTOs, the IPA, etc. The legislature set up the current system and they should be involved in any change. The focus should always be on the cost to consumers and preserving reliability.

AG Response: Numerous federal, regional, and state entities are involved in evaluating resource adequacy issues: FERC, the National Electric Reliability Corporation ("NERC"), MISO, the ICC, and the Illinois Power Agency ("IPA") each have a role. FERC approves and enforces standards for the bulk electric system that are developed by NERC. Industry participants accordingly direct sufficient revenue to the development of generation resources to meet such

standard is a widely used metric to evaluate resource adequacy. It is used to evaluate resource adequacy in every RTO and ISO, in both constrained and unconstrained portions of those footprints.

standards, or face stiff fines. Industry participants respond to standards, market rules, and market prices and signals and choose to participate in, enter, or exit the generation supply markets governed by FERC and administered by the RTO.

MISO is subject to FERC jurisdiction, too, and addresses resource adequacy in several ways. For example, it runs a capacity market, called the Planning Reserve Auction ("PRA"), that includes the Planning Reserve Margin Requirement that requires that 16% more megawatts be available over the expected peak. MISO also has two working groups that address resource adequacy: The "Loss of Load Expectation Working Group" and the Resource Adequacy Subcommittee. MISO's tariff must be approved by FERC to have legal force and be implemented in MISO's markets, which are designed to provide revenues sufficient to incent generator behavior to meet resource adequacy requirements, whether that occurs through using existing or building new power plants, improving transmission across the MISO area, or otherwise achieving the necessary amount of power available within MISO from existing plants.

In the event that MISO identifies a region that may face a shortage of electric power due to retirement or unavailability, MISO also has the ability to designate a generation asset as a System Support Resource ("SSR") (one that is needed for reliability and therefore cannot retire) with which it may enter into an agreement to fully cover the costs of continued operations, including a return on investment (with FERC approval per agreement).[24] With the SSR mechanism, MISO has the ability to generally prevent reliability issues from coming into existence.

In Illinois, there is an additional set of processes to address the provision of electric energy to consumers. The ICC reviews and approves IPA plans to procure energy and capacity on behalf of Illinois' load-serving entities that provide electric energy to customers who do not buy electricity from an independent supplier. The IPA administers Illinois specific procurement processes that utilize market mechanisms to compensate generators for providing power to Illinois default customers. The ICC also has legal authority to regulate the load-serving entities within the state (such as ComEd and Ameren), who must file resource adequacy plans with MISO. Under MISO's Module E tariff, the ICC may set its own resource adequacy target for the load-serving entities under its jurisdiction as the "Relevant Electric Regulatory Authority" in Illinois, per MISO definitions. The ICC may set a resource adequacy target above or below what MISO would have otherwise required for Zone 4. In sum, the number of expert entities with authority to take action to address resource adequacy issues, alone or in concert, assures that sufficient resources will be available in Zone 4.

Ameren Illinois Response: Illinois is a retail choice state where utilities are responsible for delivering power to customers, while generators are responsible for selling power through the

[24] MISO DOE NOPR Comments at 13-14. A coal-fired unit at Dynegy's Edwards plant was designated an SSR as described by MISO's MTEP15 report: "Edwards 1 (103 MW) – The Edwards Unit 1 requested to retire on December 31, 2012, and was identified as an SSR unit until transmission improvements are completed in December 2016. The SSR Agreement has been in place since January 1, 2013, and was renewed for an additional term of January 1, 2015, to December 31, 2015. It will be re-evaluated for an additional 2016 term." http://www.misomtep.org/generation-retirements-suspensions-mtep15/

wholesale markets (MISO and/or the bilateral markets). In states where utilities own generation, the state Commission typically requires utilities to submit a resource plan, which identifies the planned mix of electric resources necessary to meet future load. This typically includes a mix of generation resources, as well as energy efficiency and demand response resources. In Illinois, no single entity is solely responsible for resource adequacy, although several entities including MISO, ICC and IPA have some influence on resource adequacy. Instead, Illinois relies primarily on market forces, and in some cases legislative policy, to incent developers to pursue new generation, energy efficiency and demand response to satisfy resource adequacy.

American Petroleum Institute Response: In the electricity sector, natural gas-fired generation plays a critical role in providing cleaner power as well as grid support to new, innovative and complementary energy technologies. System reliability should be interpreted in a results-oriented framework—grid operators and regulators should focus on continued, affordable, reliable delivery of energy to customers that is a direct result of different generating attributes. Reliability does not necessarily come from a diverse portfolio of fuels, but rather from a diverse array of engineering attributes. The focus on attributes, rather than fuel type or favored technology, is increasingly important as Illinois works to integrate more innovative power sources into its portfolio.

Natural gas generation offers a variety of reliability attributes that support the modernization of the electric grid. A 2017 report by the Brattle Group identified the necessary attributes of power generation and then outlined how well different technologies can provide these services.[25] As the figure below shows, natural gas generating units are advantaged in providing the entirety of reliability attributes;

Reliability Attributes and Technology[26]

[25] Brattle Group, "Diversity of Reliability Attributes—A Key Component of the Modern Grid." (Two page fact sheet about the study's findings— prepared by the American Petroleum Institute). 2017, http://www.api.org/~/media/Files/Policy/Natural-Gas-Solutions/Keys-to-Ensuring-Grid-Reliability.pdf

[26] Source: Diversity of Reliability Attributes, A Key Component of the Modern Grid, The Brattle Group

	Natural Gas - CC/CT/RICE/ Aeroderivate	Coal	Nuclear	Wind	Solar	Pondage Hydro	Run of River Hydro	Demand Response	Storage
Generation	●	●	●	●	●	●	●	N/A	N/A
Dispatchability	●	●	◍	○	○	●	○	●	●
Security of Fuel Supply	●	●	●	○	◍	●	◍	◍	◍
Start Times	●	○	○	N/A	N/A	●	N/A	●	●
Ramp Rates	●	◍	○	N/A	N/A	●	N/A	●	●
Inertia	●	●	●	◍	○	●	●	○	○
Frequency Response	●	◍	○	○	○	●	○	○	●
Reactive Power	●	●	●	◍	◍	●	◍	N/A	N/A
Minimum Load Level	●	◍	○	N/A	N/A	●	N/A	●	●
Black Start Capability	●	N/A	N/A	○	○	●	●	N/A	◍
Storage Capability	N/A	N/A	N/A	N/A	N/A	◍	N/A	N/A	●
Proximity to Load	●	◍	◍	◍	●	○	○	●	●

● Relatively Advantaged
◍ Neutral
○ Relatively Disadvantaged

Attribute	Description
Generation capability	No attribute is more fundamental to system requirements than the ability to generate electrical energy.
Dispatchability	Dispatchable resources have the ability to change their output or consumption levels in response to an order by the system operator. While virtually all resources are dispatchable to some degree, some have greater capabilities than other and shorter required lead times.
Security of fuel supply	Security of fuel supply measures the dependability of a resource's energy inputs, or fuel.

Start times and ramp rates	Closely related to dispatchability, start times and ramp rates determine the speed at which resources can respond to system operators' orders to increase and decrease electricity delivered to the grid.
Inertia and frequency response capability	Inertia and frequency response are attributes of resources that help the system meet the requirement to maintain frequency stability.
Reactive power capability	The ability to provide reactive power is an attribute necessary for meeting the system's requirement to maintain voltage within certain limits to prevent generator operation malfunctions or, in the worst case, cascading blackouts.
Minimum load level	A resource's minimum load level describes the lowest level of electrical output the resource can continuously send to the grid.
Black start capability	Black start capability is the ability of a power plant to restart without relying on the transmission network to deliver power.
Storage capability	Resources with the attribute of storing electricity help the system meet multiple requirements including meeting bulk demand, following load or net load, and maintaining frequency stability, but not all resources with the ability to store electricity contribute to meeting all of the requirements.
Proximity to load	The ability to site resources close to load is an attribute that helps the system meet bulk demand and maintain voltages. Resources that are close to load that also have the ability to generate reduce transmission losses and transmission congestion.

In addition to being a fuel that powers generation that supports network reliability and resilience goals, natural gas supplies the power for innovative, clean, and resilient technologies deployed at the local level or behind the customer meter. Power generation technologies such as fuel cells and combined heat and power (CHP) provide the dependable electricity for micro-grids and customers requiring a high degree of reliability and power quality, seeking greater efficiency and cost reductions, or desiring to ride through extended outages. Natural gas generation is also uniquely capable of quickly ramping up and down output to match the changing energy needs throughout the day, allowing for more renewable energy integration.

CUB Response: MISO, utilities, and the Illinois Power Agency each have a role in ensuring resource adequacy in Zone 4. MISO forecasts peak load and sets the reserve margin, thereby establishing each utility's unforced capacity requirement. Utilities fulfill their capacity obligations via the MISO-administered capacity construct (the planning resource auction, or "PRA"), fixed resource adequacy plan ("FRAP") submissions, zonal resource credits ("ZRC"), and self-supply. As Illinois Industrial Energy Consumers cited in their pre-workshop comments and CUB reiterated in our post-workshop comments, the PRA accounted for 14.7 percent of the total Zone 4 capacity requirement in the 2017/2018 auction year. The remaining over 85 percent was acquired outside of the PRA.

The system currently in place is working and has successfully provided for resource adequacy for 20 years. Since MISO adopted competitive retail markets in 1997, there has not been a resource adequacy problem in Zone 4. This success is evident in Zone 4 having satisfied MISO's target reserve margin year after year. Pursuant to NERC standards, MISO's resource adequacy criteria require that the calculated loss of load expectation ("LOLE") be less than one day per ten years. To meet this stringent reliability standard, system operators must expect less than one day per ten years for which peak demand exceeds available capacity.

Zone 4 has exceeded the one-in-ten standard every year for twenty years. The system has not once failed to serve peak demand in this time. It would be unreasonable for NERC to impose a zero-in-twenty standard, yet Zone 4 has had zero loss of load events in twenty years. This long record of success underscores that the burden is on those who suppose Zone 4 has a resource adequacy problem, and the available data suggests the opposite. There is no reason to conclude Zone 4's decades-long streak of serving peak load is at risk.

The current resource adequacy regulatory regime is working and is projected to continue to ensure resource adequacy with room to spare moving forward. As CUB's pre-workshop comments illustrated, load is flat, capacity growth is on pace to exceed target planning reserve margins through at least 2022, and implementation of the Future Energy Jobs Act ("FEJA") will further bolster resource adequacy in the coming years.

Further, even should the most pessimistic forecasts of available capacity prove too bullish, MISO provides a backstop through its System Support Resources ("SSR") policy. Retirements and suspensions are planned in advance and require MISO approval. If MISO finds the exit may threaten reliability, MISO and stakeholders seek out potential alternatives. If a feasible alternative exists, the alternative is adopted and exit is approved. If not, MISO enters into an SSR agreement with the resource, under which the resource runs and is compensated accordingly.

Dynegy Response: MISO addresses resource adequacy through load and capacity forecasts, establishment of the PRM, and tariffed capacity requirements for LSEs. LSEs provide load forecasts to MISO. In 14 of the 15 MISO states, the LSEs are almost entirely regulated, vertically-integrated utilities, or municipal utilities and cooperatives, all of which typically serve defined service territories with captive customer bases. Only in Zone 4 and a portion of Michigan are consumers served by competitive electricity suppliers. On a MISO-wide basis,

approximately 99% of LSEs provide load forecasts to MISO for its annual survey reports (the Organization of MISO States (OMS)/MISO Surveys) on resource adequacy.

MISO obtains projections of available capacity from capacity suppliers. Capacity is identified as "High Certainty" and "Low Certainty" or "Potential Capacity." Firm Imports into, and Firm Exports from, MISO and all of MISO's local resource zones are included in the Surveys.

The MISO PRM is intended to provide for sufficient additional generating capacity above projected peak demand to cover load forecasting errors, transmission contingency events, and generator forced outages. MISO has determined that the PRM should be increased from 15.8% to 17.1% effective June 1, 2018.

MISO's FERC tariff requires each LSE to demonstrate annually that it has secured sufficient generating capacity for the upcoming planning year (June 1 to May 31) equal to at least the LSE's projected peak load plus the PRM. (LSEs in Zone 4 are Ameren Illinois (AIC), Alternative Retail Electric Suppliers (ARES), municipal utilities, and electric cooperatives.) Currently, each LSE in Zone 4 is responsible to secure the required amount of generating capacity, through a combination of self-supply, bilateral contracts with capacity suppliers, acquisition of capacity through the annual MISO Planning Resource Auction (PRA), or other means.

Does MISO's capacity construct ensure resource adequacy, and, if so, how?

MISO's current capacity construct **does not** ensure resource adequacy in Downstate Illinois; rather, it is **threatening** resource adequacy. Both MISO and its Independent Market Monitor have expressed concern about a potential resource adequacy shortfall in MISO Zone 4 (central and southern Illinois) due to possible retirements of generating units in Zone 4 or the sale of Zone 4 generating capacity into other markets. These retirements or commitments to other markets would be driven by flaws in the MISO capacity market construct which have resulted in capacity prices in Zone 4 that are insufficient to support existing generating capacity or to provide incentives for investment in new generation. MISO's load and generating capacity projections for 2018-19 through 2022-23 show available capacity for Zone 4 in excess of forecasted load plus PRM. However, **these projections assume that no additional generating capacity presently counted by MISO as available capacity is retired or sold to other markets**. The retirement, or commitment outside of MISO, of existing generating units presently counted as available to serve Zone 4 load could result in available capacity falling below customer peak load plus reserve requirement for Zone 4, or even below the projected customer peak load (*see* table in Dynegy's response to Section II.C).

The continued operation of Dynegy's generating units and other generators in Downstate Illinois is threatened by the flawed capacity market construct, and resultant low prices, for capacity in MISO Zone 4. The principal flaws are two-fold. First, the MISO PRA procures capacity only for the upcoming planning year, about two months before the start of the year, and thus produces only short-term price signals, not a long-term price signal that would sustain existing investment and promote new investment. The PRA does not require capacity suppliers to commit to serve load in Downstate Illinois over a longer future period. Second, participation

in the PRA is voluntary for LSEs; it is a residual auction, in which only about 15%-20% of the total capacity requirement for Downstate Illinois is procured. The PRA is not a deep market, and does not produce capacity prices reflective of the marginal value of reliability. The MISO PRA construct allows regulated, vertically-integrated utilities in other states, which recover their costs through regulated rates charged to captive customers, to bid any short-term excess capacity into the Zone 4 market at low (even zero) prices, without having to commit to serve customers in Downstate Illinois over a longer term into the future (when the utility might need its generation to serve its own service area customers). The MISO PRA's flawed structure has produced capacity prices in Zone 4 ranging from $150/MW-Day to $72/MW-Day to a low of $1.50/MW-Day over the past several years. These prices contrast with capacity prices of $215, $202 and $153/MW-Day during the same period in the northern Illinois capacity market, which is within the PJM Regional Transmission Organization (RTO). The PJM capacity market construct procures capacity commitments three years in advance, not two months in advance, and requires all LSEs to participate, thereby creating a deeper capacity market and generating price signals indicative of longer-term resource adequacy needs, while requiring capacity suppliers to commit to serve load on a long-term basis.[27]

What are the ICC's reserve margin setting rights under MISO's Module E tariff?

Under MISO's Module E-1 Tariff, a state commission is authorized to establish a reserve margin requirement for its regulated load different than MISO's requirement, but the ICC has not exercised this authority.

Does MISO's system support resource designation relate to or shed light on resource adequacy and, if so, how?

The System Support Resource (SSR) provision of MISO's Tariff is implemented when a capacity supplier plans to retire a generating unit and MISO determines the unit needs to remain in operation to prevent overloading or thermal violations, or provide voltage support, on the local transmission system. MISO can require that the unit remain in service under a cost-based contract that is paid for by consumers in the area that requires the transmission support, until another, cost-effective solution is implemented. SSR determinations are based solely on local transmission reliability; "resource adequacy" is not considered. SSR contracts can be expensive. Dynegy's Edwards Unit 1 operated under an SSR contract in 2013-2015 and received capacity payments of $213, $338 and $153/MW-Day for the three years.

Environmental Law & Policy Center Response: Both the Organization of MISO States survey and the NERC 2017 Long-Term Reliability Assessment anticipate sufficient or even excess capacity for the foreseeable future. We believe that these studies if anything underestimate the capacity sufficiency. The Future Energy Jobs Act and broader changes in the electric market

[27] As another comparison, analysis of rates charged by vertically-integrated regulated utilities in other Midwest states indicates embedded capacity costs in those rates equivalent to $200 to $300/MW-Day or more.

(e.g., declining costs of distributed generation, storage, and energy efficiency) will further reduce the need for traditional capacity products.

While MISO's system support resource designation is used for immediate reliability needs rather than resource adequacy, it contributes to resource adequacy by maintaining a functioning transmission system. A functioning transmission system is necessary to effectively deliver replacement capacity for the purposes of resource adequacy. SSR designations also send market signals to the resource adequacy markets (e.g., the Planning Reserve Action, the bilateral markets, etc.) by alerting the markets of the need for new generation. As explained below, under MISO's current retirement process, the market does not have any information on whether or not a capacity resource is going to retire until the day it retires or unless it is needed as a system support resource.

Exelon Response: Although the lights have remained on in homes across the region and businesses have continued operation, MISO's current capacity construct is failing to ensure resource adequacy over the long-term. As we have previously stated, Central/Southern Illinois is unique in that it is the only MISO region that has fully restructured. This means that Central/Southern Illinois relies on the competitive wholesale and retail markets to ensure resource adequacy, while other states within MISO have vertically integrated monopolies that rely on state-mandated revenue and planning to ensure resource adequacy. It is not the Illinois Power Agency's role to assure resource adequacy in Illinois or, more specifically, MISO Zone 4. The existing MISO capacity construct is designed to facilitate short-term bilateral sales by load serving entities (LSEs) within MISO that need capacity to satisfy their obligations for the immediate planning year. The current design lacks an adequate, long-term market price signal that is necessary to incent the retention of existing generation and attract new generation when needed, to promote resource adequacy for customers in Central/Southern Illinois. It is well established that the revenues from the energy and capacity markets are insufficient to cover the costs of merchant generation in the region. MISO itself acknowledges that areas like Southern/Central Illinois do not currently have a mechanism to address long-term resource adequacy.

For residents and businesses in Southern/Central Illinois, relying on a planning reserve auction (PRA) to ensure resource adequacy only in the prompt planning year has resulted in volatility and rate shock. This can be most clearly demonstrated by looking at the results of the Auction Clearing Price (ACP) in the PRA over the past four years. The ACP for the 2017/18 PRA was 1.50/MW-day, versus the 2016/17 ACP of $72/MW-day. These results were of course in stark contrast to the 2015/16 ACP for Zone 4 of $150/ MW-day, as compared to the 2014/15 ACP of $16.76/MW-day.

The current capacity construct in MISO has also led to generators within MISO exporting into the PJM footprint. In PJM's capacity auction for delivery year 2017/18, 4,526 MW cleared from external zones, the vast majority of which was from MISO. Delivery years beyond 2017/18 continue to show between approximately 3,800 MW and 4,600 MW of cleared imports into PJM, again, mostly from MISO. The willingness of resources to export to PJM demonstrates the

need to explore ways to improve MISO's capacity pricing and address the lack of a long-term price signal.

Murray/Foresight Energy Response: While MISO's process may work for other states, the process does not properly account for the factor that Illinois is a deregulated state. Illinois is the only deregulated state within MISO, which makes Illinois not only unique, but also very vulnerable. The current market rules are driving coal and nuclear facilities into premature retirement. This indicates that the market rules have a problem that needs addressing. The Illinois General Assembly and the Illinois Commerce Commission has the opportunity to address this issue for Illinois at the request of MISO.

In our deregulated state, MISO offers only a distorted short-term market, which provides low market prices, and thus does not allow for long-term operating or long-term capital decisions for the baseload facilities. This distorted market in our deregulated state thus leans more towards eroding reliability, resiliency, and long-term power supply for Illinois consumers, which will result in increased long-term electricity prices when baseload plants shut down. The current market structure tilts the playing field heavily towards short-term optimization and fails to compensate in any way for any long-term focus or capital investments at Illinois' facilities. This rigid focus on short-term marginal costs gives generation owners an incentive to focus only on maximizing short-term operating margins, if any, and not on maximizing operating efficiency over a much longer period nor investing to build new baseload generation. If FERC, MISO, and or Illinois do not rectify this problem, it is plausible that Illinois could lose 25% or more of its baseload generation over the next decade. Such a closure of plants will lead to additional employment and economic loss to Illinois and will further increase vulnerability of electricity price spikes and ultimate system reliability and resilience. The loss of baseload units will make electricity price spikes significantly more likely as the ability to switch from gas-to-coal during periods of high system stress, will not be available.

As a result of the latest northeastern weather event, natural gas units were called upon due to the U.S. loss of baseload generating units. Bloomberg News reported "U.S. natural gas inventories may drop to a four-year low by winter's end which is 23 percent below the 5-year average for the end of March. Gas futures, meanwhile, surged 13 percent to a 13-month high With baseload electricity unavailable, the 15 days between Christmas and January 9th, power generators in Massachusetts burned about two million barrels of oil, which is more than twice the amount of oil they burned during all of 2016. Energy and Environment Secretary Matthew Beaton stated, "We can't ignore this and I think this has to be part of an honest conversation of how we look at the challenges facing our system." Federal Energy Regulatory Commission Chairman Kevin McIntyre stated "Record-setting natural gas price spikes" also contributed to higher-than-usual wholesale energy prices. Day-ahead energy prices between Dec. 28 and Jan. 7 averaged $177 per megawatt hour (MWh) with a maximum price of $320 MWh at ISO-NE's internal hub.

Baseload generation is essential to achieve the core responsibilities of the FERC and Illinois. FERC has recognized in a number of other instances that, to the extent use of cost of service

recovery or other incentives are required to achieve these objectives, these mechanisms should be allowed. If this mechanism could be changed to provide predictable revenues for an extended period of time, Illinois coal-fired generating units could install new scrubbers and emission control equipment to continue operation. Illinois recognized this problem for baseload nuclear units and rectified the situation, at least for the next decade with the passage of the Future Jobs Energy Act of 2016.

Illinois Industrial Energy Consumers Response: MISO has resource adequacy provisions contained within its Federal Energy Regulatory Commission (FERC)-approved Tariff. Using the traditional one day in ten year loss of load expectation objective, MISO establishes: (i) a total capacity obligation for the MISO market footprint known as the Planning Reserve Margin Requirement (PRMR) and (ii) a local capacity requirement for each MISO Zone known as the Local Clearing Requirement (LCR). MISO then assigns to each Load Serving Entity (LSE) (i.e., electric utility or Alternative Retail Electric Supplier (ARES)) a share of the total MISO PRMR based on the forecasted demand of the LSE's load at the time of the MISO's annual peak electrical demand.

Each LSE is required by the end of March to acquire sufficient capacity to cover its assigned share of the total MISO PRMR for the coming June to May MISO Planning Year. LSEs can do so by self-supplying that capacity, bilaterally purchasing capacity from other market participants or purchasing it in MISO's voluntary Planning Resource Auction (PRA). LSEs that self-supply their capacity or purchase it bilaterally have the option to either self-schedule that capacity into the PRA or to opt out of the PRA entirely by submitting a Fixed Resource Adequacy Plan (FRAP).[28] If an LSE elects to use a FRAP, a portion of its total capacity submission equal to its load ratio share of the LCR for its MISO Zone must be from that MISO Zone.

In early April of each year, MISO conducts its PRA for the coming Planning Year. After applying the self-schedules and FRAPs that it received, MISO in the PRA acquires sufficient capacity to meet both the total MISO PRMR and the LCR for each MISO Zone. Due to the LCR constraint in the PRA, MISO may in some MISO zones acquire capacity at a higher price than in others. This is due to the transmission constraints that are reflected in the LCR values. When this happens, the resulting PRA prices will be different from zone to zone. LSEs using self-scheduling or a FRAP must pay a Zonal Delivery Charge to MISO for any price separation that occurs between the location of their capacity and the location of their load. The risk of this price separation disciplines LSEs such that they take into consideration the location of any capacity they are self-supplying or purchasing bilaterally.

[28] Under a self-schedule, the Load Serving Entity (LSE) offers its capacity into the MISO Planning Resource Auction (PRA) at an offer price of zero to cover all or a portion of that LSE's assigned share of MISO's Planning Reserve Margin Requirement (PRMR). By being offered at a price of zero, the self-scheduled offer is guaranteed to clear in the MISO PRA along with the portion of the LSE's PRMR that is being covered by that self-scheduled offer. Under a Fixed Resource Adequacy Plan (FRAP), the LSE submits capacity to MISO to cover all or a portion of that LSE's assigned share of MISO's PRMR. Both capacity submitted in the FRAP and the portion of the LSE's PRMR that is covered by that capacity submission are excluded from the MISO PRA.

MISO's resource adequacy provisions have successfully provided resource adequacy within MISO Zone 4. During the past 15 years, the area covered by MISO Zone 4 has never been subject to a loss of load event due to insufficient resources. Moreover, the evidence shows that electric utilities and ARES do not rely heavily on acquiring their capacity from the MISO PRA. For example, MISO's 2017/2018 PRA results show that over 85% of the capacity resources used for MISO Zone 4 were either self-supplied or bilaterally purchased prior to MISO conducting its PRA.[29] Only 15% of the capacity resources were purchased from the PRA.

MISO Response: Illinois operates in a restructured regulatory environment. Generation investment decisions are not typically guided by regulated rates of return from a regulatory body, but instead rely on market forces to ensure long-term resource adequacy. This is distinct from a more traditionally-regulated construct, where state regulators maintain resource planning authority and are responsible for establishing retail rates. While the ICC and IPA have roles in facilitating resource adequacy, merchant generation resources are not tied to an incumbent load and are not required to undertake any long-term obligation to serve Illinois customer load in the future.

On an annual basis, the Organization of MISO States ("OMS") and MISO partner to provide a snapshot in time of the MISO region's resource adequacy position over the next 5 years in the form of the OMS MISO Survey ("Survey"). The Survey reflects a compilation of a request sent to load and generators throughout the region; MISO compiles their responses with information from other portions of the MISO resource adequacy process to provide a summary. This summary provides information on the resources balances for the MISO region as a whole, along with showing individual areas within MISO which may have to import generation to meet their resource needs.

Further, MISO establishes reliability standards to ensure that sufficient capacity is available to meet regional and local energy needs, based on a Loss of Load Expectation ("LOLE") of no more than one day equivalent for every ten years ("1-in-10 LOLE"). The LOLE analysis is used to determine each LSE's Planning Reserve Margin Requirements ("PRMR"), which indicates to the LSE how much capacity (in megawatts) it is required to procure. LSEs, including Alternative Energy Suppliers, then have a variety of options to meet their PRMR, including through the MISO Planning Resource Auction ("PRA").

These tools that MISO provides are able to complement and support state-based resource adequacy mechanisms. MISO's resource adequacy construct provides significant flexibility for the State of Illinois to create a long-term resource adequacy process designed around its own policy and reliability needs. MISO's resource adequacy construct is then able to support such a state-based mechanism, and incorporate it into MISO's markets-based resource adequacy construct.

[29] 8,435 MW of the 9,894 MW of total capacity resource required for MISO Zone 4 came from capacity resources located within MISO Zone 4 that were either self-scheduled into the PRA or used in a FRAP. See 2017/2018 Planning Resource Auction Results, Resource Adequacy Subcommittee, May 10, 2017. (https://www.misoenergy.org/_layouts/MISO/ECM/Redirect.aspx?ID=249648), at Slide 5.

MISO believes that there is a need for the State of Illinois to establish a long-term resource adequacy mechanism. While the short-term resource adequacy outlook is positive for Illinois, careful and deliberate planning is necessary for Illinois to safeguard against future risks (see additional information in Question IIA regarding this risk). MISO believes that the State of Illinois should continue to evaluate and consider potential long-term, state-based, resource adequacy solutions.

Natural Resources Defense Council Response: Considering that Zone 4 has easily met its Planning Reserve Margin Requirement (PRMR) for the past 20 years, the measures in place to ensure resource adequacy are clearly enough and functional. Moreover, the 2017 OMS-MISO survey shows that there is sufficient capacity to meet Zone 4's PRMR through at least 2022. To quote Ameren Illinois – "[T]here are sufficient resources in the market today and sufficient resources are forecasted to be available in the market in the next 3-5 years."[30]

Thus, any initiative -including SB2250/HB4141- attempting to overhaul a functioning market under the guise of a supposed resource adequacy threat is flawed and targets a problem that does not exist.

MISO's system support resource (SSR) designation process does not relate to resource adequacy. SSR contracts are employed to meet grid reliability needs, not reserve margin requirements, and MISO already safeguards against the retirement of must-run resources under its existing SSR policy.[31] If a planned plant closure triggers a reliability issue such as a voltage drop or reactive power deficit, an SSR might be necessary to keep the plant on line while MISO's transmission owner members construct or upgrade transmission lines or make other improvements to solve the issue. However, SSRs are not intended to address resource adequacy just as the Planning Resource Auction (PRA) does not address system reliability. MISO instead relies on market forces and state action to make up any structural resource adequacy deficit. Thus, Dynegy's projection that MISO would be forced to enter into SSR contracts with the company to keep one or more of the retiring units in operation for resource adequacy purposes is untenable. The ICC should separate out and remove the reliability pieces from the discussion and focus solely on resource adequacy.

Rockland Capital Response: In southern Illinois, MISO Zone 4, MISO and MISO's Independent Market Monitor each assess Resource Adequacy but to date no entity has "addressed" Resource Adequacy. While MISO's tariff provides for it to ensure Resource Adequacy in its zones absent a state body that does so, it has been reluctant to do so and would rather rely on state solutions. In a current proceeding at the Federal Energy Regulatory Commission (FERC), MISO has pointed to the ICC workshops as evidence that its deregulated jurisdictions are taking action and that MISO's Resource Adequacy construct is meant to complement such state programs to ensure Resource Adequacy.[32]

---

[30] Ameren Illinois, Pre-Workshop Comments on Energy Resource Adequacy 1 (Nov. 30, 2017)
[31] CUB post-workshop comments page 6.
[32] See, Motion for Leave to Answer and Answer of Midcontinent Indep. Sys. Operator, Inc. at 7, FERC Docket ER18-462 (January 29, 2018).

As it stands, southern Illinois is a deregulated energy jurisdiction. As such, southern Illinois relies on wholesale market price signals, specifically those created by the MISO Planning Resource Auction (PRA) to attract sufficient investment to develop or retain resources. When there is a disconnect between capacity market prices and the marginal value of the reliability benefit provided by capacity resources, market prices send inefficient price signals that negatively impact Resource Adequacy.

In other MISO areas, the vertically integrated utility model prevails. In these jurisdictions, it is common for the state or state public service commission to work with incumbent utilities to develop and approve Integrated Resource Plans (IRP). These IRPs establish the development and retirement cycle of generation resources and ensure Resource Adequacy for the respective state's customers in the short- and long-run.

State regulatory bodies like the ICC have the authority to address Resource Adequacy through establishing a Planning Reserve Margin (PRM).[33] MISO also establishes a PRM for the entire footprint, which is a percentage value above the forecasted Coincident Peak Demand for capacity resources that is needed to meet Resource Adequacy requirements, satisfy the 1-in-10 LOLE standard, and account for transmission losses. Although the MISO Tariff allows for MISO to determine the PRM based on its study methods, MISO defers to state regulatory bodies to set a PRM that is higher or lower than that set by MISO, and to apply that PRM to Load Serving Entities under that state's jurisdiction.

On a related note, the MISO System Support Resource (SSR) designation and process is not directly related to capacity reliability or Resource Adequacy. Rather, the SSR process aids in the continued reliable operation of the transmission system in light of retiring generation. The SSR process cannot force a generation resource to remain online indefinitely, but is used to delay a unit's retirement while a transmission solution is developed. This means that MISO will lose the generation and capacity associated with the retiring unit, but will develop any needed transmission assets to ensure power can flow without violating transmission-specific operating criteria.

Sierra Club Response: The entity most directly responsible for ensuring resource adequacy in Southern Illinois is indisputably the Midcontinent Independent System Operator ("MISO"). MISO's primary tool for ensuring resource adequacy is its operation of the Planning Resource Auction ("PRA"), a capacity auction that secures sufficient capacity to address all regional needs one year out. In addition to the PRA, MISO helps to ensure resource adequacy by passing rules enabling its constituent utilities and system operators to contract independently for capacity (to the extent they want price guarantees), either directly through bilateral contracting, which

[33] MISO Tariff, Module E-1, Section 68A.1, Establishment of Planning Reserve Margins ("The Transmission Provider will determine a Planning Reserve Margin (PRM) using analytical study methods described in Section 68A.2, provided that if a state regulatory body establishes a PRM for its regulated entities that is higher or lower than the PRM determined by the Transmission Provider, then the state-established PRM will apply to the Coincident Peak Demand of LSEs under that state's jurisdiction.").

in turn often enable load-serving entities to disengage from the PRA and instead secure capacity through their own Fixed Resource Adequacy Plan ("FRAP").

In doing so, MISO also is regulated by FERC, whose job it is to ensure that regional grid operators (ISOs and Regional Transmission Organizations ("RTOs")) like MISO are appropriately regulating energy and capacity markets to achieve federal reliability standards (MISO aims for a 1-in-10-year standard), at the most affordable possible prices for consumers.

This system has worked well since its inception in the early 2000s, and MISO has procured sufficient power to ensure resource adequacy in each of its 10 regions through the PRA even as the energy mix in the region has been in constant flux. Furthermore, with the exception of the 2014-15 PRA, where prices surged to around $150 as a result of market conditions that FERC ruled were "unjust and unreasonable",[34] PRA clearing prices have remained under $100 per megawatt-hour. Going forward, and as a result, there is no reason to believe MISO's existing systems will not continue to ensure resource adequacy.

MISO has come to this Commission apparently indicating that it does not believe this system is enough to ensure resource adequacy in Zone 4. But it made substantially the same arguments just over one year ago: on November 1, 2016, following through on a process that began in March of 2016, MISO filed a proposed "Competitive Resource Solution" (the "CRS Proposal") at FERC, which would have bifurcated Zone 4's capacity markets to ensure certain recovery levels for Illinois-based capacity providers. In that proceeding, in which Sierra Club protested the CRS Proposal, MISO made many of the same arguments it is now making here, and failed to convince FERC that the problem was serious enough to warrant immediate action along the lines MISO had proposed.

FERC was not pressured to approve MISO's proposal because the proposal responded to a problem that does not yet exist, and may never exist. As explained in more detail below, MISO is wrong that any sort of fix is needed, because its interpretation of resource adequacy projections is overly conservative; it underestimates the ability of existing programs to prevent capacity shortfalls; and it ignores other tools MISO has available to respond to and address any potential shortfalls that may arise.

[34] *Available at* https://elibrary.ferc.gov/idmws/file_list.asp?accession_num= 20151231-3026.

II. Resource Adequacy Measurement

A. How much generation is currently available to meet Zone 4 resource adequacy requirements?

[Examples of issues under this question should include: How much generation is currently available and what are the market shares of such generation owners? What types of generation resources are available and in what proportions? What are the fuel sources of current generation and in what proportions? What are the ages and current conditions of current generation? What are the capacity factors of current plants? How do name plate and unforced capacity impact the ability of generation resources to meet Zone 4 resource adequacy needs? What generation is located within Illinois and what generation is outside Illinois and how does location impact availability or dependability?]

AARP Response: As we suggested in our initial comments at the first workshop, this is a question to be answered by an independent consultant which should be hired to do such an inquiry. The study should be for the entire state and should recognize downstate Illinois is well connected to other states (which also have a power surplus).

AG Response: ICC Staff issued a whitepaper on resource adequacy in MISO Zone 4 on November 1, 2017, ("ICC Whitepaper") noting that, "[c]urrently, Zone 4 has 57 utility-scale generating stations, with a combined nameplate capacity of over 16,000 MWs and summer capacity of over 14,000 MWs."[35] Recent MISO capacity local clearing requirement for Zone 4, however, have been less than 6,000 MWs, demonstrating that the Zone 4 resources are currently more than adequate. Id. Further, the 2017 OMS-MISO Survey ("OMS" stands for Organization of MISO States) showed that the Outlook for resource adequacy for 2018 for Zone 4 shows a surplus, and that regional surpluses, such as that in Zone 4, are sufficient to cover the two MISO regions showing a deficit.

Ameren Illinois Response: The best source of current data likely comes from the annual MISO OMS Survey and the planning parameters in advance of MISO's Planning Resource Auction. While the data may be a good proxy for current conditions, the data is dynamic over time, which makes it difficult to assess long-term generation availability. For this reason, Ameren Illinois has been an active stakeholder in multiple policy dialogs on this important topic and we have consistently stated our opinion that long-term resource adequacy within MISO Zone 4 will become a concern at some point. However, we also acknowledge that there appear to be sufficient resources in the market today and sufficient resources are forecast to be available in the market in the next 3-5 years. Thus, we would characterize the need for resource adequacy concern to be in the mid-term to long-term range (e.g., 3+ years).

[35] ICC Whitepaper, at 6.

Community Groups Response[36]: The evidence demonstrates that there is no resource adequacy problem in MISO Zone 4. MISO's own survey found that Zone 4 can expect a surplus of energy in every year examined (2018-2022). Their energy estimates include possible "capacity retirements" (e.g. coal plant closures), as well as "potential new capacity" (e.g. new wind and solar).

Dynegy Response: The OMS/MISO Survey, published July 2017, forecasts that for 2018, available generating resources will exceed forecasted load plus PRM by 700 MW to 1,600 MW. The 900 MW difference between the low and high ends of this range represents generating capacity that has been classified as "Low Certainty" or "Potential Resources." For example, Dynegy's Baldwin Unit 3, a 615 MW nameplate capacity unit, has been mothballed and is classified as "Low Certainty" in the 2017 OMS/MISO Survey. The 2017 OMS/MISO Survey shows "Total Committed Capacity" of 11.8 GW for 2018 to serve load in Zone 4, comprised of 12.6 GW of "High Certainty" resources, plus 1,200 MW of Firm Imports, less 2,000 MW of Firm Exports.

For 2022, the last year covered by the 2017 OMS/MISO Survey, the Survey projects capacity in excess of load plus PRM of 400 MW to 1,500 MW, based on 12.2 GW of Total Committed Capacity (12.5 GW of High Certainty resources, plus 1,200 MW of Firm Imports, less 1,500 MW of Firm Exports) and 1,100 MW of Potential/Low Certainty resources.

MISO's Potential Resources counts include 35% of the capacity of proposed projects that have entered the Definitive Planning Phase (DPP) of the MISO interconnection process. The assumption that 35% of capacity reaching the DPP will complete the interconnection process, be constructed, and placed into service is based on historical experience. Additionally, the OMS/MISO Survey adjusts nameplate capacity of existing and proposed intermittent generation (wind and solar) to reflect the amount of such capacity typically available at time of system peak (approximately 16% for wind and 50% for solar).

What types of generation resources and fuel types are available in MISO Zone 4?

The primary generation types within Zone 4 are: (1) coal-fueled, approximately 6,923 MW owned by Dynegy, Springfield, Southern Illinois Power Cooperative, and Prairie State Generating Company; (2) Clinton nuclear station, 1,098 MW; (3) natural-gas fueled, approximately 1,280 MW, primarily owned by Rockland Capital (1,100 MW) and Cogentrix; and (4) approximately 200 MW of renewable generation (various owners). The 6,923 MW of coal-fueled capacity includes 937 MW of Dynegy capacity that is pseudo-tied into PJM, but it does not include the 1,023 MW Joppa plant, which is not located in MISO (though it has historically served load in Zone 4). It also does not include Dynegy's Kincaid plant in Christian County, which is directly interconnected into PJM and does not serve load in MISO Zone 4, nor NRG's Powerton plant in Tazewell County, which is also directly interconnected to PJM. The

[36] The Community Groups consists of: Central Illinois Healthy Community Alliance, Eco-Justice Collaborative, Metro East Green Alliance, Prairie Rivers Network and Steelworkers Org. of Active Retirees and the SOAR Chapter 7-34-2

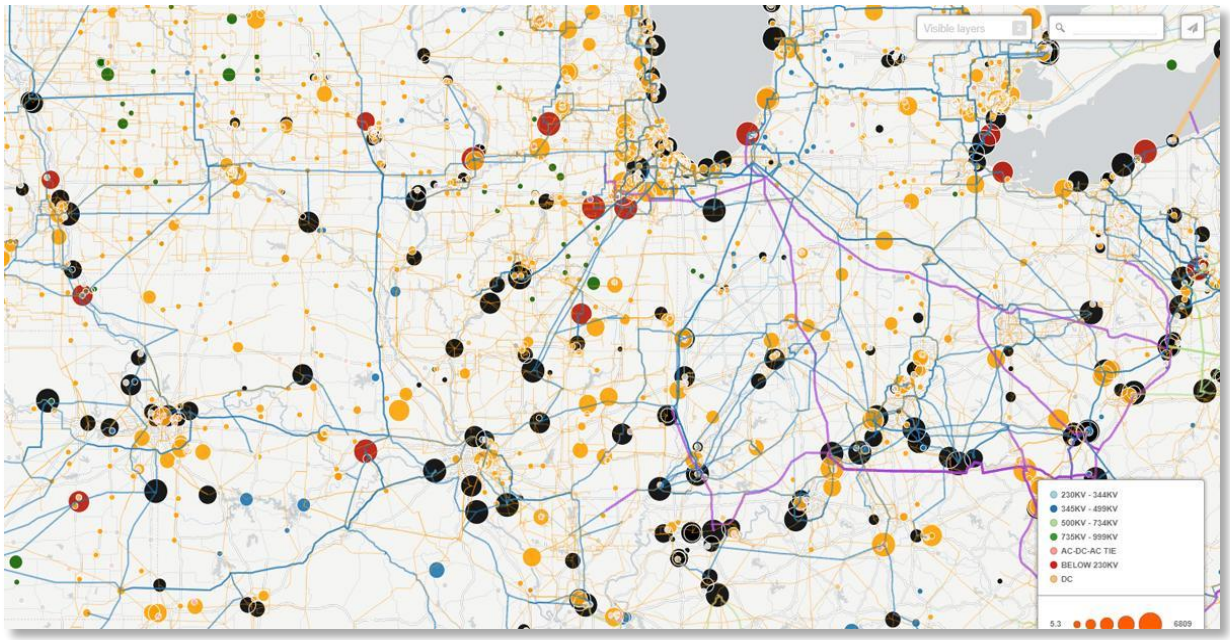
generating capacity count for Zone 4 also includes approximately 1,741 MW of peaking generators owned by Ameren Missouri physically located in Illinois that are pseudo-tied to MISO Zone 5 (Missouri) and committed to serving Ameren's regulated retail load in Missouri.

Excluding Kincaid and including Joppa, Dynegy owns 8 power stations totaling 5,476 MW capacity in Downstate Illinois:

Baldwin	1,185 MW
Coffeen	915 MW
Duck Creek	425 MW
Edwards	585 MW
Havana	434 MW
Hennepin	294 MW
Joppa	1,023 MW
Newton	615 MW

The Total Committed Capacity for Zone 4 and the surpluses of capacity over forecasted load plus PRM in 2018 and 2022 of 700 MW and 400 MW, respectively, shown in the 2017 OMS/MISO Survey, includes 4,539 MW of Dynegy capacity – the 5,476 MW listed above less the 937 MW pseudo-tied into PJM. Stated differently, 37% of the Total Committed Capacity for Zone 4 is Dynegy's capacity that is at risk of shutdown/retirement or sale to other markets due to the flawed capacity market construct and resulting insufficient capacity prices in Zone 4.

Environmental Defense Fund Response: Generation resources available to meet Zone 4 resource adequacy exceed the needs of Zone 4. Dynegy's coal fleet is far from the only available resource to meet Zone 4's needs. Additionally, Zone 4 enjoys substantial import capability. Below depicts currently-available resources in and surrounding Zone 4. This does



not include anticipated or prospective future resources, some of which is already in the interconnection queue.

The MISO OMS Survey and NERC 2017 Long-Term Reliability Assessment each identify surplus of resources by 2.7 GW to 4.8 GW above the regional requirement for 2018. The ICC acknowledged this surplus in its Whitepaper (at 10). This 16-22% surplus is significantly higher than the 15.8% planning reserve margin requirement of 15.8%.

Exelon Response: Exelon's Clinton Power Station is located in Zone 4 of MISO and has participated in MISO's PRA regularly. The nuclear generating facility is a single unit reactor that began providing power in 1987. The facility has a remaining useful life of 31 years (2046) and a net output of 1,078 MW. The facility serves more than one million homes and employs 717 personnel.

It should also be noted that imports are an important component of any capacity construct. However, they cannot be solely relied upon to ensure reliability in Zone 4. Regulated utilities in other states (outside of Zone 4) are not likely to build generation, assign the costs of that new build to their captive retail customers, and then use that generation to meet the future needs of Illinois' Zone 4. In addition, in the extreme example where only imports are used to meet the resource adequacy needs in Zone 4, this would lead to lost jobs and revenues in the state of Illinois as all the money paid to generators would shift to out of state, vertically owned utilities.

Illinois Industrial Energy Consumers Response: 10,618 MW of MISO Zone 4 Unforced Capacity (UCAP) was offered, self-scheduled or used in a Fixed Resource Adequacy Plan (FRAP) in the MISO 2017/2018 Planning Resource Auction (PRA).[37] This was 4,779 MW in excess of the Local Clearing Requirement (LCR) for MISO Zone 4 of 5,839 MW. Therefore, the capacity resources that currently are available are well in excess of those necessary to meet the local resource adequacy requirement in MISO Zone 4.

With respect to considering whether the Planning Reserve Margin Requirement (PRMR) for MISO Zone 4 is met, the proper measure is to evaluate whether the PRMR for the MISO North/Central subregion as a whole, excluding MISO Zone 1 (i.e., MISO Zones 2 through 7), is met, since the portion of Zone 4's PRMR that is in excess of its LCR can be met from capacity imported from Zones 2 through 7. The MISO market as a whole cannot be considered because there are transmission constraints that limit the amount of excess capacity that can be imported into Zones 2 through 7 from Zone 1 and from the MISO South subregion (Zones 8 through 10). For example, in the 2017/2018 Planning Year, imports of excess capacity from

[37] *See 2017/2018 Planning Resource Auction Results*, Resource Adequacy Subcommittee, May 10, 2017. (https://www.misoenergy.org/_layouts/MISO/ECM/Redirect.aspx?ID=249648) at Slide 5.

MISO Zone 1 were limited to 686 MW and imports of excess capacity from the MISO South were limited to 1,500 MW.[38]

In Zones 2 through 7 as a whole, 87,661 MW of Unforced Capacity (UCAP) was offered, self-scheduled or used in a FRAP in the MISO 2017/2018 PRA (including 686 MW of excess capacity that could be imported from Zone 1 and 1,500 MW of excess capacity that could be imported from the MISO South subregion).[39] This was 5,305 MW in excess of the total Planning Reserve Margin Requirement (PRMR) for Zones 2 through 7 of 82,356 MW.[40] Therefore, the capacity resources that currently are available are well in excess of what is necessary to meet the resource adequacy requirement of Zones 2 through 7 as a whole, in addition to the local resource adequacy requirement of Zone 4.

Dynegy currently has 5,476 MW of Installed Capacity in the Zone 4 market.[41] As of June 1, 2017, Dynegy was able to sell 1,437 MW of this Installed Capacity into PJM, of which it actually sold 1,044 MW to PJM for 2017/2018.[42] This left 4,432 MW of Dynegy Installed Capacity for the Zone 4 capacity market for 2017/2018. This is roughly the equivalent of 4,126 MW of UCAP.[43] Thus, Dynegy's affiliates own approximately 39% of all of the UCAP from MISO Zone 4 that was offered, self-scheduled or used in a FRAP in the MISO 2017/2018 PRA.[44] However, since MISO Zone 4 currently has a surplus of 4,779 MW over its LCR and MISO Zones 2 through 7 have a surplus of 5,305 over their combined PRMR, assuming no other changes, even if all 4,126 MW of Dynegy's remaining MISO Zone 4 capacity were shut down or sold to PJM, resource adequacy requirements would be met.

---

[38] *See 2017/2018 Planning Resource Auction Results*, Resource Adequacy Subcommittee, May 10, 2017. (https://www.misoenergy.org/_layouts/MISO/ECM/Redirect.aspx?ID=249648) at Slides 5 and 7.

[39] 686 MW from Zone 1 (limited by Capacity Export Limit); 15,149 MW from Zone 2; 11,009 MW from Zone 3; 10,618 MW from Zone 4; 7,950 from Zone 5; 18,718 MW from Zone ; 22,031 MW from Zone 7; and 1,500 MW from Zones 8 through 10 (limited by Sub-Regional Export Constraint);
See 2017/2018 Planning Resource Auction Results, Resource Adequacy Subcommittee, May 10, 2017 (https://www.misoenergy.org/_layouts/MISO/ECM/Redirect.aspx?ID=249648) at Slides 5 and 7.

[40] 13,366 MW for Zone 2; 9,781 MW for Zone 3; 9,894 MW for Zone 4; 8,598 MW for Zone 5; and 18,422 MW for Zone 6; 22,295 MW for Zone 7;
See 2017/2018 Planning Resource Auction Results, Resource Adequacy Subcommittee, May 10, 2017. (https://www.misoenergy.org/_layouts/MISO/ECM/Redirect.aspx?ID=249648) at Slide 5.

[41] *See* Third Quarter 2017 Review, Dynegy, November 1, 2017 (http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NjgzMjY3fENoaWxkSUQ9MzkyODgzfFR5cGU9MQ==&t=1) at Slide 18.

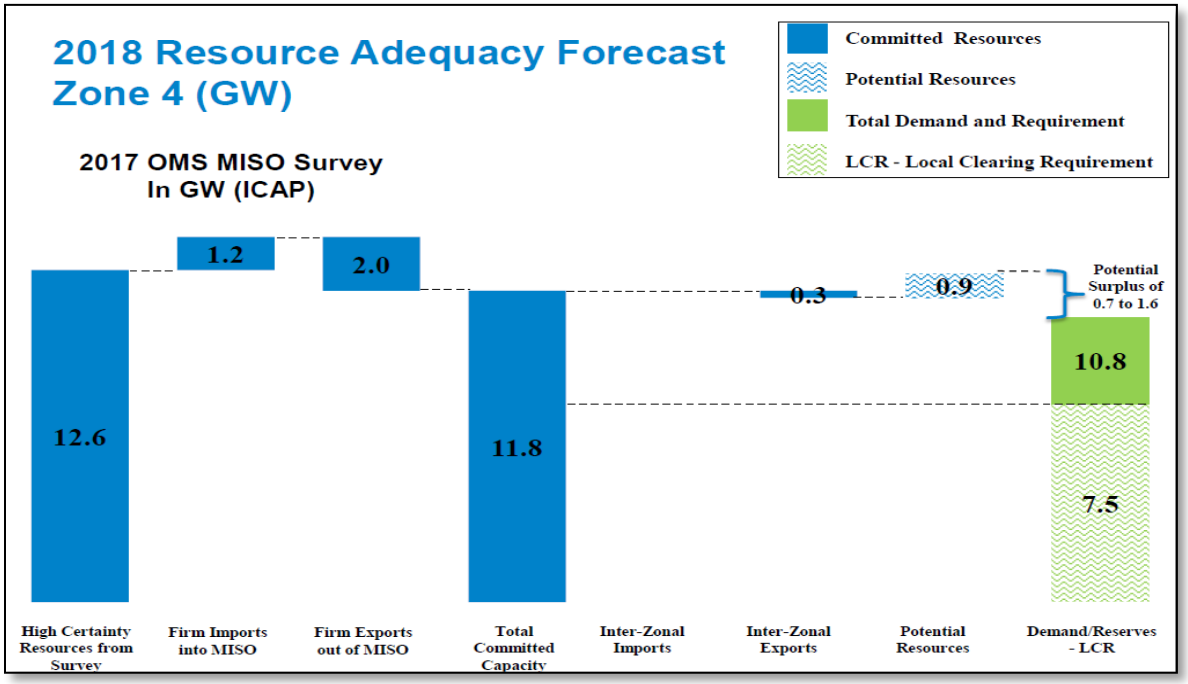
[42] The 1,437 MW consists of 151 MW at Coffeen, 307 MW at Newton, 329 MW at Duck Creek, 150 MW at Edwards, 260 MW at Hennepin and 240 MW from Joppa; *See* Third Quarter 2017 Review, Dynegy, November 1, 2017
(http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NjgzMjY3fENoaWxkSUQ9MzkyODgzfFR5cGU9MQ==&t=1) at Slide 18
and Dynegy 2016 Annual Report (https://www.dynegy.com/sites/default/files/Dynegy_2016_Annual_Report.pdf) at 92; For the 1,044 MW, *see* Third Quarter 2017 Review, Dynegy, November 1, 2017 at Slide 32.

[43] 4,126 MW = 4,432 MW x (1.078/1.158); See MISO Planning Year 2017-2018 Loss of Load Expectation Study Report, December 17, 2016 (https://www.misoenergy.org/api/documents/getbymediaid/80584) at 29.

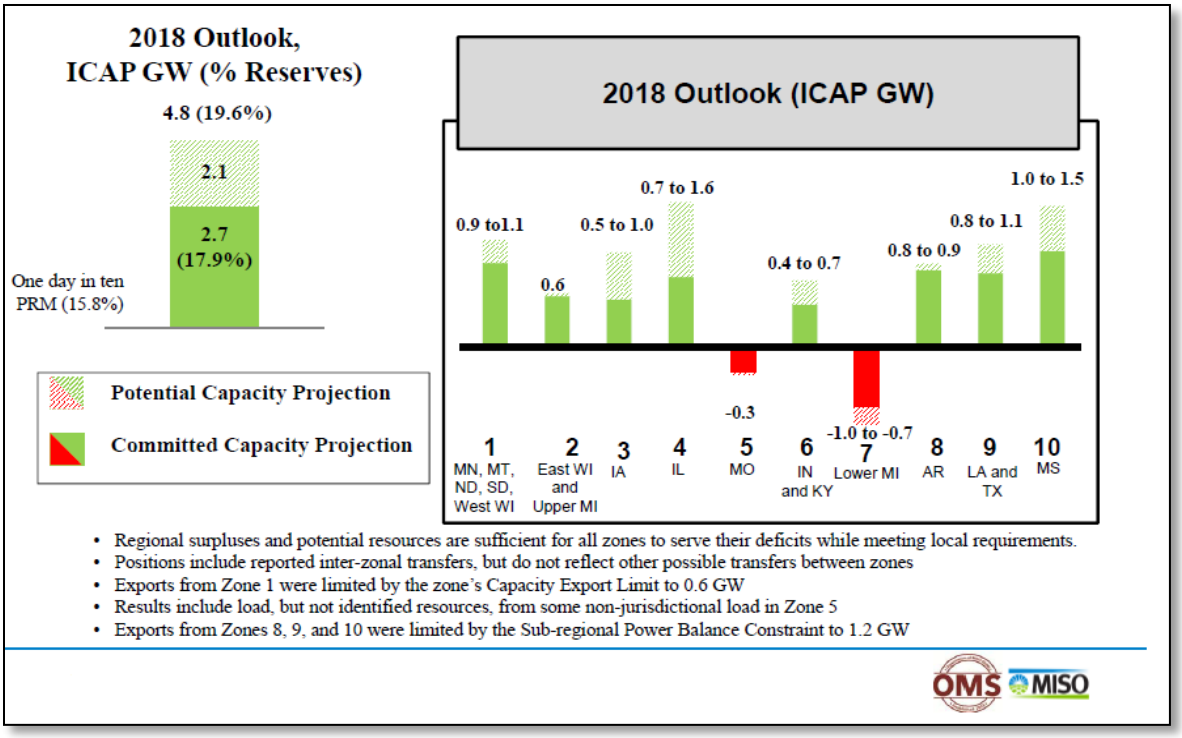
[44] 39% ≈ 4,126 MW / 10,618 MW.

MISO Response: As reported in the 2017 OMS MISO Survey, to maintain Local Resource Zone ("LRZ" or "Zone") 4 resource adequacy, approximately 10.8 GW of generation is required. This generation may be sourced from a mixture of capacity throughout MISO and local generation, with at least 7.5 GW of capacity being required locally in Local Resource Zone 4.

Illinois is projected to maintain sufficient capacity to meet their resource needs from within the state, with 11.8 to 12.6 GW of capacity expected to be available to meet these needs within the state in 2018, a surplus of 0.7 to 1.6 GW. This range of possible outcomes is utilized to account for future variations due to generation retirements and, in the 2017 Survey, new generation interconnection requests. The range helps to inform discussions between LSEs and their states on what actions load will take to fulfill their obligation to maintain resource adequacy.

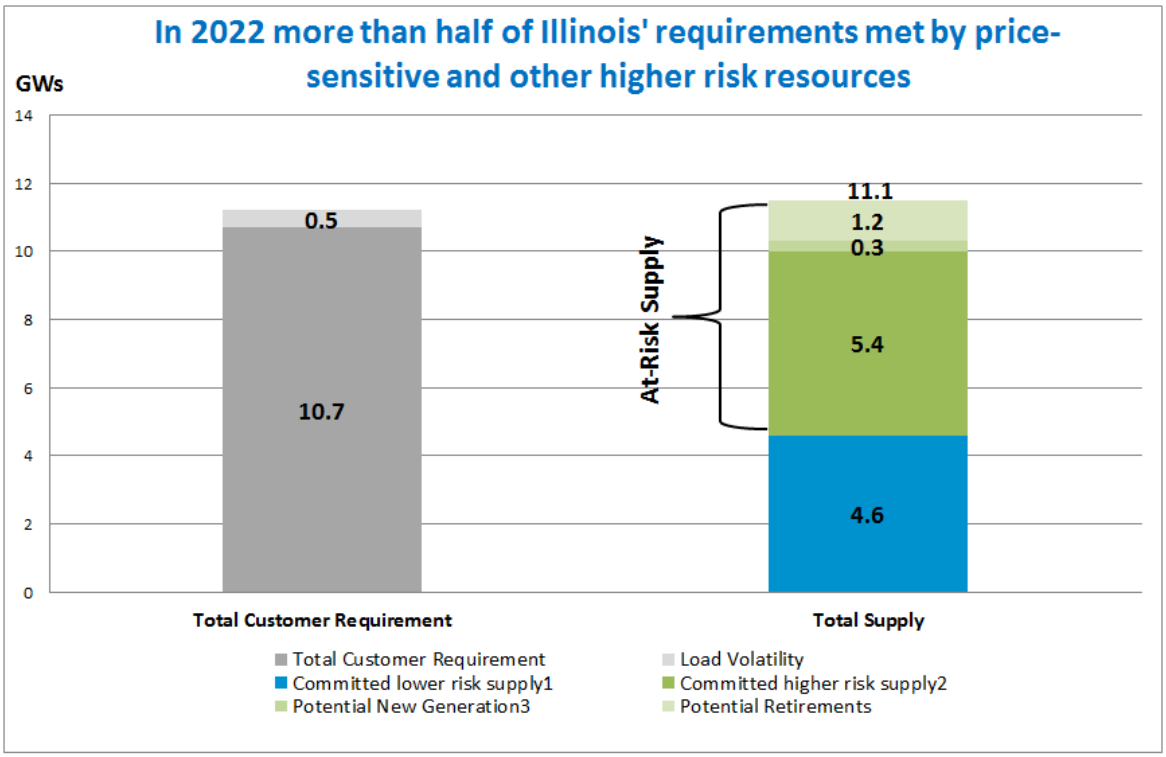


There is also a projected 2.7-4.8GW of surplus capacity outside of Illinois but within the regional MISO footprint in 2018 which is expected to be available.



In subsequent years, the surplus is projected to remain small both inside of Illinois (projected surpluses of 0.4 to 1.5 GW) and in other zones of the MISO footprint (projected surpluses of 0.3 to 3.9 GW). These surpluses depend on continued static load projections.[45] While the OMS MISO Survey shows sufficient supply in the short term and continued availability through 2022, the outlook can change from year to year. This is especially true with resources that rely primarily on market revenues to sustain operations, as shown in the chart below. Retirement of a relatively small portion of that supply and any of the other "at-risk" could lead to shortfalls.

[45] https://cdn.misoenergy.org/20170712%20RASC%20Item%2002%20OMS%20Survey%20Results87552.pdf



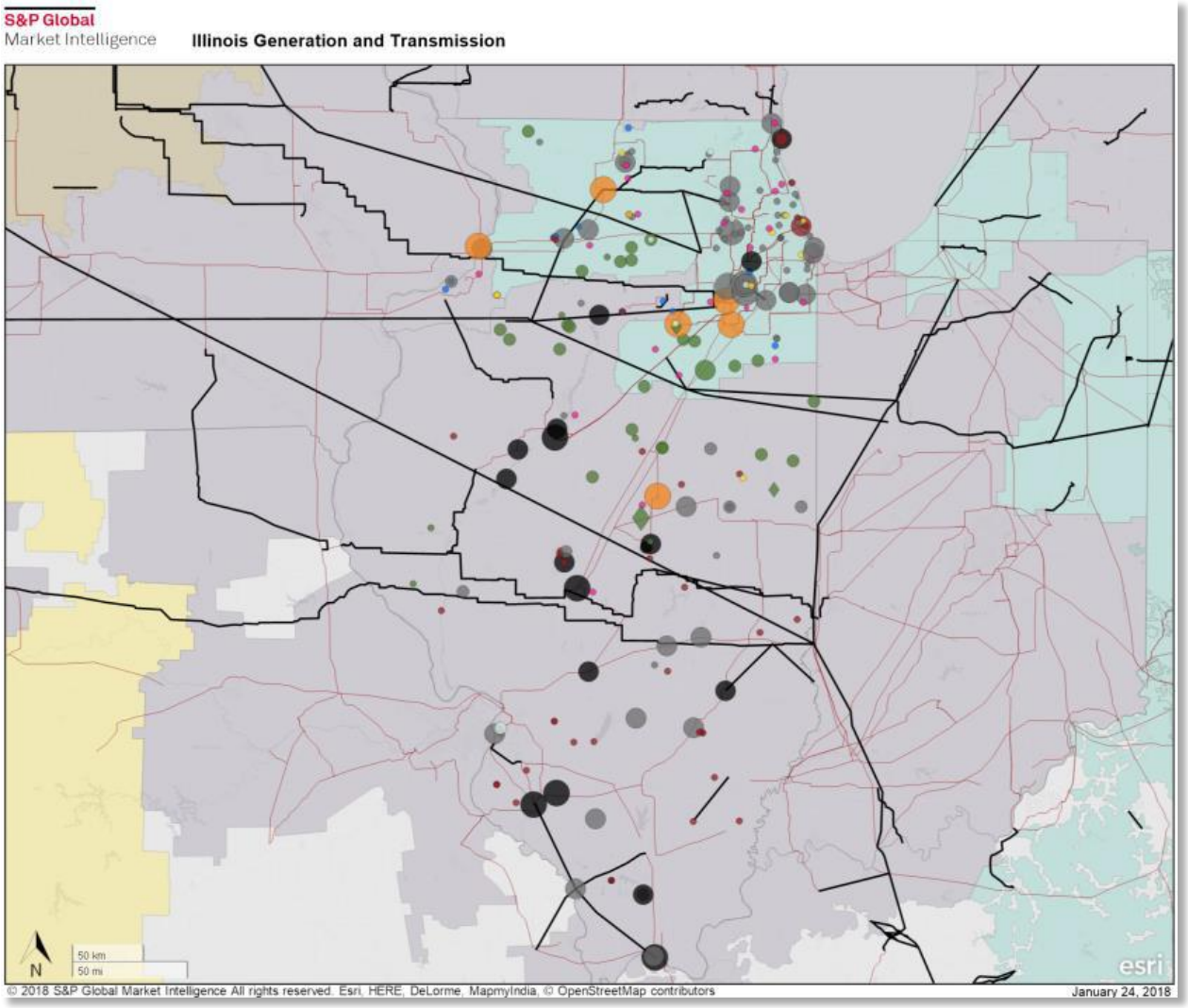
[1] Resources owned or controlled by regulated utilities, munis, and co-ops, as well as nuclear units
[2] Non-utility owned generation and price responsive demand response
[3] 35% of summer rated generation projects in the active in MISO generation interconnection queue

Natural Resources Defense Council Response: Please refer to the provided spreadsheet[46] and the map below for a full list of generating resources currently available in both Zone 4 and the PJM ComEd zone.[47] There are more than 16,500 MW of generating resources currently operating in Zone 4, including 142 MW of wind and hydro resources under construction set to come online in 2018, 475 MW of wind projects with regulatory approvals set to come online by 2019, and 2,147 MW of wind and 2,153 MW of solar resources in the queue set to come online by 2020 (as of October 2017).

In addition to generating resources in Zone 4, Southern Illinois can also rely on resources located in neighboring MISO zones to meet load and resource adequacy requirements. As discussed in more detail in Section III.B, Zone 4 can import up to nearly 6,300 MW,[48] which is the second highest import capability across the MISO footprint, without any identified constraints, from neighboring MISO zones. Moreover, Zone 4 is well connected to PJM, as discussed in more detail in Section III.B below, and LSEs have the option of importing firm capacity from PJM, namely from the ComEd zone, to meet both load and resource adequacy needs (we discuss in more detail how PJM imports could help meet resource adequacy in Section III.B).

[46] https://www.icc.illinois.gov/downloads/public/NRDC%20attachment%20to%20final%20comments.xls
[47] S&P Global – Market Intelligence
[48] This is MISO's proposed 2018/19 CIL for Zone 4.

As long as an LSE in Zone 4 meets its Local Clearing Requirement (LCR) (more detail on this in SectionI III.B), any resource outside of Zone 4 that it either contracts with for capacity or purchases in the Planning Resource Auction (PRA) is under contractual obligation to both be available and dependable when called on to meet peak demand. Thus, the fact that a generating resource is located outside of Zone 4 does not and should not impact neither its availability not its dependability.



The thick black lines show planned transmission projects, and the thinner dark red lines show existing transmission. The circles represent generating plants and are color coded to reflect the different technology types. Black: coal; Grey: gas; Orange: nuclear; Green: wind; Yellow: solar; Blue: hydro; Pink: biomass; Brown: oil

PJM Response: The ComEd Zone has a 26,000 Mw reliability requirement needed to fulfill resource adequacy for northern Illinois. Installed capacity in northern Illinois is approximately 25,000 mw with an additional 2,000 mw of demand response and energy efficiency.

Rockland Capital Response: Information related to the volume of generation internal to Zone 4 and currently eligible to serve Zone 4 in near-term planning periods is typically made available for public review in the MISO-OMS Survey. Rockland notes that much of the information related to addressing specific examples is confidential.

Rockland notes that the capacity values for individual traditional generation resources is determined by taking the unit's installed capacity value and reducing it by a percentage amount tied to subject resource's forced outage rate. The assumed capacity factor for newly installed wind and solar generation resources in MISO is 15.6% and 50% respectively.

Sierra Club Response: In an effort to avoid undue repetition, Sierra Club refers the ICC to comments submitted by other stakeholders, including the Natural Resources Defense Council, Environmental Law and Policy Center, and Environmental Defense Fund.

B. What generation resources formerly meeting Zone 4 resource adequacy requirements have recently been lost due to retirement, derating, declining capacity factor, or otherwise?

AARP Response: See answer above.

Dynegy Response: Dynegy retired Vermilion Station in Vermilion County (2 units – total 197 MW) in 2011; retired Units 1 through 5 of Havana Station in Mason County (total 235 MW) in 2010; retired Edwards Unit 1 in Tazewell County (105 MW) in 2016; completed the retirement of Wood River Station in Madison County (5 units – total 603 MW capacity) in 2016; and retired Unit 2 at Newton Station in Jasper County (617 MW) in 2016. Also in 2016, Dynegy placed Unit 3 at Baldwin Station (615 MW) into mothballed status; there is increasing likelihood that this unit will not be returned to operation. All of these retired or mothballed units are/were located in MISO Zone 4. The retired and mothballed units comprise, in the aggregate, 2,366 MW of generation removed from the capacity available to serve Zone 4. The retirement or shut down of these units not only removes capacity from Zone 4, but also removes the units as competitive providers of energy.

Prior to its sale of Illinois generating plants to Dynegy, Ameren retired the Meredosia Station in Morgan County (total 369 MW) and the remaining two operating units (151 MW total) at Hutsonville Station in Wabash County, both in 2011. In announcing retirement of these plants, totaling 520 MW of capacity, Ameren cited the lack of a multi-year capacity market in MISO, stating that the inability to contract the plants' capacity on a long-term basis precluded Ameren from making investments in emissions control equipment needed to enable the plants to comply with new environmental regulations. Finally, Springfield CWLP retired 66 MW of capacity at its Lakeside plant in 2009.

Beyond the retired and mothballed generating units listed above, Dynegy is not aware of generation in Zone 4 whose rated capacity (ability to serve load at peak times) has been materially reduced due to deratings in the last ten years. With respect to reductions in capacity factor, such reductions would not necessarily reduce the generating unit's rated maximum capacity, but rather would more likely reflect reduced energy production on an annual basis due to such factors as an extended outage, environmental limitations on plant operations, or deteriorating position in the energy market (*e.g.*, the unit is not called on to produce energy as often as in prior periods, due to its relative fuel and variable operating costs compared to other plants). Thus, a decline in a unit's capacity factor may not (in fact, probably does not) reflect a reduced ability to serve load at times of high demand.

In addition to losses of generation due to retirements and deratings, some generation located in Zone 4 is pseudo-tied into PJM (including, currently, 937 MW of Dynegy's capacity) and/or (like Dynegy's 1,023 MW Joppa plant) has the transmission access to allow it to sell capacity and energy into either MISO zones or other RTOs. An additional 230 MW of Dynegy's capacity will be pseudo-tied into PJM beginning June 1, 2018.

Illinois Industrial Energy Consumers Response: Capacity factor has no relationship to the capacity rating of a capacity resource. Capacity factor relates to amount of energy production over the course of an entire year from a resource, not the ability of that resource to produce power at the time of peak electric demand in the MISO market.

Dynegy retired 1,191 MW of coal-fired Installed Capacity in MISO Zone 4 in 2016 (Edwards Unit 1, Wood River Units 4 and 5, and Newton Unit 2).[49] Dynegy did not retire any generating units in MISO Zone 4 in 2017. Besides Dynegy's 2016 retirements, IIEC is not aware of any other recent generating capacity retirements, suspensions, derates or otherwise in MISO Zone 4, other than Meredosia Unit 4 (186 MW), which was officially retired in 2016, but ceased operation well before then.[50]

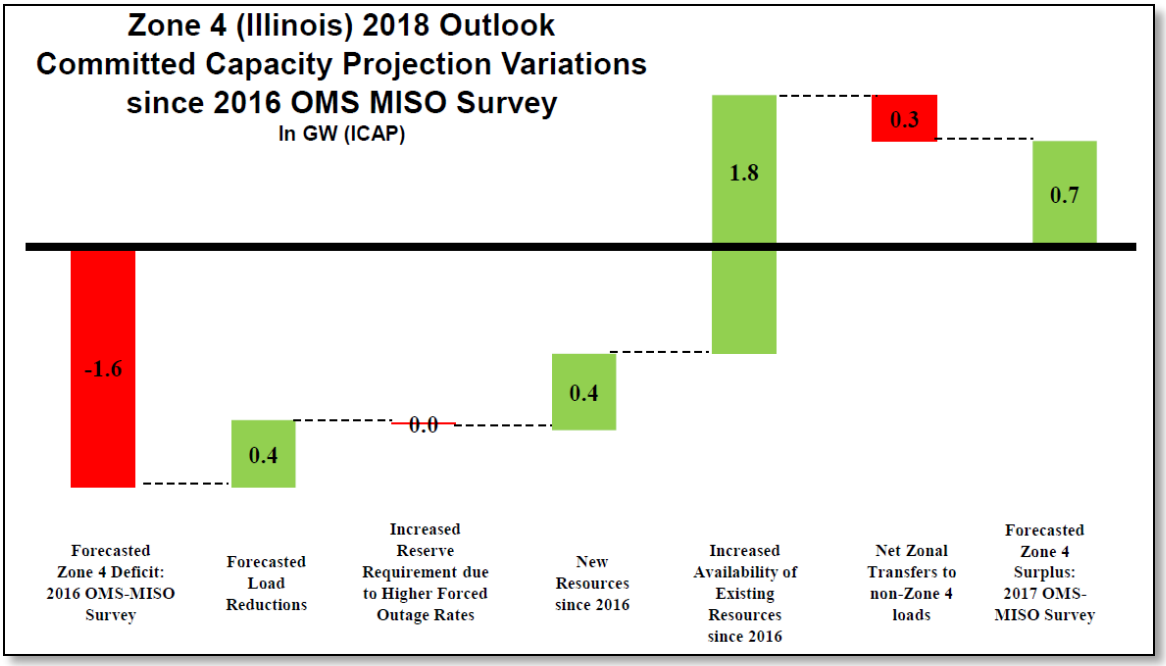
MISO Response: MISO cannot comment on retirements, derates, or capacity factors for individual resources. However, in the recent past MISO has generally seen a decrease in capacity resources available to serve load. For example, 141 – 142 GW of capacity offered into the 2016/2017 and 2017/2018 PRAs, while 145 GW of capacity offered in the 2015/2016 PRA.

While the OMS MISO Survey shows that Local Resource Zone 4 depicts an increased availability of existing resources for 2018 as shown below, this increase results from deferred retirements and internal resources with reduced commitments to non-MISO load. Consequently, there is still uncertainty on their continued availability going forward.

---

[49] *See* MISO Generators Approved to Retire (Public) as of January 2, 2018. https://www.oasis.oati.com/woa/docs/MISO/MISOdocs/OASIS_Posting_of_Approved_Generator_Retirements_(Public)_2018-01-02.pdf

[50] *See* Id.



Montgomery County Board Response: Due to the lack of pricing in the marketplace that reflects the actual costs of producing energy, the downstate Illinois energy producing fleet has experienced closures (ex. Meredosia) and many examples of decreased capacity (ex. Newton, Coffeen) that has resulted in hundreds of lost Jobs. The distorted market led to these decisions.

The employment and energy generation reductions seem to be a trend since the deregulation act in the 1990s. The first decade of "price freeze" created an environment that stifled competition from building new plants (ex. Natural gas-fired plants) or innovating existing coal-fired facilities. The clean coal initiatives under the Ryan Administration prompted installation of technologies at some facilities such as Coffeen.

Another factor was the divestiture of energy generation by Ameren and its focus on transmission, which allowed the company to position itself as a "provider" of energy while bidding in way below cost in the MISO marketplace. At the same time, the company sought rate increases to essentially be able to maintain and upgrade systems they had not been able to reinvest in during the Illinois legislated ‘price freeze.' From a consumer perspective, it seems to make more sense to allow for some annual or biannual movements in prices instead of a 10% or more jump as we saw after the term of the legislation brokered in the 90's.

Natural Resources Defense Council: This information is proprietary and not available to the public. Load Serving Entities (LSEs) confidentially disclose their planning resources needed to meet their resource adequacy requirements to MISO. In addition, given that the MISO planning residual auction ("PRA") results and bid details are also confidential, the generation resources that have historically met or currently meet Zone 4 resource adequacy needs could not be determined relying on publicly available data.

It is important to note that a discussion of the loss of resources formerly meeting Zone 4 resource adequacy needs is to a large extent moot. Despite any recent plant retirements, Zone 4 resource adequacy is secure through at least 2022 (as discussed in Section I.B). In addition, Zone 4 and the region are expected to have a large increase in installed capacity in the coming years as discussed throughout these comments, while electricity demand is expected to flatline or even decrease owing to the impressive energy efficiency requirements for LSEs under FEJA. Both of these factors give reason to expect that Zone 4 resource adequacy will continue to be met beyond 2022. Thus, an examination of future trends is more relevant and valuable than looking in the rearview mirror for the purposes of a discussion on near and long-term Zone 4 resource adequacy.

Sierra Club Response: In an effort to avoid undue repetition, Sierra Club refers the ICC to comments submitted by other stakeholders, including the Natural Resources Defense Council, Environmental Law and Policy Center, and Environmental Defense Fund.

C. What current generation resources available to meet Zone 4 resource adequacy requirements are at risk of becoming unavailable going forward and what are the implications of the loss of such resources?

[Examples of issues under this question should include: Are there generating plants in Zone 4 that currently are "financially at risk" of shutting down? What are other reasons that existing generation may shut down? Is there data to support such an assessment? Is scenario modeling a reasonable approach for resource adequacy assessment? How does the loss of generation resources impact the capacity factors of remaining plants? Are any current federal or state energy policies adding risk for existing Zone 4 generator owners? How should the expected timing of retirements be considered? How would the retirement of generating units, individually or collectively, impact local economies?]

AARP Response: See answer to question A.

AG Response: Some generators have argued that they lack sufficient revenue to operate certain generating units, and that they need additional revenues to avoid closing generating units where the costs of operation exceed market revenues. However: "Currently, Zone 4 has 57 utility-scale generating stations, with a combined nameplate capacity of over 16,000 MWs

and summer capacity of over 14,000 MWs."[51] In the 2017 PRA, the MISO Zone 4 local clearing requirement was only 5,839 MWs. *Id*.; MISO 2017/2018 Planning Resource Auction Results at 9 (April 14, 2017). This demonstrates that Zone 4 does not currently face a capacity shortage and can expect to have more than sufficient capacity to address potential changes in both load and resources even if some uneconomic resources retire.

Given the more than sufficient capacity available to serve Zone 4 both from within Zone 4 and from other MISO zones, the market properly produces prices sufficient to compensate sufficient resources to serve Illinois and the entire MISO region at the lowest cost. Illinois rules, regulations, and laws should not be changed to increase market prices to protect operation of otherwise uneconomic and inefficient generating units.

Ameren Illinois Response: Ameren Illinois does not have access to the information necessary to determine the financial viability of generation resources in Zone 4. However, we can generally respond that, because Illinois is a retail choice state, Zone 4 generation resources do not receive guaranteed revenues from ratepayers. Instead, 100% of their revenues come from the wholesale markets. This would logically create more risk for Zone 4 generation resources relative to rate regulated generation resources. To the extent that generation resources within Zone 4 are not receiving revenues to cover their cost of operation and earn a reasonable return on investment, logically some of these resources would eventually shut down. Further, if the shuttered resources are not replaced with new generation resources, energy efficiency and/or demand response, then over time resource adequacy could become a concern.

Community Groups Response: Dynegy has indicated financial hardships at their plants, but has provided little to no data or proof to support their claims. Furthermore, when asked at a senate committee hearing if changes to the MISO market would guarantee coal plants stay open, Dynegy said, "No." Dynegy makes decisions that will benefit it's shareholders, not Illinois workers or communities.

Dynegy also fails to mention the advanced age of its generating units, many of which are near or above the average age (53 years) of coal plant retirement in the U.S. Hennepin's 2 units are 65 and 59 years old and Coffeen's 2 units are 46 and 53 years old. The Community Groups recognize that plant retirement will impact local communities, however near-term retirement is inevitable for many units due to age.

Instead of using scare tactics and threats of plant closure, Dynegy should be open and honest with communities about proposed timelines for plant closure. Proposed solutions for replacing the lost generation from retired coal fired power plants should not include market changes that prop up other aging coal-fired plants. Illinois should be pursuing solutions based on wind, solar, and battery storage.

Dynegy Response: Dynegy's eight generation plants in Downstate Illinois (listed earlier) total 5,476 MW of operating capacity. Approximately 3,000 MW of this capacity is at risk of being

[51] ICC Whitepaper, at 6.

shut down, or sold into other markets, for economic reasons, specifically, due to the low capacity prices produced by the MISO capacity market construct. Currently, 937 MW of capacity from these plants is pseudo-tied into PJM; beginning June 1, 2018, an additional 230 MW of capacity from Dynegy's Downstate plants will be pseudo-tied into PJM. Further, Dynegy's 1,023 MW Joppa plant is not located within MISO and has transmission access to allow its capacity and energy to be sold into other markets.

For the nine months ended September 30, 2017, the original Dynegy group of Downstate plants (Baldwin, Havana, Hennepin) collectively had a $90 million operating income loss, while the former AIC plants owned by Dynegy (Edwards, Duck Creek, Coffeen, Newton, Joppa), collectively, had operating income of $40 million. Thus, these eight Downstate plants, in the aggregate, had an operating loss of $50 million for the first nine months of 2017. The revenues being received by the Downstate plants are less than their fuel and operating expenses. Dynegy cannot continue to operate all of these units at an operating loss. Nor can Vistra, with which Dynegy will be merging, be expected to continue to operate plants that are operating on a loss basis. (In fact, in late 2017, Vistra announced it will close three coal-fueled plants, totaling 4,200 MW, in Texas.)

Dynegy also notes Rockland Capital's filed comments stating that if the Zone 4 capacity market does not improve, Rockland would be able to physically move its approximately 1,100 MW of gas-fueled generators in Zone 4 to other regions.

Resource Adequacy Impacts of Additional Retirements or Diversions to Other Markets of Dynegy Downstate Plants

The Zone 4 resource adequacy analysis in the 2017 OMS/MISO Survey counts 4,539 MW of Dynegy Downstate capacity as available to serve load in Zone 4 (the 5,476 MW capacity of the eight Downstate plants minus 937 MW pseudo-tied into PJM). However, any of the capacity counted in the OMS/MISO Survey could be retired at any time, subject only to the 26-week notice to MISO specified in the MISO Tariff SSR provisions. Further, as the result of a recent transaction, an additional 230 MW of capacity from Dynegy's Downstate plants will be pseudo-tied into PJM beginning June 1, 2018, and not available to serve demand in MISO Zone 4.

The following table starts with the <u>high end</u> of the Zone 4 capacity surplus projected in the 2017 OMS/MISO Survey for 2018-19 through 2022-23, then adjusts the surplus for the higher PRM (17.1% vs. 15.8%) that MISO adopted effective June 1, 2018. The table then deducts from the capacity surplus the additional 230 MW of Dynegy's capacity that will be pseudo-tied into PJM beginning June 1, 2018. Finally, the table shows the impact of (1) the Joppa plant capacity being sold into another market, (2) retiring an additional 500 MW of Zone 4 capacity in 2018, and (3) retiring another 500 MW of Zone 4 capacity in 2019. The additional retired capacity in 2018 and 2019 could be capacity owned by Dynegy, Rockland, or another owner.

***Action*/Result**	**DY 2018-19**	**DY 2019-20**	**DY 2020-21**	**DY 2021-22**	**DY 2022-23**
OMS Survey Capacity Surplus (High End))	1,600 MW	1,800 MW	2,300 MW	2,100 MW	1,500 MW
Adjusted Capacity Surplus for revised PRM	1,546 MW	1,746 MW	2,246 MW	2,046 MW	1,446 MW
Additional DYN Capacity Tied to PJM	(230) MW	(230) MW	(230) MW	(230) MW	(230) MW
Revised Capacity Surplus	1,316 MW	1,516 MW	2,016 MW	1,816 MW	1,216 MW
Move Joppa to another market	(1,023) MW	(1,023) MW	(1,023) MW	(1,023) MW	(1,023) MW
Revised Capacity Surplus	293 MW	493 MW	993 MW	793 MW	193 MW
Retire/Move Additional Capacity	(500) MW	(500) MW	(500) MW	(500) MW	(500) MW
Revised Capacity Surplus (Deficit)	(207) MW	(7) MW	493 MW	293 MW	(307) MW
Retire/Move Additional Capacity	-----	(500) MW	(500) MW	(500) MW	(500) MW
Revised Capacity Surplus (Deficit)	(207) MW	(507) MW	(7) MW	(207) MW	(807) MW

The above analysis includes, in the Zone 4 capacity available, 1,741 MW of Ameren-owned peaking plants that are physically located in Zone 4 but pseudo-tied into and committed to serving Ameren regulated retail load in Zone 5 (Missouri). In summary, even under the best-case scenario in the 2017 OMS/MISO Survey of a capacity surplus in Zone 4, retirement, or sale into another market, of only a portion of Dynegy's (or other capacity suppliers') Downstate capacity reduces the available capacity to **below** the forecasted Zone 4 peak load plus reserve requirement in **every year** from 2018-19 to 2022-23.

If additional Zone 4 capacity is retired or is sold into other markets, Zone 4 capacity prices can be expected to rise. In fact, under the MISO tariff, if available capacity falls below projected load plus PRM, the capacity price jumps to an administratively-set price referred to as Cost of New Entry (CONE), which is currently $260/MW-Day. The CONE price is not a market-determined outcome, but rather an administratively-set price established, in accordance with the MISO tariff, by the MISO Independent Market Monitor. It is intended to incentivize new entry to address the capacity shortfall situation. Ameren has estimated that if there were a capacity shortage in Downstate Illinois causing the capacity price to go to CONE, the price increase impact could be $23 per MWh, or 2.3 cents per kWh. For a typical residential customer using about 840-1,000 kWh per month, this is a bill increase of $19-$23 per month. In addition to the upward impact on capacity prices, the retirement or diversion of existing generation from Zone would remove these resources as providers of energy in the market and likely have an upward impact on retail energy prices.

Economic Impacts of Additional Retirements of Dynegy Downstate Plants on Local Communities and the State

Retirement or shutdown of any of the remaining Dynegy Downstate plants would be devastating to local and regional economies in the nearby areas. Dynegy notes (and hopes the Commission will consider and report) the testimony and comments provided by representatives of municipalities, counties and school districts in the vicinities of the Baldwin, Coffeen, Duck Creek and Newton plants at the January 16 workshop or subsequently submitted in writing. In recent years, the eight Dynegy Downstate generating stations have provided a total of approximately 1,020 jobs, with aggregate annual payroll of about $110 million, and have provided annual direct and indirect economic impacts to the plants' respective local areas totaling about $1.48 billion. The union and management jobs at the plants are family-sustaining jobs that are often the best or among the best in the local areas. They are unlikely to be replaced if the plants close. Through both the plants' direct purchases of materials, supplies and services, and the indirect, multiplier effects of their payroll and other expenditures in their local communities and surrounding areas, the plants are responsible for significant employment and economic impacts in their areas:

Plant	Counties of Economic Impact	Jobs	Annual Payroll	Annual Economic Impact
Baldwin	Randolph, St. Clair, Perry, Madison, Monroe	204	$24 million	$402.9 million
Coffeen	Macoupin, Montgomery, Bond, Fayette, Sangamon	151	$17 million	$388.6 million
Duck Creek	Fulton, Peoria, Tazewell	93	$9 million	$187.0 million
Edwards	Fulton, Peoria, Tazewell	118	$12 million	$82.3 million
Havana	Mason, Fulton, Cass, Tazewell, Schuyler	97	$12 million	$127.3 million
Hennepin	Bureau, Putnam, LaSalle	85	$9 million	$51.9 million
Joppa	Massac, Pulaski, Johnson	178	$15 million	$141.6 million
Newton	Jasper, Effingham, Crawford	95	$11 million	$101.5 million

As the table shows, the eight plants have direct economic impacts in 25 of Illinois' 102 counties. For the State as a whole, the annual aggregate economic impact of the eight plants is approximately $1.84 billion. The plants also pay substantial property taxes that support local governments and school districts. For example, the 2016 property taxes payable in 2017 were $5,150,424 for Baldwin, $4,306,611 for Coffeen, $1,849,497 for Duck Creek, $1,615,455 for Havana, and $4,621,719 for Newton. Additionally, although the plants generally use coal from out-of-state sources, they pay 6.25% Illinois Use Tax on all coal deliveries from out-of-state sources to the plants. In recent years, Use Tax payments for coal used at Dynegy's Illinois plants have ranged from $20 to $30 million per year.

Environmental Defense Fund Response: Dynegy's assertion throughout this process is that retirements of Dynegy plants would threaten resource adequacy. However – tellingly – Dynegy's comments include no comprehensive analysis which shows that, even if Dynegy retires its "at risk" units, resource adequacy will be at risk given those upcoming capacity need changes. Dynegy relies on a simple math calculation, averring that a projected peak demand of approximately 9,000 MW in MISO Zone 4, minus Dynegy retirements of 750 MW, equals projected load with no reserve.[52] Dynegy includes a table purporting to show the impact of shut down or removal (to other markets) of Dynegy units on capacity in MISO Zone 4.[53] Dynegy's calculations omit a number of key considerations.

MISO's most recent resource adequacy survey noted increased future capacity based on the current interconnection queue -- including twenty-eight generator interconnection projects

[52] Dynegy Pre-Workshop Comments, at 5.
[53] *Id*., at 4.

totaling almost 4,400 MWs of capacity in the MISO Zone 4 queue as of October 2017.[54] This represents over two-thirds of Dynegy's total capacity of 6,500 MWs, and nearly 150% more than Dynegy's 3,000 MW of generating capacity in Downstate Illinois which it categorizes as "at risk of shutdown or removal from the Zone 4 market."[55] Dynegy's "analysis" also ignores that the resources retired by Dynegy could be replaced, or are already offset, by resources from other MISO zones, or imports from other RTOs. Remaining units could even increase their capacity factors.

International Brotherhood of Electrical Workers Response: There are generating plants in Zone 4 currently at risk of shutting down due to the financial disadvantages caused in part by poor auction construct. Other factors that may cause existing generation to shut down include additional costs needed to meet any new regulations. The at-risk plants are located in Zone 4, employ hundreds of downstate residents and provide millions in economic benefits to the State and to the communities they are located in.

Illinois Industrial Energy Consumers Response: Dynegy, in its December 7, 2017 MISO Zone 4 Workshop presentation, suggested it might soon move its 1,100 MW of Joppa generating units from the MISO market to the PJM market and have another 414 MW of its MISO Zone 4 capacity resources at risk of retirement as early as June 1, 2018.[56] However, as of June 1, 2017, Dynegy has only secured 240 MW of firm transmission capacity from the Joppa facility to the PJM market.[57] It would need to secure a full 1,100 MW of firm transmission service to PJM to move the full capability of Joppa to the PJM market. In addition, Dynegy has not publicly announced any forthcoming retirements of its MISO Zone 4 capacity resources. Regardless, even if all 1,514 MW of this Installed Capacity were to exit the MISO Zone 4 capacity market, it would not create a resource adequacy issue in Zone 4. As noted in IIEC's comments in Section II.A, in the MISO 2017/2018 Planning Year, there were 4,779 MW of Unforced Capacity (UCAP) in Zone 4 that were either self-scheduled, offered into the MISO Planning Resource Auction (PRA) or used in a Fixed Resource Adequacy Plan (FRAP) in excess of the Local Clearing Requirement (LCR) for Zone 4. In addition, there were 5,305 MW of UCAP that were either self-scheduled, offered into the MISO PRA or used in a FRAP in excess of the total Planning Reserve Margin Requirement (PRMR) for Zones 2 through 7. Therefore, assuming nothing else changes, the loss of 1,514 MW of capacity in Zone 4 would have not adversely impact resource adequacy either in Zone 4 alone or Zones 2 through 7 as a whole.

In Dynegy's Post-Workshop Comments of December 21, 2017, it claimed that ultimately approximately 3,000 MW of Dynegy's MISO Zone 4 generation fleet is at risk of shutdown due

[54] ICC Whitepaper, at 2.
[55] Dynegy Pre-Workshop Comments, at 4.
[56] *See* Dynegy Presentation Illinois Commerce Commission MISO Zone 4 Workshop, December 7, 2017 (https://www.icc.illinois.gov/downloads/public/Dynegy%20December%207%20presentation.pdf) at slide 9.
[57] *See* Dynegy 2016 Annual Report (https://www.dynegy.com/sites/default/files/Dynegy_2016_Annual_Report.pdf) at 92.

to current market conditions.[58] This would have Dynegy essentially shut down all of its Zone 4 capacity that is not already able to be sold into the PJM capacity market.[59] However, Dynegy has already committed to bilateral forward capacity sales in the MISO market of approximately 1,100 MW through the 2020/2021 MISO Planning Year.[60] In addition, rational behavior by Dynegy would have it gradually shut down generation in the search for higher MISO capacity prices. The MISO market rules already allow Dynegy to offer its at-risk coal-fired capacity into the MISO PRA at an offer price of $139.18 per MW-day.[61] As a result, if the supply of capacity was at some point reduced to the point where Dynegy's capacity is needed to meet the MISO Zone 4 LCR, Dynegy would be able to earn a capacity price for its remaining generation fleet in MISO Zone 4 comparable to what it can earn in the PJM capacity market. Thus, the existing MISO capacity market design can provide Dynegy market prices for capacity comparable to what it can earn in PJM if and when that capacity is needed in Zone 4.

MISO Response: As discussed in MISO's answer to question II(A), Illinois is projected to have a surplus of 0.7 to 1.6 GW for 2018. As shown by the chart above in MISO's answer to III(C) increased availability of existing resources for 2018 as shown below results from deferred retirements and internal resources with reduced commitments to non-MISO load. Consequently, there is still uncertainty on their continued availability going forward.

Montgomery County Board Response: In the absence of a trading platform that allows for companies to cover their costs and earn a profit on producing energy, there are at least eight coal-fired power plants that are at risk of closure.

Natural Resources Defense Council Response: Dynegy claims that "generating units in Dynegy's Downstate fleet totaling approximately 3,000 MW (out of a total of approximately 5,500 MW) are at risk of shutdown because in the current market conditions, the revenues they receive are less than their fuel and operating costs."[62] The 625 MW Baldwin Energy Complex Unit 1, owned by Dynegy, is also slated for retirement this year.[63] Dynegy also claims that retiring most of its plants in the near-term would result in resource adequacy issues for Zone 4. However, Dynegy does not substantiate its claim with any robust modeling. Rather, the company grounds its reasoning in a crude number-crunching exercise that overlooks and assumes nil any potential grid response to replace the plants' output and ensure that demand continues to be reliably met. This is *not* how the power sector works. Fully understanding the

---

[58] *See* Dynegy's Post-Workshop Comments on MISO Zone 4 Resource Adequacy Issues for the Illinois Commerce Commission Workshop Process, December 21, 2017 (https://www.icc.illinois.gov/downloads/public/Dynegy%20post-workshop%20comments.pdf) at 3.

[59] As noted IIEC's comments in Section II.A., Dynegy can already sell up to 1,437 MW of its 5,500 MW of MISO Zone 4 capacity into the PJM capacity market.

[60] *See* Third Quarter 2017 Review, Dynegy, November 1, 2017 (http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NjgzMjY3fENoaWxkSUQ9MzkyODgzfFR5cGU9MQ==&t=1) at Slide 31.

[61] *See DEFAULT TECHNOLOGY-SPECIFIC AVOIDABLE COSTS*, MISO Independent Market Monitor, January 18, 2018. https://www.misoenergy.org/api/documents/getbymediaid/99513

62 Dynegy, post-workshop comments to the ICC, page 3.

63 It is unclear if Dynegy counts this unit towards the 3,000 MW that it claims to be at risk of retiring.

impact of plant retirements on the grid requires in-depth power sector modeling that examines feasible alternatives to the plants along with their associated costs.

Rockland Capital Response: Rockland does not have insight into the total amount of generation that is "financially at risk," in danger of retirement, or otherwise considering a market exit. Rockland is the owner and operator of approximately 1,000 MWs of gas-fired generation resources located in MISO Zone 4 and reiterates its position stated in comments submitted earlier in this proceeding. Simply put, revenues from the MISO PRA are insufficient for Zone 4 to retain existing resources or to attract new resources. The 2017/2018 Planning Resource Auction cleared at $1.50/MW-day. That near-zero price does not compensate capacity resources for their contributions to the reliability of Zone 4. As mentioned in its pre-workshop comments, a failure to address the persistent undervaluation of capacity resources in MISO will force Rockland to consider investing capital in areas outside of southern Illinois. Rockland, in the past, has physically relocated natural gas-fired generation resources from one area of the country to another, and will investigate similar strategies here if the revenue sufficiency and structural market issues remain unaddressed.

In the event these issues remain unresolved, Illinois will see resources continuing to exit. It should be noted that it Illinois would have lost a portion of its nuclear generation fleet – including approximately 1,000 MWs in southern Illinois – if not for the passing of the Future Energy Jobs Act. Significant market exit of generation would likely have three impacts. First, the retirement or relocation of resources means that Illinois communities would lose jobs and significant sources of tax revenue. Second, the market exit of generation resources in Zone 4 would likely push capacity prices near market caps. Therefore, those same communities that stand to lose the economic benefit associated with local power facilities would see a material increase in energy and capacity costs. Third, Zone 4 would become more reliant on generation external to Illinois to support internal reliability. Southern Illinois' Resource Adequacy and reliability would be dependent on the decisions of other states that would not be required to consider the impact to Illinois during their respective decision-making processes related to Resource Adequacy.

Sierra Club Response: Dynegy has submitted comments suggesting that Dynegy-operated units amounting to about 3 GW of capacity are at risk of retiring in the next few years. And Dynegy likely also will claim that more plants in its fleet may try to leave MISO for PJM, another regional grid operator whose auctions regularly result in higher electricity prices for consumers. However, Dynegy does not substantiate its claim with modeling, instead offering a basic number-crunching exercise that ignores MISO's significant current flexibility to respond to even large-scale capacity reductions without disrupting electric service.

In particular, although it has been maligned in recent years, the PRA has continued to secure more than sufficient capacity to meet demand in Zone 4 and across its footprint. For instance, in the most recent auction total offers submitted including capacity secured in Zone 4, including through FRAPs, exceeded the Planning Reserve Margin Requirement ("PRMR"), which is the minimum amount of capacity that needs to come from within Southern Illinois, by more than

5,000 MW. As a result, actual imports into Zone 4 were significantly less than the region's Capacity Import Limit available: only 771 of a possible 5,815 MW were imported to Zone 4.

And there is plenty of capacity made available in the broader MISO footprint: even with retirement of all resources above the $25 conduct threshold (which are probably the facilities at the highest risk for retirement), there would still be an almost 5,000 MW surplus. As a result, the PRA clearing price was only $1.50 for the 2017/2018 auction, but if several at-risk plants retire before new replacement capacity is in service, or if the capacity offerings in MISO Zones are "tight", prices will go up; if new, lower cost generation resources come online and/or less generation retires, prices will go down. But in short, no evidence has yet been presented that the PRA will fail to ensure resource adequacy as long as it continues to function as designed.

Of course, fully understanding the impact of plant retirements on the grid requires conducting comprehensive modeling that examines that ability of MISO and the broader energy marketplace to fill in any needs that are created by retiring capacity assets. Particularly over the long term, this modeling may be critical to understanding what Illinois's resource adequacy needs truly are. But between the current massive excess currently in the PRA and MISO's OMS-MISO Surveys (discussed below), there is no immediate reason to be overly concerned about the immediate impacts of retiring 3000 MW of existing capacity.

D. What are the prospects for new generation resources becoming available to meet Zone 4 resource adequacy going forward?

[Examples of issues under this question include: How should resources within the current MISO interconnection queue be counted for purposes of assessing their value in meeting future Zone 4 resource adequacy needs? How will new renewables meet Zone 4 resource adequacy needs?]

AARP Response: See answer to question A.

AG Response: In addition to transmission projects resulting in additional resources being able to serve Zone 4 (discussed below), new renewable resources in Central Illinois are expected to come online soon. The Illinois Power Agency ("IPA") conducted the initial forward procurement pursuant to Public Act 99-0906, also known as the Future Energy Jobs Act. The winning bidders included:[64]

[64] Sources:
https://www.icc.illinois.gov/downloads/public/Public%20Notice%20of%202017%20Wind%20and%20Solar%20REC%20Procurement%20Results%202017-09-07.docx
http://tradewindenergy.com/project/altafarmswindproject/
http://www.tdworld.com/renewables/interconnect-deal-filed-miso-202-mw-broadlands-wind-project
http://www.news-gazette.com/news/local/2017-06-23/texas-company-planning-wind-farm-douglas-county.html
http://www.capitalpower.com/generationportfolio/US/Pages/CardinalPointWind.aspx
See also ICC Whitepaper, at 2-3 ("As of October 2017, there are twenty-eight generator interconnection projects totaling almost 4,400 MWs of capacity in MISO's queue for Zone 4.").

Name	Project Location	Project Size
Alta Farms Wind Project II, LLC	DeWitt County	200 MW
Broadlands Wind Farm LLC	Douglas County	202 MW
Cardinal Point LLC	McDonough/Warren Counties	150 MW
Prairie State Solar, LLC	Unknown	Unknown

Central Illinois is also drawing interest from developers of new natural gas plants. For example, EmberClear is seeking to build a 1,100 MW combined-cycle gas plant near Pawnee, IL. The company's project manager told *Platts* that he "believes an eventual buildout of 4,000 MW to 5,000 MW of gas-fired generation is possible in MISO Zone 4," which only has 1,124 MW of combined-cycle gas generation currently (compared to 11,360 MW of coal, 1,065 MW of nuclear, and 3,229 MW of gas-fired peaking units).[65]

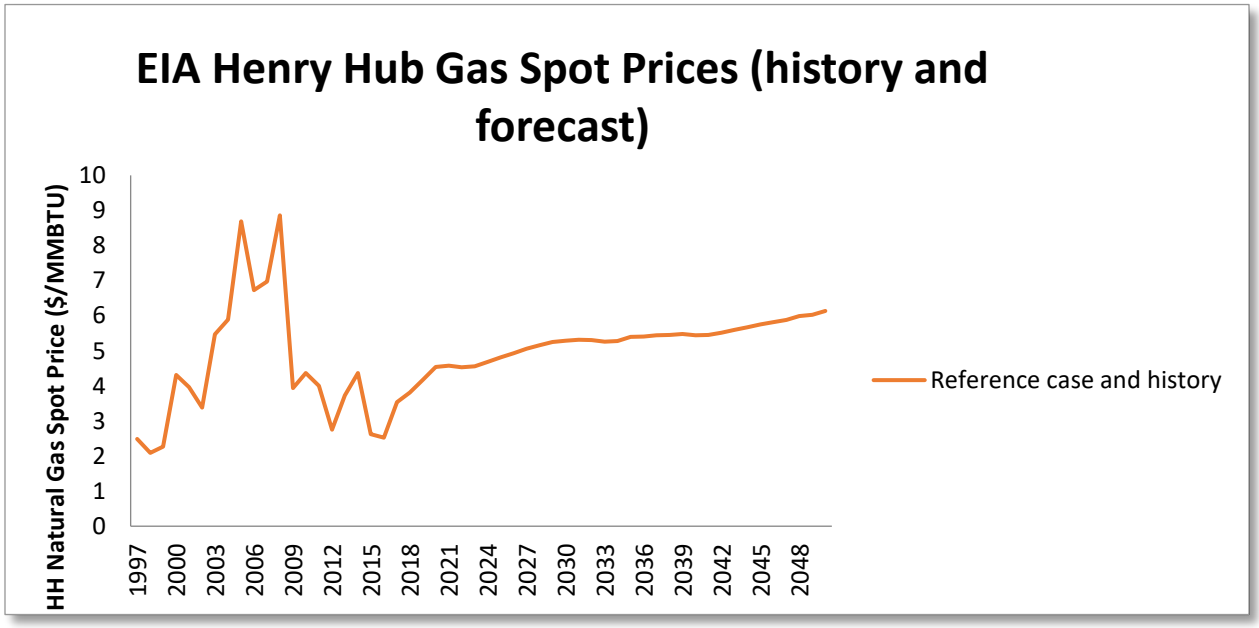
Renewables and gas capacity are moving forward in development despite the slow growth of consumer demand for power due to improved efficiency throughout the economy. We can expect to see continuation of this trend through initiatives such as the Future Energy Jobs Act's expansion of utility energy efficiency programs and reform of the Renewable Portfolio Standard. These trends indicate that new renewables and gas development can be expected to replace existing generation in MISO Zone 4, a turnover that further contributes to the adequacy of electric capacity in the region and to the health of area residents.

The 2017 OMS-MISO Survey ("OMS" stands for Organization of MISO States) is another data point supporting the robustness of energy capacity available now and going forward in the MISO-Illinois region. The 2017 OMS-MISO Survey projects surpluses of generation in Zone 4 of 700 to 1600 MWs in the 2018 delivery year and 400 to 1500 MWs for the 2022 delivery year.[66] Indeed, "[t]he reserve margin across the MISO region is expected to range from 16-22 percent in the 2018-2022 timeframe," "above the target planning reserve margin requirement of 15.8 percent."[67]

[65] https://www.platts.com/latest-news/electric-power/louisville-kentucky/gas-coal-interests-collide-over-gas-plant-proposed-21190668 See also, ICC Whitepaper, at 7 (discussing Illinois' large amount of peaker gas plants and small portion of combined-cycle technology).
[66] ICC Whitepaper, at 10-11.
[67] *Id*. at 10.

Ameren Illinois Response: Ameren Illinois believes generation developers are better positioned to answer this question. However, we acknowledge that the Future Energy Jobs Act (FEJA, Public Act 99-0906) will create prospects for new renewable generation and expanded energy efficiency in Illinois, although it is too early to predict the magnitude of future installations. Beyond FEJA, it appears Illinois will need to rely on current market forces to incent new generation resources, including the prompt year MISO capacity auction. It is unclear if this will be enough to incent new generation resources.

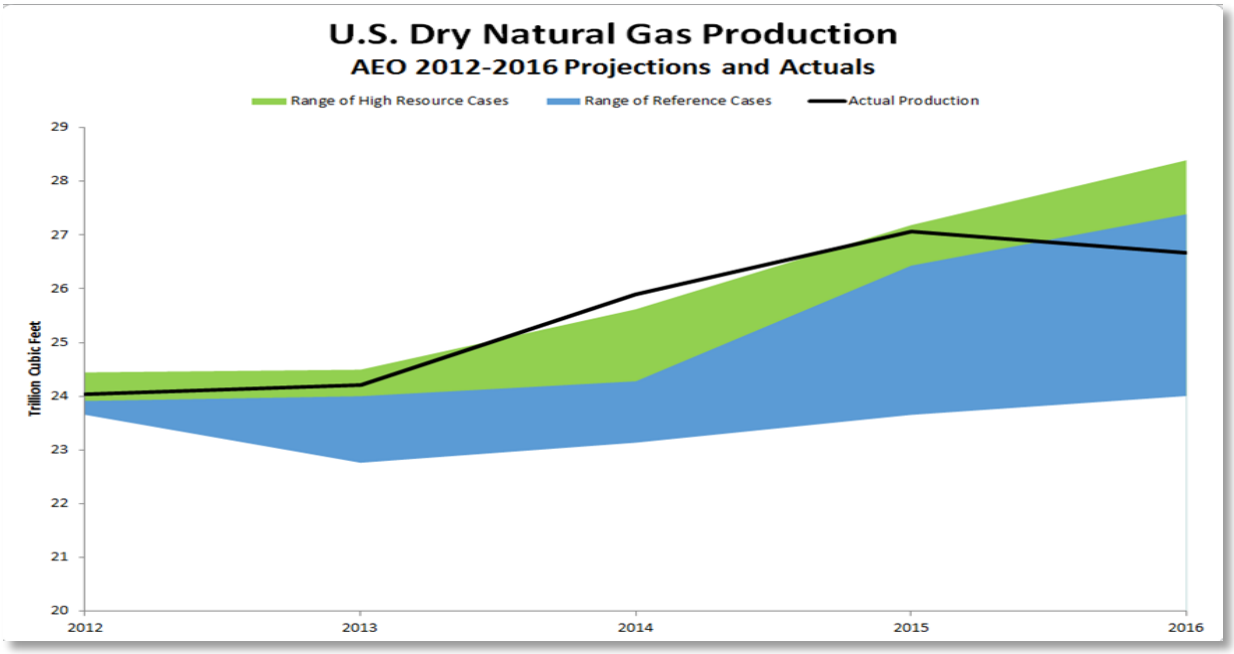
American Petroleum Institute Response: The prospect for natural gas to be a fuel of choice in new generation builds in Illinois and throughout the country is quite robust particularly because of its forecasted abundance. Natural gas is a plentiful resource capable of fueling Illinois' power needs—new discoveries and technological breakthroughs in the years since the beginning of the shale revolution position gas generation well to continue competing to provide dispatchable, affordable, and clean energy. We would like also to mention that through 2049 the EIA, even in its reference case, does not predict natural gas spot prices to come anywhere near the high prices of about a decade ago.[68]



Furthermore, we would like to point out that while the above price series (with forecasts starting in 2017) uses the EIA Reference Case, the EIA High Oil and Gas Resource and Technology Case has often provided the better representation of natural gas supply-demand fundamentals looking back. The below chart compares the range of EIA reference cases in blue

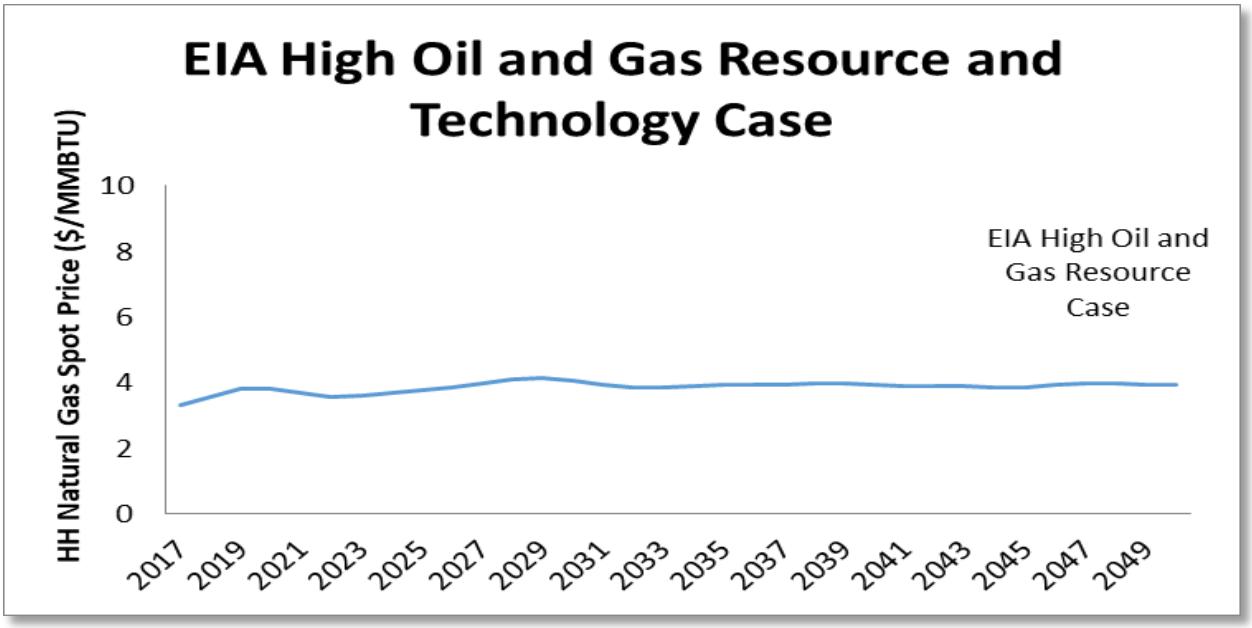
[68] Historic prices— https://www.eia.go v/dnav/ng/hist/rngwhhda.htm , forecast The Energy Information Administration, "Annual Energy Outlook 2017." Reference case table A3: Energy Prices by Sector and Source https://www.eia.gov/outlooks/aeo/. Note that forecast prices start in 2017.

and high oil and gas resource and technology cases in green from 2012-2016. The black line graph shows actual production that occurred those years.



EIA's price trajectory, based on production numbers in the High Oil and Gas Resource Case is below and, unsurprisingly, are substantially lower than the Reference Case.[69]

[69] The Energy Information Administration, "Annual Energy Outlook 2017." High Oil and Gas Resource and Technology table A3: Energy Prices by Sector and Source https://www.eia.gov/outlooks/aeo/



Additionally, a 2016 report by IHS Markit (then known as IHS) helps explain the simultaneous dynamic of high production in a potential sustained low commodity price environment. In their 2016 "Shale Gas Reloaded: The Evolving View of North American Natural Gas Resources and Costs," experts identified 1,400 tcf of natural gas in the U.S. Lower 48 and Canada that is economically and technically recoverable at breakeven prices of $4/MMBTU with more than half (approximately 800 tcf) of this resource base recoverable at prices of $3/MMBTU.[70] The below figure illustrates these production numbers in relation to 2015 natural gas consumption.

[70] IHS-Markit, "North America's Unconventional Natural Gas Resource Base Continues to Expand in Volume and Decrease in Cost." February 23, 2016. http://news.ihsmarkit.com/press-release/north-americas-unconventional-natural-gas-resource-base-continues-expand-volume-and-de

Beyond high production levels, EIA also forecasts that even as the U.S. significantly expands its LNG and pipeline export capacity, it would remain net long on natural gas through 2050.[71]

As we mentioned in previous comments during this process, Illinois is well suited to realize economic, environmental, and resource adequacy benefits of natural gas use in power generation. Natural gas generation can help Illinois regulators and policymakers advance the state's energy goals of giving citizens access to reliable, resilient, affordable, and clean energy.

Community Groups Response: Ten years ago, Illinois developed a renewable portfolio standard (RPS) that set a goal for Illinois investor-owned utilities to obtain 25% of their energy from renewable sources by 2025. The Future Energy Jobs Act (FEJA), a bipartisan clean energy and job-building piece of legislation which passed in December 2016, creates programs and incentives that stand to surpass that original goal. FEJA programs call for the installation of 1,350 megawatts (MW) of solar in Illinois by 2020, an increase from the state's current 75MW. By 2030, the goal is 2,700 MW.

MISO Zone 4 is not an island and has a high electricity import capability to access surplus, low cost generation in other MISO Zones. Furthermore, there are several new multi-value transmission projects in Illinois that will increase Zone 4's transfer capability. The projects will be completed soon and will further ensure the ability to maintain resource adequacy.

CUB Response: In addition to other new generation expected to come online in the coming years, FEJA incentivizes a large influx of new renewable generation. Among these new generation resources are a required 4.3 GW of new wind and solar to be built in Illinois by 2030. As the whitepaper notes, the Act "provides more funding for renewable resource generation

[71] U.S. EIA. Table: Natural Gas Supply, Disposition, and Prices. Annual Energy Outlook 2017. https://www.eia.gov/outlooks/aeo/data/browser/#/?id=13-AEO2017&region=0-0&cases=ref2017&start=2015&end=2050&f=A&linechart=ref2017-d120816a.3-13-AEO2017~ref2017-d120816a.6-13-AEO2017~ref2017-d120816a.23-13-AEO2017&ctype=linechart&sourcekey=0

deployment to achieve the target" of 25 percent of retail load being served by renewables by 2025. The whitepaper highlights FEJA's providing "both interim and long-term renewable energy goals" to be met through the Illinois Power Agency's procurement of renewable energy credits annually through 2030, including the Solar for All program.[72]

Dynegy Response: Dynegy's view (and the view of other capacity suppliers that have provided comments in the workshop) is that in Zone 4, the current MISO capacity construct does not produce long-term capacity prices that are sufficient to incentivize development of new generation in the region, nor to incentivize investment in existing generation to increase its capacity or efficiency or prolong its operating life. The exception is potential new wind and solar generation, which has the opportunity to obtain long-term (15-year) renewable energy credit (REC) contracts with the Illinois utilities through the IPA-administered renewable resources procurement process to meet the statutory Renewable Portfolio Standard (RPS) targets. This is illustrated by the MISO Zone 4 interconnection queue for new generation (provided, as of October 2017, in the ICC Staff White Paper), which shows 28 generator projects in the interconnection queue, totaling 4,364 MW of nameplate capacity, of which 27 projects, totaling 4,307 MW of nameplate capacity, are wind or solar. Only one non-renewables project, a 57 MW gas-fueled project, is in the Zone 4 interconnection queue.[73]

However, due to the intermittent nature of renewable generation, nameplate capacity of a new wind or solar facility is not the same as the capacity of the facility at times of peak demand. In its resource adequacy analyses, MISO uses the effective load-carrying capability of wind and solar generation, rather than the nameplate capacity. In comparison to the 4,307 MW of new renewables projects listed in the Zone 4 interconnection queue, recent (December 2017) information from the MISO Resource Adequacy Subcommittee shows that the new capacity resources projected to be coming into service in Zone 4 in 2019-20 through 2022-23 total 260 MW of capacity available at the time of peak.

Further, while the Future Energy Jobs Act (FEJA) is intended to promote development of new utility-scale wind and solar generation through the State's RPS, there are still significant challenges facing developers of new wind and solar projects to serve Illinois: (1) FEJA provides for 15-year REC contracts for new utility-scale renewable projects, but a REC contract may be insufficient to finance a project; the developer may also need to secure a long-term off-take contact for the facility's energy; (2) FEJA limits the eligibility of new projects not located in Illinois to supply RECs for RPS compliance purposes; (3) The procurement of RECs from new renewables projects for RPS purposes may be limited by statutory price caps; (4) Adequate transmission access and capacity can be an issue for new renewables projects; and (5) The President of the United States recently announced imposition of a tariff on imported solar panels, which could impact the cost and competitiveness of new solar projects. Additionally,

[72] ICC Whitepaper, at 15–16.

[73] One or 2 other proposals to build gas-fueled generation projects in Downstate Illinois have been reported, but entering the MISO interconnection queue can be a litmus test as to whether a developer is serious about a project; entering the queue requires that the developer begin to expend substantial funds on interconnection studies and related engineering, design and other technical activities.

while the REC procurement process established by FEJA will result in new utility-scale wind and solar facilities being awarded long-term contracts to sell RECs to AIC, this does not mean that those projects will sell their energy and capacity to AIC or any other LSE in Zone 4. Rather, developers of new renewable generation projects, even if located in MISO 4, may contract to sell their capacity and energy to LSEs in PJM, in light of the higher prices available in PJM.

The potential new capacity in Zone 4 during the forecast period must be considered in conjunction with the potentially unavailable resources, as reported by the OMS/MISO Survey. For 2018-19 in Zone 4, potential new capacity totals 60.9 MW and potentially unavailable capacity resources total 750.7 MW. For 2022-23, potential new capacity totals 277.9 MW and potentially unavailable resources total 865.5 MW.

Environmental Defense Fund Response: MISO has a surplus of prospective resources through at least 2027.[74] In fact, prospective resources could create a surplus of anywhere from 26-24% every year from 2018-2027.[75] Additionally, PJM, which has significant import and export capabilities that could serve the MISO region, has even more incredible anticipated and prospective surpluses. NERC calculates as much as a 60% prospective reserve margin by 2022. Even in the most conservative "anticipated" analysis, PJM should see at least a 27% reserve margin every year 2018-2027.

A properly-constructed MISO resource adequacy analysis would consider the impact on resource adequacy of retirement of varying levels of Dynegy units at varying future points in time, in conjunction with additional expected future capacity. Variables considered in the analysis should include: future capacity additions and the rate at which they will come online, ability to increase capacity factors of non-retiring units, load growth changes as a result of FEJA initiatives, and available resources from other MISO zones or other RTOs. Additional analysis should then be performed to test differences between retiring different units at different points in time. For example, the results of such an analysis would likely be different if all Dynegy units in Zone 4 were retired at once, if certain units were retired while others remained operational. The analysis would likely even change based upon the order of retirement of units.

As such, a comprehensive analysis is necessary to test Dynegy's claims of resource adequacy shortfalls in the face of unit retirements. Neither Dynegy nor any other stakeholder has presented such an analysis to date, but the substantial number of variables described above - combined with the current projected capacity surplus - indicate that at least some plant retirements may not have the dire consequences alluded to by Dynegy.

Exelon Response: In a competitive retail market, where recovery of generation investment is not rate regulated such as MISO Zone 4, investment in existing and new generation resources is dependent on expected market revenues from MISO's energy and capacity markets. Owners of existing assets facing incremental investment choices will ask whether revenues expected from

[74] NERC 2017 Long-Term Reliability Assessment, at 41.
[75] *Id.*

MISO's energy and capacity markets justify an incremental investment. The answer is clear that MISO's current capacity construct will not promote continued investment in the assets (whether existing or new) necessary to ensure resource adequacy.

Montgomery County Board Response: Examining this question from a financial perspective: Current renewable energy prospects rely heavily, or solely, on government incentives for installation and construction. Given the uncertain nature of Illinois budget, concerns are high that these renewable resources will not be able to support themselves without a heavy investment from the state.

Examining this question from a physical feasibility perspective: The physical footprint of "renewables" required to replace the energy generating output of these plants is not feasible. In Montgomery County alone, more than 300 square miles of wall-to-wall solar panels would be needed to produce the same amount of electricity as the Coffees, power plant (assuming 5 hours a day of sunshine year round). Regarding wind energy, our county is not "prime" wind-speed area. At least 800 wind turbines (rated at 1000 Kilowatts) would be needed to replace the energy generated by the plant and that is assuming 5 mph winds every day of the year with all turbines turning. Common sense tells us that 300 square miles of solar panels would lead to increased thermal activity and changes in local habitat. Almost half the county would be covered in panels and that does not account for storage cells and any transmission connections.

On a commercial and residential level, the prospect of solar or wind energy is to be analyzed on a case-by-case basis. For example, small 20 kW solar panel installations in our area are only economically feasible due to the credits issued by the state of Illinois and that our energy transmission provider, Ameren, allows us to accrue the credits over a year to apply toward our peak bills of October and November. Electric cooperatives cannot offer the same time period for credits to accrue; therefore, making it much more difficult to justify installing solar at facilities receiving power through cooperatives' infrastructure. Will Illinois commit to subsidizing the build out of the pipelines and construction of new gas-fired plants? No.

The coal burning power plants in MISO Zone 4 are not looking for incentives. We are asking, through this legislation, that they be on a level playing field in this market, enabling them to compete with the other power supply generators.

Murray/Foresight Energy Response: As stated prior without any changes to the current distorted short-term market mechanism Illinois will not only lose baseload generating facilities, but due to the same market mechanisms Illinois will see no new baseload generating facilities built. The addition of new coal or nuclear capacity resources require a lead-time for required permitting and planning, are more expensive to build and require a longer time period to amortize costs, which cannot be addressed in a deregulated state under the current distorted short-term market structure. The current market structure separates out energy and capacity markets and favors gas-fired generation as a gas-fired unit needs to be able to recover its capacity cost with the fuel cost risk being borne by the consumers. The current market structure tilts the playing field heavily towards short-term optimization and fails to compensate

in any way many of the attributes of sound power supply planning which reduces exposure to price volatility, maintains a diverse generating mix, and ensures that electricity costs remain stable on a long-term basis.

The MISO survey only looks at the short-term and does not look at a longer period of 24/7, seasonal, 52-week intervals, which would provide market indications showing a need to maintain or add additional baseload generation. The MISO survey thus does not address resiliency at all with such a short-term view. Resiliency alone is a strategic plan tied to resource adequacy, which cannot be properly quantified in such a short-term view. NERC's 2017 Long Term Reliability Study indicates that in 5 years MISO will fall below the Reference Margin Level of 15.8 percent. We do not feel the data has addressed the issue of Dynegy possibly closing plants during this same period nor the discussions CWLP has had publicly related to possible retirement of units. These events would cause MISO to fall below the Reference Reserve Margin Level sooner than predicted.

International Brotherhood of Electrical Workers Response: New generation in Zone 4 will add to the total capacity in Zone 4. It is prudent to the accuracy of any assessment of new renewables on Zone 4 resource adequacy for capacity factors of renewable energy sources to be taken into consideration when evaluating Zone 4 resource adequacy, reliability, resiliency and the daily fuel mix in Zone 4.

Illinois Industrial Energy Consumers Response: As of January 22, 2018, there was 2,224 MW of wind resources, 1,960 MW of solar resources and 57 MW of natural gas-fired resources active in the MISO generation interconnection queue for MISO Zone 4 that were either in the Definitive Planning Phase (DPP), had a generation interconnection agreement in progress, or had an executed generation interconnection agreement.[76] Applying MISO's default nameplate capacity deration factors of 15.6% for wind and 50% for solar, along with MISO's default equivalent forced outage rate of 6% for natural gas-fired combustion turbines[77] yields 1,381 MW of additional MISO Zone 4 Unforced Capacity (UCAP), assuming all of the forgoing resources ultimately enter service – not an insignificant addition.

As an aside, it is not surprising that there is not more than 57 MW of new natural gas-fired generation facilities in the MISO generation interconnection queue, given the amount of capacity that is currently available in MISO Zone 4 in excess of the Local Clearing Requirement (LCR) for Zone 4. As IIEC commented in Section II.A., in the MISO 2017/2018 Planning Year, there were 4,779 MW of UCAP in MISO Zone 4 that were either self-scheduled, offered into the MISO Planning Resource Auction (PRA) or used in a Fixed Resource Adequacy Plan (FRAP) in excess of the LCR for MISO Zone 4. Given this existing surplus and the significant expected UCAP additions coming from new renewable resources, there currently is no need for significant new natural gas-fired generation capacity additions in MISO Zone 4.

---

[76] *See* https://cdn.misoenergy.org/GI%20Public%20Queue110556.xlsx.
[77] *See* MISO Planning Year 2018-2019 Loss of Load Expectation Study Report, October 19, 2017 (https://www.misoenergy.org/api/documents/getbymediaid/80578) at 21 and 22.

MISO Response: Local Resource Zone 4 has 31 active requests in the generator interconnection queue as of January 20, 2018, with a total installed capacity of 5,085 MW. Of these requests, 353 MW are gas generation, 2,334 MW are solar generation, and 2,397 MW are wind generation. Assuming a 15.2% wind capacity credit and a 50% solar capacity credit, the combined 4731 MW of renewable resources translates into a capacity value of approximately 834 MW, or a total of 1187 MW of capacity, including the gas generation. There is no assurance that all or if any of this supply will be built or certainty on when it may be in-service; only that developers have made an interconnection request.

Natural Resources Defense Council Response: Both MISO and Zone 4 are expected to experience a significant influx of new capacity by 2021, mainly wind and solar energy. The MISO interconnection queue should be valued as an indicator of the potential generating resources that could come online in the near-term, as well as their geographic location. The fact that a number of projects in the queue eventually drop out should not detract from its ability to inform planning decisions. MISO itself relies on it to inform a number of its studies.[78]

Zone 4 has more renewable energy capacity in the MISO queue than any other zone. More than 4,300 MW of renewable capacity- 2,147 MW of wind and 2,153 MW of solar- are in the definitive planning phase ("DPP") of the queue for Zone 4 as of October 2017. Even under MISO's conservative assumption that only 35 percent of these projects will eventually come online,[79] this is still at least 751 MW and 754 MW of new wind and solar respectively poised to be in operation by 2020. Adding the wind resources under construction or with secure regulatory approvals brings the total to 1,360 MW and 754 MW of new wind and solar, respectively, which should be expected to be operational by 2020 in Zone 4[80]. Applying the current MISO-adopted capacity credits for wind and solar of 15.6 percent and 50 percent, respectively, Zone 4 should expect at least 590 MW of new wind and solar capacity to be operational by 2020, on a UCAP basis. This alone makes up for roughly 22 percent of the Dynegy at-risk capacity of 3,000 MW.[81]Therefore, the bare minimum of capacity buildout by 2020 in Zone 4 is enough to make up for nearly a quarter of the Dynegy at-risk capacity.

Further, MISO Zone 4 can import from sources outside of its borders and is uniquely situated to do so. LSEs in Southern Illinois can also tap into generating resources in other MISO zones to meet their PRMRs. This is reflected in the capacity import limit (CIL) discussed in more detail in

---

[78] Including the OMS-Survey

[79] Note that MISO is revising the 35 percent figure to better capture that the farther along projects are in the DPP phase, the more chance they have of making it through to commercial operation

[80] As discussed in Section II.A, there are 132 MW of wind resources under construction, set to come online in 2018, and 475 MW of wind projects which have received regulatory approvals but haven't begun construction, with online dates of 2018 and 2019 in Zone 4. For simplification purposes, we are ignoring an additional 11 MW of solar and hydro resources also under construction in Zone 4 and set to come online in 2018. This excludes more than 730 MW of projects (mainly wind) either under construction or with secure regulatory approvals in the ComEd zone although at least some of those resources should reasonably be considered readily available to meet load and reliability needs in Zone 4.

[81] The 22 percent is on a UCAP basis. It reflects the load carrying capability of the Dynegy plants of 90 percent – 0.9x3,000= 2,700 MW.

Section III.B. Across the MISO footprint, roughly 45 GW of renewables- 15.3 GW of solar and 29 GW of wind are in the DPP of the MISO queue set to come online in the next three years. Moreover, 11 GW of natural gas plants are planned to be operational by 2021. Adopting MISO's conservative assumption that only 35 percent of these projects will make it to commercial operation, at least 5.4 GW of solar projects, 10 GW of wind projects and 3.9 GW of gas plants are expected to be operational across all of MISO zones by 2021. With the second highest electricity import capability across the MISO footprint, Zone 4 is uniquely capable of taking advantage of these new low- cost generation resources to meet resource adequacy needs going forward.

During the workshops, critics have argued that wind and solar resources would not be adequate to replace the output from the Dynegy plants as they tend to be unavailable during peak demand times. First of all, wind and solar both receive a capacity credit, however modest it is for wind, demonstrating their value. This means that they can be available at peak times. In addition, solar resources receive a 50 percent capacity credit, and current technological advancements are expected to drive their capacity value to 60 percent or greater.[82] As for wind, MISO is continuing work on seasonal capacity constructs, which could boost the value of wind resources in meeting winter peak demand. Second, the critics' argument ignores the recent major advancements in system planning and wholesale market management practices that are enabling grid operators to reliably integrate large amounts of solar and wind into the grid to meet load and resource adequacy requirements.[83] In fact, given the large recent growth in renewable capacity and anticipated continued growth,[84] grid operators are increasingly valuing flexible resources like demand response, storage and fast-ramping gas-fired resources to accompany the variable generation of wind and solar. For example, MISO introduced a ramping product, which compensates resources (including renewable resources) for their ramping capability.[85] And Southern Illinois is well positioned to accommodate the anticipated growth in renewable capacity while meeting reliability and resource adequacy requirements. For example, in its 2017 Long-term reliability assessment (LTRA), NERC states that both Zone 4 and Zone 7 (covering most of the Michigan lower peninsula) will have a significant increase in demand response and distributed resources through 2027, based on new registrations by aggregators in MISO's Module E Capacity Tracking Tool.[86] This anticipated growth in demand-side resources, particularly demand response, will help accommodate the increased renewable generation. In addition, Zone 4 has more than 5 GW of natural gas-fired combined-cycle and

---

[82] Single-axis panels can get a capacity credit of 60 percent and more

[83] The Brattle Group's "Advancing past baseload to a flexible grid" report discusses in detail the progress that grid operators have made to reliably integrate wind and solar resources while providing important benefits to customers. The report is available at http://files.brattle.com/system/publications/pdfs/000/005/456/original/advancing_past_baseload_to_a_flexible_grid.pdf?1498482432

[84] Due to technology cost reductions, state policies favoring renewable investments and increased customer demand for cleaner energy

[85] https://www.misoenergy.org/Library/Repository/Communication%20Material/Strategic%20Initiatives/Ramp%20Capability%20Product%20Cost%20Benefit%20Analysis.pdf

[86] NERC, 2017 Long-term reliability assessment, p. 42

combustion turbine units.[87] The combustion turbine units could be dispatched in conjunction with renewable generation to help accommodate peak demand, while the combined cycle plants could be ramped up and down in a flexible manner to accommodate the variable output of wind and solar resources.[88]

To sum up, claiming that renewable resources should be dismissed for their lack of output during peak times is based on what is quickly becoming antiquated reasoning that largely ignores major advancements in technology and grid management across the country.

Rockland Capital Response: In general, the prospect of new generation entering MISO Zone 4 are slim because of the inefficient price signal produced by the PRA. The 2017/2018 PRA resulted in a clearing price of $1.50/MW-day. This is insufficient to attract new generation or to support the continued operations of existing generation.

There are, however, resources in the MISO interconnection queue that have preliminarily indicated an interest in serving Zone 4. The ICC's MISO Zone 4 Whitepaper noted the installed capacity values of these resources: 2,147 MWs of wind, 2,160 MWs of solar, and 57 MWs of natural gas. When MISO is evaluating the potential contributions of resources in the interconnection queue, it applied a 35% factor to those resource due to the regularity that such resources "drop out" of the interconnection process. Wind resources are subject to a 15.6% capacity factor, and solar resources are subject to a 50% capacity factor. Other planning resources, like new gas generation, see an application of a class average forced outage rate to determine the number of available capacity MWs.

Using these values, these 4,364 MWs of resources currently in the MISO Zone 4 interconnection queue only represents 514 MWs of capacity that can contribute to Resource Adequacy in the future.[89]

Sierra Club Response: In an effort to avoid undue repetition, Sierra Club refers the ICC to comments submitted by other stakeholders, including the Natural Resources Defense Council, Environmental Law and Policy Center, and Environmental Defense Fund.

---

[87] The ComEd zone also has a large number of gas plants – more than 13 GW. At least *some* of those plants can be counted on to supply energy to Zone 4 and help integrate wind and solar resources.

[88] The bulk of the combined cycle plants in Southern and Northern Illinois had capacity factors lower than 65 percent (a lot of these plants had capacity factors much lower than 65 percent) in 2015 and 2016. This means that there is room for these plants to ramp up and help accommodate the anticipated increase in wind and solar growth.

[89] In applying the capacity factors to the wind resources, there would be 334.9 MWs of eligible wind, 1,080 MWs of eligible solar, and 53.6 MWs of eligible capacity from the gas turbine. MISO's 35% scaling factor to account for uncertainty in project completion was then applied to those totals. See, MISO 2017-2018 EFORd Class Averages, available at: https://cdn.misoenergy.org/2017-2018%20EFORd%20Class%20Averages87332.xlsx.

E. What non-generation resources are and may be available to meet resource adequacy and how do such resources impact resource adequacy?

[Examples of issues under this question include: How do distributed generation resources, demand response resources, energy efficiency resources, and storage resources meet Zone 4 adequacy requirements? How will P.A. 99-0906 impact resource adequacy in Zone 4?]

AARP Response: See answer to question A. The problem with using RTOs in this dialogue is that their solutions are overly-focused on new, costly generation and transmission resources and in some cases assume retirements that may not actually occur.

AG Response: As noted above, the Future Energy Jobs Act expanded utility energy efficiency programs which are designed to reduce demand for electricity. In addition, appliance standards and improvements in energy efficiency across the economy are resulting in small or no growth in energy demand. Less demand means that fewer generating resources are needed.

Community Groups Response: Energy efficiency programs put in place by FEJA are just rolling out. These programs are going to decrease energy demand, which MISO has projected to be nearly flat in the coming years. These programs should be allowed to play out before major market reforms are considered. The benefits of FEJA in terms of new generation and reduce demand should be modeled over the next few years to fully understand their impact on adequacy before any action is taken.

Dynegy Response: Dynegy considers demand response providers to be "generation resources," however, some may consider demand response to be a non-generation resource. Under the MISO tariff, demand response resources can be used to meet resource adequacy requirements. An additional resource (that may or may not be considered a "generation resource") that can support resource adequacy is energy storage devices, such as large-scale battery storage. There has been some development of demand response resources and energy storage in Illinois; however, development of these resources for Zone 4 is likely limited by the low capacity prices. Higher capacity prices in Zone 4 would increase incentives for the development of demand response and energy storage resources. Another non-generation resource is energy efficiency. FEJA includes provisions to incentivize increased savings in energy usage from energy efficiency programs. The benefits of new energy efficiency programs are more likely manifested in energy (annual kWh) savings rather than in peak demand reduction; however, under the MISO tariff, energy efficiency programs can be considered as a generation resource for purposes of meeting resource adequacy requirements.

The potential impact of FEJA on development of new renewable generation resources in Zone 4 is discussed under II.D above.

Environmental Defense Fund Response: Energy usage is and will continue to trend downward as a result of expanded energy efficiency, expanded and demand response programs, and evolving technology. Less resources will thus be required in the future. Concurrently, nuclear

retirements have been forestalled and distributed resources are increasing for a number of reasons including the Future Energy Jobs Act. Grid operators' traditional reliance on large generators to provide needed capacity no longer presents a full picture of future available capacity.

The ICC and policymakers should explore whether other wholesale markets have attempted to allow for different types of demand-side or new technology resources to meet reliability needs as a superior alternative to old, slow-moving generators.

Environmental Law & Policy Center Response: MISO and much of the country is on the precipice of a huge increase in available and affordable distributed energy resources, including distributed generation, demand response, energy efficiency, and storage resources. As the cost of these resources comes down significantly year after year due to improvements in technology and manufacturing efficiencies, we expect to see significant additional growth of these resources. MISO recently launched an energy storage task force to study how to best integrate storage into the MISO markets. Also, the Organization of MISO States is studying the ways that distributed resources can function in the markets. In Illinois, the Future Energy Jobs Act will bring more energy efficiency and demand response into the state to meet capacity needs.

At the federal level, FERC has begun a rulemaking that would allow storage and distributed resources to integrate directly into wholesale markets. We believe this indicates that we will see distributed resources like rooftop solar able to help meet resource adequacy requirements.

These resources can perform under a wide variety of conditions that help maintain reliability beyond the mere resource adequacy requirements.

Exelon Response: There has been limited demand response and energy efficiency participation in Zone 4, likely due to the lack of a transparent, long-term price signal, which is crucial to a well-functioning capacity construct. For planning year 2017/18, 908 MW[90] of demand resources cleared in Zones 3, 4 and 5, which is only approximately 3% of the total resources cleared in those Zones. Exelon believes demand response is an important element of a functioning capacity construct and, while it cannot be exclusively relied upon to solve the challenges facing Zone 4, it can help meet resource adequacy needs. Further analyses should be undertaken to examine potential increases in demand response participation in MISO Zone 4.

Illinois Industrial Energy Consumers Response: Interruptible customer load registered with MISO as a Load Modifying Resource (LMR) Demand Resource (DR) is an important source of capacity in MISO Zone 4 and has recently seen growth. Specifically, an Aggregator of Retail Customers (ARC) – MISO's equivalent of PJM's Curtailment Service Providers – entered the MISO Zone 4 market for the MISO 2017/2018 Planning Year and was a contributor to the 350

[90] See 2017/18 PRA Results presentation, MISO must aggregate certain Zones for confidentiality purposes: https://www.misoenergy.org/Library/Repository/Meeting%20Material/Stakeholder/RASC/2017/20170510/20170510%20RASC%20Item%2002a%202017-18%20PRA%20Summary.pdf

MW of additional LMR DR offers made in the MISO 2017/2018 PRA.[91] New LMR DRs can be registered with MISO with only a few months' notice and the amount of UCAP contributed by LMR DRs in MISO Zone 4 should be expected to grow as MISO capacity market prices increase and ARCs continue to enter the MISO Zone 4 capacity market.

In addition, a number of large industrial and institutional consumers self-provide their capacity needs behind the meter through efficient cogeneration facilities that typically involve the use of Combined Heat and Power (CHP) technology. This is also an important source of capacity that manifests itself through a lower Local Clearing Requirement (LCR) and Planning Resource Margin Requirement (PRMR) in MISO Zone 4. Behind the meter generation is another area that should see growth as capacity market prices in MISO Zone 4 increase.

IIEC would also note that Illinois Public Act 99-906, which became effective on June 1, 2017, is expected to accelerate the deployment of energy efficiency in MISO Zone 4. This greater deployment of energy efficiency is expected to put additional future downward pressure on electric demand in MISO Zone 4, which in turn will cause future LCR and PRMR values for MISO Zone 4 to remain flat or decrease.

MISO Response: Non-generation resources, including distributed generation resources, are Behind-the-Meter Generation ("BTMG"), Demand Resources ("DR"), and Energy Efficiency Resources ("EER"). Each of these resources are eligible to provide capacity under MISO's Resource Adequacy construct.

MISO cannot publish Zone 4 specific volumes of non-generation resources for data confidentiality purposes. However, the MISO footprint cleared 3,456MW of BTMG; 6,014 MW of DR; and 98 MW of EER in the 2017/2018 Planning Resource Auction.

Montgomery County Board Response: We are referred to as a crossroads for both transportation disbursement of electricity throughout the Midwest and to the east coast. There is no doubt we could continue import electricity; however, if we continue to allow our electric generating ability to be poached we will become an end user instead of a generating community. We will be vulnerable to shortages, outages, job loss, tax loss and indirect negative financial impacts totaling more than $2 BILLION.

Natural Resources Defense Council Response: Demand response, distributed generation, energy efficiency and storage all contribute to resource adequacy. It is worth noting that most of these newer technologies – including wind and solar resources, as well as demand response and storage, are able to respond to system emergencies more quickly than the fleet of inflexible coal and nuclear plants, particularly when the response requires the units to start up.

As mentioned in Section II.D, Zone 4 is expected to have a significant increase in demand response through 2027. Demand response and storage are efficient and operationally-flexible

[91] *See 2017/2018 Planning Resource Auction Results*, Resource Adequacy Subcommittee, May 10, 2017 (https://www.misoenergy.org/_layouts/MISO/ECM/Redirect.aspx?ID=249648) at Slide 11.

resources which can dynamically adjust their operating levels in response to changing system conditions, such as variations in demand, variations in renewable generation, extreme weather conditions, and system emergencies. In other words, these resources are both very valuable for resource adequacy and cheaper than other generation resources.

Similarly, the large increase in distributed solar resources and energy efficiency investments expected in both Northern and Southern Illinois will enhance LSEs' ability to meet their resource adequacy requirements. For instance, under FEJA, LSEs are required to significantly expand their energy efficiency programs, and achieve a 21.5 percent and 16 percent reduction in energy use by 2030, for Commonwealth Edison (ComEd) and Ameren Illinois Company (Ameren), respectively. This will not only have the effect of noticeably reducing the LSEs PRMRs, but also free up a lot of the capacity currently being used to meet load and direct it towards meeting resource adequacy needs. Similarly, distributed solar reduces customer demand, and thus puts downward pressure on PRMRs, enhancing LSEs ability to achieve resource adequacy.

This trend is not exclusive to Zone 4, as MISO forecasts an increase in demand-side resources across its footprint, and is doubling down on its efforts to account for these resources in its transmission planning studies- namely MTEP19.[92]

In sum, demand-side resources like distributed generation, demand response, energy efficiency resources, and storage not only help reliably and cost-effectively integrate growing amounts of renewable generation on the grid, but also enhance the LSEs' ability to achieve resource adequacy and will be increasingly available in the near future to help address resource adequacy concerns.

Rockland Capital Response: Demand response and energy efficiency resources are eligible to assist in meeting the Resource Adequacy needs in MISO Zone 4. However, the failure of the MISO PRA to establish an efficient price signal has stifled market entry in the area. This is evident in a cursory review of the most recent capacity auction results in MISO and comparing those results to the results of the neighboring PJM region. For the 2017/2018 PRA for the 2017/2018 Deliver Year, MISO cleared 6,014 MWs of Demand Response and 98 MWs of Energy Efficiency. The PJM capacity auction for the 2017/2018 Delivery Year cleared 14,118.4 MWs of Demand Response and 822.1 MWs of Energy Efficiency. The PJM system is only approximately 20 GWs larger than MISO's system.

Sierra Club Response: In an effort to avoid undue repetition, Sierra Club refers the ICC to comments submitted by other stakeholders, including the Natural Resources Defense Council, Environmental Law and Policy Center, and Environmental Defense Fund.

92 As we mentioned in our previous set of comments, MISO has contracted with industry and Department of Energy National Lab experts to improve forecasts and siting of distributed generation resources in its MTEP19.

F. How well do existing programs and initiatives predict future resource adequacy?

[Examples of issues under this question include: How well does the OMS MISO survey address resource adequacy prediction? How well does NERC's 2017 Long Term Reliability Assessment address resource adequacy measurement in Zone 4?]

AARP Response: See discussion above. The MISO survey is basically a survey of those with an interest in building new transmission lines and constructing new power plants. As the draft report noted, it has been "alarmist" in its findings. Treating downstate Illinois as an island defeats the purpose of being in an RTO (relying on other states to meet power demands economically through the regional dispatch of generation).

AG Response: The existing system of evaluating and maintaining resource adequacy in the United States works well enough to ensure sufficient capacity. As demonstrated by comments here and by other parties in the workshop process, and through the ICC Whitepaper itself, the current system of FERC, NERC, RTO, and state oversight have resulted in a robust and reliable generation mix in the MISO- Illinois area. Virtually all power outage incidents that occur are due to distribution level events or transmission line failures caused by equipment or extreme weather—not insufficient generating capacity. Accordingly, major interventions into our system of electric reliability are unnecessary and disruptive; for example, FERC dismissed the DOE's Grid Reliability Proposal after it produced widespread opposition from stakeholders across the energy industry as both unnecessary and disruptive to energy and capacity markets.[93]

Community Groups Response: As described above, MISO's own survey found that Zone 4 can expect a surplus of energy in every year examined (2018-2022).

Dynegy Response: The accuracy of the OMS/MISO Surveys in predicting future resource adequacy is dependent on the accuracy of (i) the load forecasts and (ii) the projections of available generating capacity resources in the future years covered by the Survey. The load forecast component of the OMS/MISO Survey is based principally on load forecasts provided by utilities in the MISO region. The utilities have strong incentives to produce reasonable and accurate load forecasts because they must use these forecasts for their own financial planning, capital budgeting, regulatory reporting, and financial and investor reporting and communications. Further, individual utilities do not have incentive to over-forecast load growth, because forecasted load growth typically carries with it additional capital expenditure and resource acquisition needs. Additionally, it is reasonable to assume that each utility is the most knowledgeable entity concerning economic and demographic conditions in its service area.

The OMS/MISO Survey has been forecasting only modest, if any, load growth. MISO's long-term load growth forecast for MISO Zone 4 is only 0.64% through 2026. This low forecasted growth rate is consistent with the implementation of initiatives such as increased emphasis on

[93] *Grid Reliability and Resilience Pricing*, FERC Docket No. RM18-7, Order Terminating Rulemaking Proceeding, Initiating New Proceeding, And Establishing Additional Procedures (Jan. 8, 2018).

and support for energy efficiency programs. The 2017 OMS/MISO Survey projected lower peak loads for 2018 than did the 2017 Survey, for 9 of the 10 MISO zones, including Zone 4:

MISO Zone	Forecasted Load Increase/(Decrease) for 2018 from 2016 Survey to 2017 Survey
1	(317.7) MW
2	(129.8) MW
3	(253.2) MW
4	(441.0) MW
5	(431.1) MW
6	(327.6) MW
7	(366.7) MW
8	80.8 MW
9	(154.9) MW
10	(159.9 MW)

On the resource side, the key variables are projections of new capacity additions and projections of whether existing generation will continue to be available to serve Zone 4 load. The 2017 OMS/MISO Survey takes new generating projects under development into account, using an approach based on data and experience. The Survey includes as "committed capacity," new generators with signed interconnection agreements, and as "potential capacity," 35% of new resources in the Definitive Planning Process (DPP) of the MISO queue. The 35% metric was based on the following data concerning projects that entered the DPP from 2012 through 2016: (i) 37% of projects withdrew from the queue; (ii) 26% of projects completed the DPP and arrived at a generator interconnection agreement; (iii) this left a potential success rate of between 26% and 63% for projects still in the queue. The assumed success rate of 35% for projects that have entered the DPP is 42% higher than the actual success rate in 2012 through 2016.

The projections of the future availability of existing generation resources are provided to MISO by capacity suppliers. As explained earlier, Dynegy has listed its Downstate generating units, other than Baldwin Unit 3, as "High Certainty" resources. As a result, although the 2017 OMS/MISO Survey indicates the availability of sufficient generation resources to meet the projected Zone 4 load plus PRM, this outcome is dependent on continued availability of the Dynegy Downstate generating units. As the table in II.C above demonstrates, retirement, or sale into other markets, of a significant portion of the currently operating Dynegy Downstate generation would result in available resources being less than the projected Zone 4 load plus PRM.

Environmental Defense Fund Response: The MISO OMS Survey and NERC Long Term Reliability Report provide two measures of future resource adequacy. EDF presented a number of important considerations in future resource adequacy prediction that the truncated ICC workshop process did not allow time to explore. These issues included:

- How to best estimate additional capacity coming online as a result of the Future Energy Jobs Act;
- How to calculate declining usage;
- How to calculate forestalled nuclear retirements;
- What conditions lead to a peak event (one day in ten year high);
- What tools are available to manage peak events;
- What capacity is available from other states;
- What capacity is available that sits in MISO Zone 4 but sells capacity into other markets;
- How accurate historical reserve margin requirements and load forecasts have been;
- What tools other than a capacity market are available for ensuring reliability if resource adequacy is primarily met from out-of-state resources; and
- How demand-side or new technology resources (such as demand response, energy storage, smart inverters, or other approaches) can be leveraged.

Exelon Response: The annual Organization of MISO State (OMS) Survey is the most commonly referenced, publicly available tool used to analyze and assess resource adequacy in the MISO region. The OMS Survey has proved to be a beneficial tool but generators and regulators alike would benefit from clearer, more accurate and forward-looking information relating to generation available in the region. MISO has indicated previously that a very high percentage of generators and suppliers participate in the OMS Survey. While that is a positive trend, there is no guarantee that that will remain the case in the future. The OMS Survey should be mandatory for generation resources intending to participate in MISO PRA Auctions.

Illinois Industrial Energy Consumers Response: The Organization of MISO States (OMS) MISO Survey has, to date, tended to overstate the potential risk of a capacity shortage. It has done so by: (i) overstating potential capacity shortfalls; (ii) failing to clearly indicate that a zone can import capacity from other MISO zones to meet any Planning Reserve Margin Requirement (PRMR) shortfall it may have up to the difference between the zone's PRMR and Local Clearing Requirement (LCR) values; and (iii) placing a disproportionate emphasis on the low end of the results of the survey.

The 2016 OMS MISO Survey suggested that MISO Zone 4 for 2017/2018 could have anywhere from a shortfall of 1,200 MW in Installed Capacity to a surplus of 500 MW of Installed Capacity with any shortfall being able to be met with imports of capacity from other MISO zones.[94] In

[94] *See* 2016 OMS MISO Survey Results, July 2016 (https://cdn.misoenergy.org/20160629%20RASC%20Item%2003%20OMS-MISO%20Survey%20Full%20Deck87309.pdf) at Slide 9.

Unforced Capacity (UCAP) terms, this is a shortfall of approximately 1,117 MW to a surplus of approximately 465 MW.[95] The actual MISO 2017/2018 Planning Resource Auction (PRA) results yielded a surplus of 724 MW of UCAP in excess of the Zone 4 PRMR of 9,894 MW. The 724 MW of UCAP translates into approximately 778 MW of Installed Capacity – 56% higher than the 500 MW surplus upper end of the 2016 OMS MISO Survey projection.[96] IIEC's pre-workshop comments of November 30, 2017 and post-workshop comments of December 21, 2017 included specific recommendations to be pursued in the MISO stakeholder process to address the shortcomings of the OMS MISO Survey.[97]

Putting aside the historical shortcomings of the OMS MISO Survey results, the 2017 OMS MISO Survey in terms of Installed Capacity projects a potential surplus over the Zone 4 PRMR of 700 MW to 1,600 MW and a potential surplus over the Zone 4 LCR of 4,000 MW to 4,900 MW.[98] However, there is more recent data available from MISO that can update these projections and present them in terms of UCAP. First, for Zone 4 for 2018/2019, the 2017 OMS MISO Survey identified 11,800 MW of Committed capacity and 900 MW of Potential capacity.[99] This translates into 10,923 MW to 11,756 MW of UCAP.[100] MISO's January 10, 2018 PRA Preliminary Data estimates that for 2018/2019 the Zone 4 LCR to be 5,138 MW.[101] Thus, the estimated Zone 4 UCAP surplus over the LCR is currently 5,785 MW to 6,618 MW. As noted in IIEC's comments in Section II.A., the Zone 4 PRMR should be examined on an overall Zones 2 through 7 basis, since MISO Zone 4 can import the portion of its PRMR that exceeds its LCR. For Zones 2 through 7, the 2017 OMS MISO Survey projected 91,500 MW to 93,600 MW of Installed Capacity or 84,702 MW to 86,646 MW of UCAP.[102] However, reflecting the latest transmission

---

[95] 1,117 MW = 1,200 MW x (1.078/1.158); 465 MW = 500 MW x (1.078/1.158); *See* MISO Planning Year 2017-2018 Loss of Load Expectation Study Report, December 17, 2016 at 29.

[96] 778 MW = 724 MW x (1.158/1.078); *See Id.*

[97] See Resource Adequacy in MISO Zone 4 Pre-Workshop Comments of the Illinois Industrial Energy Consumers, November 30, 2017 (https://www.icc.illinois.gov/downloads/public/IIEC%20pre-workshop%20comments.pdf) at 10-11 and Resource Adequacy in MISO Zone 4 Post-12/7/2017 Workshop Comments of Illinois Industrial Energy Consumers, December 21, 2017 (https://www.icc.illinois.gov/downloads/public/IIEC%20post-workshop%20comments.pdf) at 3-5.

[98] 4,000 MW = 700 MW + 10,800 MW – 7,500 MW; 4,900 MW = 1,600 MW + 10,800 – 7,500 MW; *See* 2017 OMS MISO Survey Results, July 2017 (https://cdn.misoenergy.org/20170712%20RASC%20Item%2002%20OMS%20Survey%20Results87552.pdf) at Slide 36.

[99] See 2017 OMS MISO Survey Results, July 2017 (https://cdn.misoenergy.org/20170712%20RASC%20Item%2002%20OMS%20Survey%20Results87552.pdf) at Slide 36.

[100] 10,923 MW = 11,800 MW x (1.084/1.171); 11,756 MW = (11,800 MW + 900 MW) x (1.084/1.171); *See* MISO Planning Year 2018-2019 Loss of Load Expectation Study Report, October 19, 2017 (https://www.misoenergy.org/api/documents/getbymediaid/80578) at 26.

[101] See MISO PRA Preliminary Data, January 10, 2018 (https://cdn.misoenergy.org/20180110%20RASC%20Item%2003a%20PRA%20Preliminary%20Data97314.pdf) at Slide 4.

[102] *See* 2017 OMS MISO Survey Results, July 2017 (https://cdn.misoenergy.org/20170712%20RASC%20Item%2002%20OMS%20Survey%20Results87552.pdf) at Slides 14, 24, 30, 36, 42, 48 and 54; 84,702 MW = 91,500 MW x (1.084/1.171); 86,646 MW = 93,600 MW x (1.084/1.171); *See* MISO Planning Year 2018-2019 Loss of Load Expectation Study Report, October 19, 2017 (https://www.misoenergy.org/api/documents/getbymediaid/80578) at 26.

limitation values, this adjusts to 84,918 MW to 86,862 MW of UCAP.[103] This is 2,429 MW to 4,373 MW in excess of MISO's January 10, 2018 PRA Preliminary Data PRMR for Zones 2 through 7 of 82,489 MW.[104]

MISO Response: The OMS MISO Survey provides a transparent estimate of the capacity which is expected to be available to serve load throughout the MISO footprint, based on information from MISO resource adequacy processes and data provided by LSEs and Generator Owners. The Survey documents a range of possible outcomes, including variations due to generation retirement and, beginning in the 2017 Survey, new generation interconnection requests. This range is intended to inform discussions between LSEs and their states on what actions load will take to fulfill their obligation to retain resource adequacy. However, as with any analysis, it is subject to the dynamic shifts in load forecasts and the power supply mix occurring throughout the United States. Current plans to continue operations or planned generation retirements within MISO are also subject to change based upon economics, state and federal policies, as evidenced by the recent potential generation retirements which have been deferred in Illinois (due to Future Energy Jobs Act). The Survey serves as a reasonable estimate of the current state of resource adequacy in the MISO footprint, in an environment where accurate predictions are stymied by many moving influences.

Montgomery County Board Response: Unfortunately, through no fault of MISO who currently provides prediction information, they are not able to factor in the price impact to consumers if the eight coal generating power stations in M150 Zone 4 were to close; nor, the economic impact the retirement of these stations would have on downstate Illinois. Even without adding in the variables listed above, the resource adequacy predictions cannot accurately address the available resources due to the amount of future volatility. (A few examples include the continued ability for other states to bid into our market, the amount and longevity of incentives offered for renewable resources, the available land area to produce possible renewable resources and fluctuations in nature gas markets.)

Natural Resources Defense Council Response: The OMS-MISO Survey is a useful tool for providing a regional view of LSE resource plans, as well as transparency on how the MISO region and its zones will fare in terms of meeting resource adequacy and reliability requirements in the near-term. Although the survey relied on flawed assumptions in the past (namely overly pessimistic assumptions regarding coal plant retirements and load growth),

---

[103] 84,916 MW = 84,702 MW + 516 MW – 600 MW +1,500 MW – 1,200 MW; 88,682 MW = 86,646 MW + 516 MW – 600 MW + 1,500 MW – 1,200 MW; *See* 2017 OMS MISO Survey Results, July 2017 (https://cdn.misoenergy.org/20170712%20RASC%20Item%2002%20OMS%20Survey%20Results87552.pdf) at Slide 14; MISO PRA Preliminary Data, January 10, 2018 (https://cdn.misoenergy.org/20180110%20RASC%20Item%2003a%20PRA%20Preliminary%20Data97314.pdf) at Slide 4; and MISO Review of Preliminary SREC and SRIC Calculations for 2018-2019, January 10, 2018 (https://cdn.misoenergy.org/20180110%20RASC%20Item%2003b%20SREC%20SRIC%20Review97315.pdf) at Slide 6.

[104] *See* MISO PRA Preliminary Data, January 10, 2018 (https://cdn.misoenergy.org/20180110%20RASC%20Item%2003a%20PRA%20Preliminary%20Data97314.pdf) at Slide 4.

MISO implemented some important changes to improve the survey and better capture supply and demand across the footprint. While the survey is not a prediction of the near-term state of resource adequacy, it is still an informed and robust indication of how secure resource adequacy is and will be based on anticipated retirements and new resource additions. The latest 2017 MISO-OMS Survey results showing that both MISO and Zone 4 will remain long on capacity through at least 2022 provides a reasonable and sound basis to take the time to conduct further in-depth modeling to evaluate how Zone 4 would fare if some or all Dynegy coal plants were to close, instead of making an uniformed, hasty and likely costly move to overhaul the functioning capacity construct of Southern Illinois. It is worth noting that Dynegy's criticism of the Survey in its pre-workshop comments fails to predict future resource adequacy with any authority because it is too simplistic and does not capture the complexity of the power sector nor does it evaluate Southern Illinois' ability to make up for whatever gap is produced from lost generation resources. It merely subtracts some of its at-risk capacity from the Survey totals in a crude manner, and makes the bold inference that Southern Illinois will be in trouble without its coal plants.

Rockland Capital Response: Rockland does not view the MISO-OMS survey and the NERC 2017 Long Term Reliability Assessment as documents that accurately predict Resource Adequacy for Zone 4. While the MISO-OMS survey provides some insight, it is only a survey. Rockland notes that the MISO-OMS survey changes year-to-year based on stakeholder feedback, and the market positions taken by those stakeholders. Moreover, the NERC 2017 Long Term Reliability Report does not specifically mention Zone 4. It does, however, indicate shrinking reserve margins throughout the MISO region.

Sierra Club Response: The current most comprehensive public assessment of resource adequacy is a survey jointly conducted by the Organization of MISO States ("OMS") and MISO that is published every year (the "OMS-MISO Survey"). This Survey, conducted at a high level based on questions sent out to load-serving entities and capacity-providing entities across the MISO footprint, attempts to predict future resource needs using projected continuing energy resources, planned or anticipated reductions, planned or anticipated capacity additions, demand-side load projections, and various other energy sector predictions.

Because it does not seek to comprehensively model future actions or prices, the OMS-MISO Survey is necessarily an imperfect predictor of actual capacity needs, as the ICC itself has noted. But historically, the bulk of the uncertainty with these projections has been one directional—that is, most of the uncertainty came from ignored scenarios in which there was more, not less, resource adequacy in Zone 4. This is because MISO has a demonstrated history of focusing exclusively on the worst-case scenario for all cases in its filing.

As a result, rather than taking MISO at face value when it questions the reliability of its own survey, the ICC should evaluate the survey's accuracy by examining each of that survey's several assumptions, and what impact those assumptions have on the projection, on an individual basis. Applying that analysis here, the most OMS-MISO Survey, conducted in 2017, projects a capacity surplus of 400 MW in 2022, even if the worst-case projections in that survey all come

to pass. In other words, in order for there to be a real resource adequacy need by 2022, each of the following would have to occur:

1) The OMS-MISO Survey understates resource adequacy needs by at least 400 MW;
2) Every resource that MISO counts as a "low certainty" resource because it may be "at risk of retirement" in fact retires;
3) All new capacity provider projects that are in the "Definitive Planning Phase" of the MISO queue never connect to the grid;
4) No additional generation in the queue that is not as far along in the approval process comes online.
5) In particular, renewable energy resources in Illinois fail to meaningfully develop, despite passage of the FEJA, which is expected to incent the construction of over 6 GW of new wind and solar power between now and 2025; and
6) No new transmission projects are placed in service to increase the supply of capacity to Zone 4 from across the MISO footprint;

Each of these events deviates significantly from what can reasonably be expected to occur based on historical data and the expected development of energy markets; and so although it is not perfect, the OMS-MISO Survey process offers at least a useful baseline for resource adequacy that the ICC should not discount.

III. Market Design Impact on Resource Adequacy

A. What alternative opportunities are available to resources that could otherwise be used to meet resource adequacy in Zone 4 and how do these opportunities impact Zone 4 resource adequacy?

[Examples of issues under this question include: What opportunities do resources that could otherwise be used to meet resource adequacy in Zone 4 have to pseudo-tie or sell into non-Zone 4 capacity markets?]

Dynegy Response: Generation resources located in Zone 4 may be able to sell their capacity and energy into other MISO Zones or into other RTO markets. A principal example is Dynegy's 1,023 MW Joppa plant, which, although not actually located in MISO, has historically been used to serve load in MISO Zone 4. However, Joppa has transmission connections that would enable it to sell its capacity and energy to serve load in non-MISO markets, such as into Kentucky, if better pricing is offered. Generation located in Zone 4 can also be sold into the PJM market through the process of "pseudo-tying." Currently, 937 MW of Dynegy's Downstate generation is pseudo-tied to MISO, and an additional 230 MW will be pseudo-tied to PJM commencing June 1, 2018.

Other generation resources in Zone 4 may have contractual commitments to serve load in other MISO zones or RTOs. For example, the 1,600 MW Prairie State Generating Station, located in Zone 4, is owned by six public power entities and three rural electric cooperatives; the loads of

Prairie State's owner/customers are located in a total of seven other states in addition to Illinois.

Resources located outside Zone 4 that have sufficient transmission access to serve loads in Zone 4 should also be considered in answering this question. As almost all of the MISO states outside of Illinois are served by regulated, vertically-integrated utilities that own their generation, these resources are primarily committed to serving their own service area customers. This generation is available to serve Zone 4 to the extent it is not needed to serve customers in the respective utilities' home territories. To the extent that utilities in other states do have available capacity not needed to serve customers in their home territories, the primary determinant of whether these utilities will make their generation available to serve load in MISO Zone 4 or in other areas that the generation is able to serve will be the relative capacity prices available in Zone 4 as compared to the other areas.

An ultimate policy question is whether, and to what extent, Illinois should be dependent on generation in other states, largely owned by regulated utilities in those states, to provide resource adequacy in Downstate Illinois. Dynegy's view is that Illinois should not be depending on generation resources owned by regulated utilities in other states, whose primary (and legal) obligation is to use their generation to serve their customers in their home states.

Illinois Industrial Energy Consumers Response: In its comments in Section II.C., IIEC discussed the potential for capacity resources currently selling capacity in MISO Zone 4 to instead sell their capacity into the PJM capacity market and the potential impact of such a switch of markets on resource adequacy in MISO Zone 4, in conjunction with potential capacity resource retirements.

Firm transmission service, which is difficult to secure, is needed from MISO to PJM to sell capacity into the PJM capacity auctions. It should be noted that the prices for capacity that could be earned by MISO Zone 4 capacity in the most recently conducted PJM capacity auction have been relatively low. Specifically, in the 2nd Incremental Auction for 2018/2019, the price was only $5.00 per MW-day. For the 1st Incremental Auction for 2019/2020, it was only $15.00 per MW-day. Finally, for the Base Residual Auction for 2020/2021, it was only $76.53 per MW-day.[105] As discussed in IIEC's comments in Section II.C., to the extent a capacity supplier's coal-fired capacity is at-risk of shutdown and is needed to meet the MISO Zone 4 Local Clearing Requirement (LCR), it would be able to earn at least $139.18 per MW-day in the MISO Planning Resource Auction (PRA) due to its ability to take advantage of MISO's default offer price rules for coal-fired generation that is at risk of suspension of operation or retirement.

MISO Response: MISO's resource adequacy construct provides optionality for generation resource owners, including the following opportunities to meet resource adequacy obligations:

[105] *See* PJM Resource Clearing Prices Auction Summary, October 3, 2017 (http://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/rpm-auctions-resource-clearing-price-summary.ashx?la=en)

1. Supplying LSEs within Local Resource Zone 4
2. Supplying LSEs outside Local Resource Zone 4 but within MISO
3. Sell capacity to entities outside MISO

Local Resource Zone 4 Resource Adequacy Requirements remain the same regardless of which option a resource selects.

PJM Response: Resources physically located in the contiguous boundaries of one Balancing Authority (BA), but deliverable into a separate BA, may elect to pseudo tie that resource consistent with standards set out by the North American Electric Reliability Corporation, the North American Energy Standards Board and BAs. By pseudo tying said resource, that resource owner has voluntarily elected to move the resource from one BA to another BA for purposes of operation. Resource owners elect to pseudo tie a resource for a variety of reasons. In some cases the asset in one BA is owned or contracted by an entity with load serving responsibility in another BA. By pseudo tying such a resource the asset owner is aligning their resource adequacy obligations with the physical location of their assets.

Rockland Capital Response: Resources in Zone 4 have the opportunity to pseudo-tie out of the MISO region, deliver into another market area like PJM, and avail themselves of market prices in that other market area. Rockland notes that this path is available for resources, but is not necessarily sufficient to prevent those resources from retiring.

The pseudo-tie process in MISO is extremely complicated and expensive. Resources must reserve firm transmission to effectuate this process, which often costs millions of dollars. Recent rule changes allow for MISO to unilaterally terminate the pseudo-tie for various reasons based on updated assessments of its transmission system.

Moreover, MISO does not have an internal "point-to-point" transmission product that would allow for resources located in Zone 4 to deliver capacity in another zone and count towards meeting that other zone's reliability requirement.

Sierra Club Response: The most obvious alternative opportunity available to resources that might otherwise be used to meet resource adequacy, but which are not securing revenue sufficient to pay for their operations, would be to retire those resources. Sierra Club has discussed the impact of such a decision in its responses to other questions.

In the workshops so far, Dynegy has suggested that it also might relocate resources currently selling primarily or entirely into MISO over to the markets operated by neighboring grid operator PJM, and begin selling their power into that market in an attempt to secure higher capacity prices. Indeed, Dynegy is correct that this has already occurred at some of its plants: Coffeen, Duck Creek, E.D. Edwards, and Newton all have sold into the market using pseudo-tie agreements, and Joppa just last year secured firm transmission rights to export into PJM. But pseudo-tie agreements are transitory and limited; only a limited amount of electricity can enter the PJM market from outside its geographic footprint before it begins impacting grid balance. And securing firm transmission rights, as Dynegy did with the Joppa facility, can be costly and

time-intensive. Thus, it is not clear that such an investment for some of Dynegy's worse-operated plants would even pay off before they were forced to retire.

Furthermore, exporting electricity to neighboring regions allows regions also to import more electricity back from those regions. This dynamic was a key part of FERC's December 2016 ruling that overturned unjust and unreasonable rates that had artificially inflated capacity prices in MISO Zone 4: before the 2015-16 PRA, MISO had failed to account for power that was exported from Southern Illinois to elsewhere, which creates space for more power to be imported to Southern Illinois from other regions. These changes significantly reduced the amount of electricity MISO felt it could reliably import from other regions, thereby increasing its reliance on the Southern Illinois power market and needlessly tying MISO's auction prices to significantly higher PJM prices (where the exports were going). In its order, FERC required MISO change its calculations to recognize that as regions export more power, they are able to import more power to make up for the electrical imbalance that is otherwise created on transmission systems.

B. How does the transmission system impact resource adequacy?

[Examples of issues under this question include: How are capacity import limits and local clearing requirements tied to the transmission system? What is the impact of the MISO south-to-north transfer limit? What is the impact of MVP lines? How does the size of external capacity resources potentially available to meet Zone 4 resource adequacy needs compare to the amount of transmission available to import such resources into Zone 4? What is the Zone 4 resource adequacy value of generation resources within the ComEd Zone of PJM relative to the Zone 4 resource adequacy value of resources in MISO zones outside Zone 4? What is the impact of new transmission designed to transport intra-state renewables?]

AARP comment: See answer to II A.

AG Response: A key advantage in Zone 4 is "transmission import capability," which allows Illinois to access low-cost generation resources from other zones in MISO and from areas outside MISO, thereby minimizing the cost of capacity and energy for Illinois consumers.[106] Also, under construction are new MISO transmission lines in Illinois and other zones that, "[w]hen completed, [] will increase the import capability for almost all transmission zones in MISO and, in particular, enable access to lower-cost surplus generation located outside of Zone 4."[107] MISO itself believes transmission planning (i.e., new-build transmission lines) is a superior approach to addressing resource adequacy, reliability, and resiliency over supporting generation resources and explained as much in its Comments to FERC regarding the DOE NOPR (RM18-1-000):

> The reserve margin for the MISO-wide region is projected to be in the range of 16 percent to 22 percent during the 2018-2022 timeframe, sufficiently above the

[106] ICC Whitepaper, at 12.
[107] ICC Whitepaper, at 13.

> current expected Planning Reserve Margin Requirement ("PRMR") of 15.8 percent. The OMS-MISO survey further indicates that the majority of zones within MISO will have sufficient local capacity through 2022 to meet their PRMR. While certain zones are currently projected to have insufficient local resources, there is sufficient excess capacity and available transmission for load serving entities in these areas to reliably acquire capacity from outside their zones to meet these needs. This is an important element of the regional reliability benefits that MISO provides as an RTO, the value of which is demonstrated in MISO's Value Proposition.[108]

Indeed, one of the very reasons for interconnecting the grid and creating RTOs was to facilitate the sharing of generation resources across larger regions.[109]

Ameren Illinois Response: A robust transmission system allows more resources from outside Zone 4 to be utilized to support Zone 4 resource adequacy. As an example, the MISO Multi-Value Projects (MVPs) currently being constructed will increase regional reliability, enable public policy needs (such as increased renewable energy), and reduce the quantity of in-zone generation needed to serve load. The MVPs will enhance intra- and inter-zone generation flexibility, create a more robust regional transmission system that supports resource adequacy, increase the geographic diversity of wind resources and enable additional diversity.

The transmission system also impacts several design parameters used in the annual MISO Planning Resource Auction.

Dynegy Response: The transmission system can enable generation resources located outside Zone 4 to serve load within Zone 4. Correspondingly, the transmission system can enable generation resources located within Zone 4 to serve loads in areas outside Zone 4 where better pricing is available. Transmission constraints can limit the ability of generation in other regions to serve load in Zone 4. For example, South-to-North transfer limitations may limit exports from MISO Zones 8, 9, and 10 (primarily covering Arkansas, Louisiana and Mississippi), each of which may have substantial amounts of new resources coming on-line in the next several years. MISO Zone 1 (western Wisconsin, Minnesota and the Dakotas) has also historically been export-constrained. Thus, the ability of the transmission system to support (or reduce) resource adequacy in Zone 4 will be a function of import capability limits from other load zones into Zone 4, export capability limits from Zone 4 to other zones, and relative capacity and energy prices between Zone 4 and other zones. Further, generation resources owned by regulated, vertically-integrated utilities in other states may be committed to serve loads in the utilities' home territories.

Siting and construction of new high-voltage transmission lines has been a difficult undertaking in recent years. Construction of new transmission lines is frequently opposed by impacted

---

[108] MISO DOE NOPR Comments at 12-13 (emphasis added).

[109] See, e.g., Regional Transmission Organizations, Order No. 2000, 89 FERC ¶ 61,285 at 89-90 (1999) ("[RTO] benefits will include: increased efficiency through regional transmission pricing and the elimination of rate pancaking;

landowners and landowner interest groups. For example, Ameren's Illinois Rivers Project, for which a certificate was requested in 2012, encountered substantial opposition at the ICC, and though the project was eventually granted a certificate, Ameren has encountered additional difficulties in court as it tries to acquire the easements necessary for construction of the transmission facilities. In late 2017, the Edgar County Circuit Court held, in a condemnation case, that the statute under which Ameren was granted a certificate for the Illinois Rivers project was unconstitutional. That decision is on appeal to the Supreme Court and is unlikely to be decided before September 2018. If the Circuit Court decision is reversed, Ameren will still need to return to that court to complete the condemnation cases; and then, complete construction of the transmission line. Thus, overall, it may be 5-1/2 to 6 years after a certificate was requested for this transmission project before it is completed and placed into service across Illinois. Scenarios such as this recur around the country. In contrast, an advantage of the existing Downstate generating units is that they are already connected to the transmission grid.

New transmission facilities can be costly to ratepayers. Transmission owners generally recover their operating and investment costs, including return on investment, through regulated rates set by FERC and incorporated into the tariffs of the relevant RTO(s). FERC has at times granted "adders" to the allowed rate of return to incentivize construction of new transmission facilities. Transmission costs are generally allocated to LSEs (transmission users) in the areas deemed to benefit from the new transmission, and the costs are ultimately charged to the LSE's retail customers.

Environmental Law & Policy Center Response: The transmission system is a hugely important component of resource adequacy because it allows load serving entities to meet their resource adequacy requirements from a large pool of generation resources.

Illinois Industrial Energy Consumers Response: The transmission system limitations affect the ability to import capacity into zones and export capacity out of zones. They also affect how much capacity can be transmitted from the MISO South zones (MISO Zones 8 through 10) to the MISO North/Central zones (MISO Zones 1 through 7). The amount of capacity that can be exported from each zone is the Capacity Export Limit (CEL). The amount of capacity that can be imported into a zone is equal to the Planning Reserve Margin Requirement (PRMR) for that zone less the Local Clearing Requirement (LCR) for that zone. The amount of capacity that can be transmitted between MISO South and MISO North/Central subregions is referred to as the Sub-Regional Export Constraint (SREC).

Of the greatest interest to MISO Zone 4 are: (i) the LCR value for MISO Zone 4, (ii) the CEL for MISO Zone 1 (MN, MT, ND, SD and Western WI), and (iii) the SREC value, as these are the only constraints that have hit their limit in the MISO Planning Resource Auction (PRA) since its inception. MISO Zone 4 has the lowest LCR value as a percentage of PRMR in all of MISO.

Specifically, the preliminary 2018/2019 MISO Zone 4 LCR is 5,138 MW.[110] This is only 51.5% of the preliminary 2018/2019 MISO Zone 4 PRMR of 9,976 MW.[111] As a result, up to 4,838 MW (48.5%) of the total 9,976 MW total capacity need for MISO Zone 4 can be imported from other MISO zones. This ability to import large amounts of capacity into MISO Zone 4 is expected to continue, if not increase, in future years due to the addition of the MISO Multi-Value Transmission projects (MVPs) that are currently being pursued in Illinois and elsewhere.

With respect to the CEL for MISO Zone 1, Zone 1 is projected to be 900 MW to 1,100 MW surplus for capacity for 2018/2019.[112] However, significant portions of that excess capacity can be locked up in MISO Zone 1 and unavailable for export to the other MISO zones, including MISO Zone 4, due to MISO Zone 1's CEL, which will only be 516 MW for 2018/2019.[113]

With respect to the SREC value, MISO South (MISO Zones 8, 9 and 10) is projected to have a 2,600 MW to 3,500 MW surplus of capacity for 2018/2019.[114] However, similar to the situation in MISO Zone 1, significant portions of this excess capacity can be locked up in MISO South and not available for export to the MISO zones in the MISO North/Central subregion, including MISO Zone 4, due to the MISO South SREC value, which preliminarily is only 1,500 MW for 2018/2019.[115]

MISO Response: MISO establishes both local and regional resource requirements, with the local requirement being partially defined, in part, by the ability of the transmission system to support imports and exports.

Illinois has an ability to import capacity of 3.2 GW. This amount exceeds the amount of capacity that is expected to be available in other MISO zones outside of Illinois. Similarly, the export limit of 4.3 GW exceeds the excess capacity expected in Illinois of 0.7 to 1.6 GW.

Montgomery County Board Response: The impact of new transmission systems designed to transport intra-state renewables has a negative impact on land use, property values, multiple use frameworks for land (i.e. farming), and eye appeal.

---

[110] *See* MISO PRA Preliminary Data, January 10, 2018 (https://cdn.misoenergy.org/20180110%20RASC%20Item%2003a%20PRA%20Preliminary%20Data97314.pdf) at Slide 4.
[111] *See* Id.
[112] See 2017 OMS MISO Survey Results, July 2017 (https://cdn.misoenergy.org/20170712%20RASC%20Item%2002%20OMS%20Survey%20Results87552.pdf) at Slide 14.
[113] *See* MISO PRA Preliminary Data, January 10, 2018 (https://cdn.misoenergy.org/20180110%20RASC%20Item%2003a%20PRA%20Preliminary%20Data97314.pdf) at Slide 4.
[114] *See* 2017 OMS MISO Survey Results, July 2017 (https://cdn.misoenergy.org/20170712%20RASC%20Item%2002%20OMS%20Survey%20Results87552.pdf) at Slide 14.
[115] *See* MISO Review of Preliminary SREC and SRIC Calculations for 2018-2019, January 10, 2018 (https://cdn.misoenergy.org/20180110%20RASC%20Item%2003b%20SREC%20SRIC%20Review97315.pdf) at Slide 6.

National Resources Defense Council Response: The CIL of a zone reflects the limit on capacity that can be imported from an adjacent MISO zone or zones. However, it is worth stressing that it is not the import limit of the transmission system into a zone, nor does it cover the capacity to import power via a firm purchase agreement from another Regional Transmission Operator (RTO). The local clearing requirement (LCR) is the amount of capacity that needs to be located in the zone itself to achieve resource adequacy. The larger the CIL of a zone, the lower the LCR, as LSEs have the ability to tap into resources in adjacent zones and rely less on resources located in the zone to meet resource adequacy.

MISO Zone 4 is uniquely capable of taking advantage of low cost resources outside of the Zone 4, as it has the second highest CIL across the MISO footprint and a relatively low LCR. This means that LSEs in Southern Illinois have a bigger opportunity than nearly any other MISO region to take advantage of low-cost resources outside of Zone 4 to meet their PRMR. At the same time, the CIL for Zone 4 has been steadily increasing between planning years 2014/15 and 2017/18, and nearly doubled between those same planning years. And, the proposed 2018/2019 CIL is even higher. The trend in CIL, coupled with MISO's expected regional capacity surpluses through at least 2022 (discussed in more detail in Section II.F) highlights the opportunity for Southern Illinois to increasingly take advantage of cost-effective capacity located in other MISO zones to meet its PRMR.

New, proposed multi-value projects (MVPs) building transmission lines further bolster MISO Zone 4 import capability. Illinois is projected to experience a significant increase in its transfer capability with other MISO states in the near-term, as the five multi-value transmission projects that will be crossing through Illinois are expected to be completed by 2019 (one line is already complete). In addition, another MVP - the Mark Twain line- recently got approved by the Missouri Public Service Commission. This line nearly dips in Southern Illinois and is expected to drive nearly 1,300 MW of new wind capacity in Northeast Missouri, which Zone 4 could tap into. These new transmission lines will give LSEs in Zone 4 increased access to low-cost wind and other surplus generation located in other MISO zones, and thus enhance their ability of achieving resource adequacy while relying less on capacity located in the zone itself.

Moreover, Zone 4 is well connected to PJM.[116] And considering that PJM is projected to have significant surplus capacity through at least 2027,[117] and that the ComEd zone is expected to have no to negative load growth due to impressive efficiency mandates under FEJA, LSEs in Zone 4 can contract with generators located in PJM to meet their demand and lower their PRMR. The PRMR is expressed in the following equation, per Asset Owner per Local Resource Zone[118]:

116PJM Backbone Transmission System Source: PJM

117 NERC calculates as much as a 60% prospective reserve margin by 2022. Even in the most conservative "anticipated" analysis, PJM should see at least a 27% reserve margin every year 2018-2027. NERC, 2017 Long-term Reliability Assessment, page 124

118 MISO Resource Adequacy Business Practice Manual, page 11

$$PRMR_{LRZ} = \sum_{LBA} [(CPDf - FRP + FRS) \times (1 + TL\%) \times (1 + PRM_{RTO})]$$

Where:

$PRMR_{LRZ}$ = Planning Reserve Margin Requirement per LRZ

CPDf = Coincident Peak Demand forecast per LBA

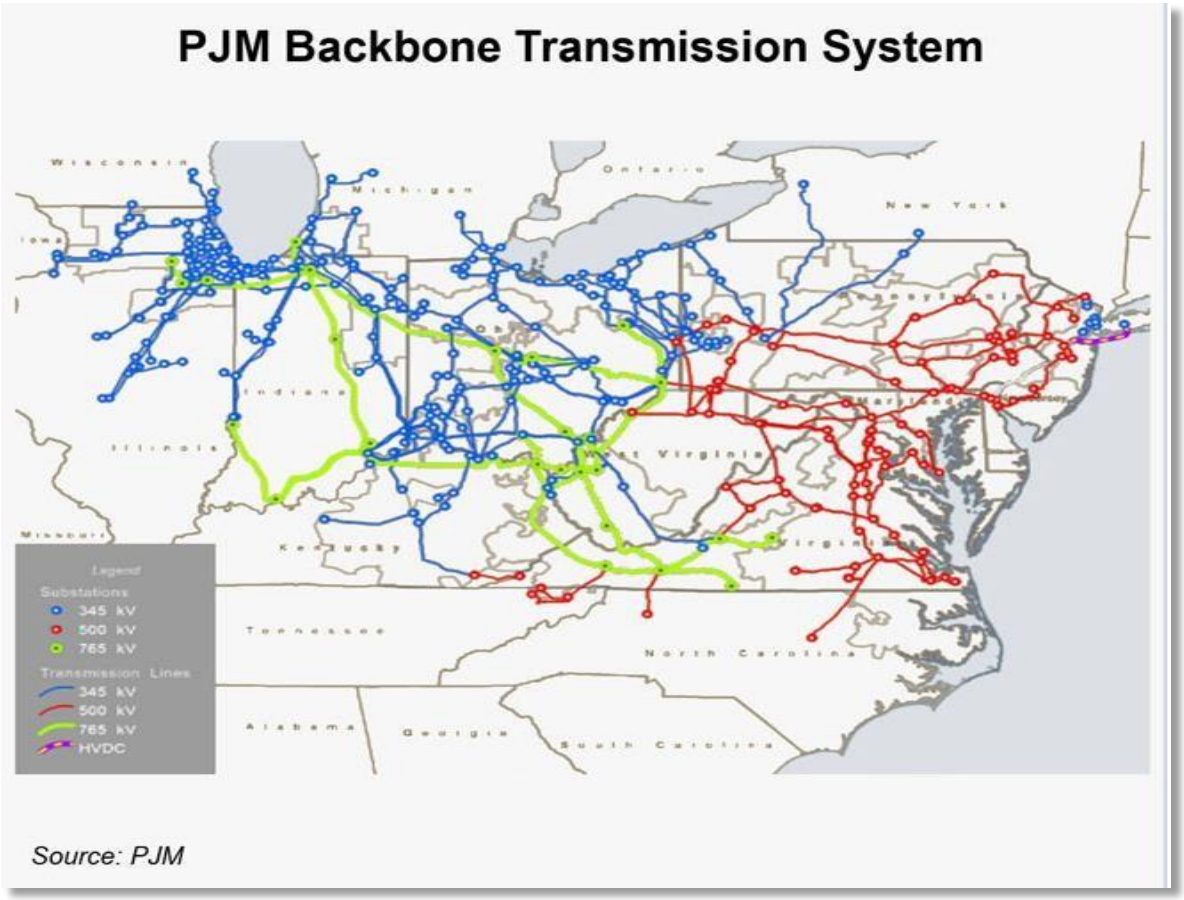
FRP = Full Responsibility Purchase per LBA

FRS = Full Responsibility Sale per LBA

TL% = Transmission Loss Percentage of LBA

PRM_{RTO} = Planning Reserve Margin in Unforced Capacity set by LOLE Studies

Firm capacity purchases from PJM qualify as Full Responsibility Purchases in this equation and are subtracted out of the utility's Coincident Peak Demand requirement. Therefore, such purchases would reduce LSEs PRMR in Zone 4[119].



Rockland Capital Response: Resource Adequacy throughout the MISO footprint is affected by the ability for the transmission to deliver energy throughout the footprint to constrained and

119 It's worth noting that LSEs in Zone 4 would not incur additional charges for using the PJM transmission system above the MISO transmission tariff, due to the license plate transmission rate tariffs established between MISO and PJM.

unconstrained areas. Additionally, transmission assets assist MISO's "mutual insurance pool" concept of allowing excess to aid in supporting the reliability of the entire footprint. Reliability in MISO can only be maintained if there are sufficient generation resources to satisfy demand throughout the footprint, and sufficient transmission assets to deliver the energy.

Each year, MISO evaluates the transmission system to determine how much energy can be imported into and exported out of each of its Local Resource Zones. This evaluation leads to the establishment of Zonal Capacity Import Limits (CIL) and Zonal Capacity Export Limits (CEL). MISO uses the CILs to determine how much external generation each zone can rely upon to compliment internal generation to meet internal reliability requirements. The CELs are used to establish how many local resources can contribute to supporting region-wide reliability.

However, MISO reduces the volume of MWs procured in each zone by the CIL value and changes the CIL calculation frequently. This value is reflective of the system's potential under certain operating conditions and not representative of the historical volume of MWs imported into each zone to support reliability within that zone.

Sierra Club Response: As noted in the previous section, the availability of copious transmission capability between regions in the Eastern Interconnect, including among MISO's several regions, reduces the need of individual areas to provide all of the capacity needed to ensure resource adequacy. This value is quantified each year in the PRA process, where the Capacity Import Limit (describing the maximum amount of electricity that can be reliably imported to a given region) reduces the overall resource needs of a particular region (the PRMR), to determine the Local Clearing Requirement (describing the minimum amount of capacity that must come from within each zone). As transmission increases, so does the CIL, which in turn lowers the LCR.

There is a limit of course to this reduction, because most neighboring regions will see peak usage at around the same time. For that reason, in addition to considering the LCR for Zone 4, MISO necessarily needs to consider overall resource adequacy across its geographic footprint. However, because almost every other region in MISO is vertically integrated, with fully integrated utilities facing their own state requirements to ensure that they address their own resource adequacy needs going forward, there is little reason to suspect that Zone 4 will suddenly find itself unable to import capacity offers from neighboring regions going forward.

C. How do facilities owned by municipals and cooperatives affect resource adequacy?

AARP Response: See answer to II A.

AG Response: Springfield's City Water Light & Power ("CWLP") and the Southern Illinois Power Cooperative ("SIPC") are connected to the MISO system. They can purchase their power and capacity from MISO but also have their own generation resources and contracts. CWLP has 724 MWs of generating capacity from coal, gas, and oil units and also contracts for wind power

from NextEra Energy Resources.[120] SIPC has 433 MWs of coal and gas capacity and contracts for coal, hydro, and wind power.[121] Excess power and capacity from CWLP's and SIPC's generation resources can be sold into the MISO system and help support overall resource adequacy in the region.

Ameren Illinois Response: Ameren Illinois believes that resources owned by municipalities and cooperatives can and should be able to contribute to Zone 4 resource adequacy; specifically any resources in excess of load requirements would provide benefit to Zone 4.

Dynegy Response: In general, municipal utilities and electric cooperatives construct or acquire generation resources sufficient to serve their municipal or distribution cooperative loads, plus reasonable reserve margins, and do not build or acquire generation to perform a merchant function. In Zone 4, the principal generation owners are Springfield City Water Light and Power; Prairie State Generating Company; Southern Illinois Power Cooperative; and Prairie Power Inc. (formerly Soyland). As noted earlier, the Prairie State Generating Station is owned by six public power entities and three electric cooperatives, whose customer loads are located in a total of seven other states in addition to Illinois. In summary, while municipal utilities and cooperatives can support resource adequacy by owning, operating, or acquiring through contract sufficient generation resources to serve their own retail loads plus reserve requirements, they typically would not, over the longer term, own, operate or acquire generation resources in excess of these requirements.

Illinois Industrial Energy Consumers Response: A significant portion of the capacity resources and load in MISO Zone 4 belongs to municipals and cooperatives. To the extent the municipals and cooperatives are "short" on self-supplied and bilaterally contracted capacity, it causes them to draw on capacity from the MISO Planning Resource Auction (PRA). To the extent they are "long" with respect to such capacity, they can either sell the capacity bilaterally to other market participants or offer the capacity into the MISO PRA.

It should be noted that several out-of-state municipals and electric utilities, especially in Missouri, also own, or have bilateral contracts with, capacity resources located in MISO Zone 4. This capacity counts toward meeting the LCR for MISO Zone 4 since it is physically located in MISO Zone 4. While it counts toward meeting the LCR in MISO Zone 4, it does not count toward meeting the PRMR of the Load Serving Entities in MISO Zone 4.

MISO Response: Municipals and cooperatives have the same resource adequacy requirements as other LSEs in Zone 4. Their load is included in the total Local Resource Zone 4 PRMR and LCR. Just like all other MISO LSEs, municipals and cooperatives can meet their PRMR obligation using their own facilities, through bilateral contracts, or purchases in the PRA. Additionally, municipal and cooperative Planning Resources can be used to meet the broader resource adequacy requirements of Local Resource Zone 4.

---

[120] https://www.cwlp.com/Departments/ElectricDeptHome/ElectricInformation/Generation.aspx
[121] https://www.sipower.org/p/powersupply.php

Montgomery County Board Response: Cooperatives in Illinois are not able to offer the same terms as publicly traded utilities with larger service territories (read, "cherry-picked urban and industrial areas") when it comes to accruing the benefits of solar and wind generation.

Natural Resources Defense Council Response: Municipal utilities and electric cooperatives have an obligation to serve their communities and therefore have secure generation assets and procure energy and capacity through firm bilateral contracts. This ensures that a large part of the resource adequacy requirements in Zone 4 – served by a large number of municipal and coop utilities - will be met through self-supply no matter what changes occur in the market.

Rockland Capital Response: To the extent that municipals and cooperatives own generation physically situated in Zone 4 that is not dedicated to serving reliability in other markets (i.e. pseudo-tied resources), such facilities help contribute to reliability in Zone 4.

Sierra Club Response: In an effort to avoid undue repetition, Sierra Club refers the ICC to comments submitted by other stakeholders, including the Natural Resources Defense Council, Environmental Law and Policy Center, and Environmental Defense Fund.

D. How does bilateral contracting, self-supply, and fixed resource adequacy planning affect resource adequacy?

AARP Response: See Answer to II A

AG Response: MISO includes both vertically-integrated, traditionally-regulated utilities and independent generators. As a result, it offers numerous means to meet resource adequacy requirements. MISO's innovation and flexibility in this regard is noteworthy. Bilateral contracting, self-supply, and fixed resource adequacy planning and market purchases through MISO's capacity PRA are the primary means by which load-serving entities in the MISO territory meet their resource adequacy (capacity) requirements. The PRA serves as a backstop; it functions as a residual auction to increase the efficiency of the MISO system. The PRA enables vertically-integrated utilities to sell excess capacity to one another and to LSEs in market-based states, and enables both vertically integrated and market-based states to efficiently balance their capacity needs with resources from across the MISO territory that are subject to the cost discipline of markets.[122]

Ameren Illinois Response: These factors contribute to resource adequacy to some degree. However, Illinois retail choice makes it is impossible for the IPA to practically utilize bilateral contracting to ensure resource adequacy. The IPA only procures capacity for the minority of load supplied by Ameren Illinois in Zone 4, and this quantity changes over time limiting the IPA's ability to procure long-term capacity.

CUB Response: As CUB referred to above, the PRA accounted for less than 15 percent of the capacity requirement for the 2017/2018 auction year. Bilateral contracting, self-supply, and

[122] https://www.michigan.gov/documents/mpsc/6-8-2017_MI_Resource_Adequacy_Overview_573222_7.pdf, at 3.

fixed resource adequacy submissions accounted for over 85 percent. Zone 4 fulfilled its resource adequacy targets regardless, as it has for the past 20 years. Utilities meeting the vast majority of their capacity needs through these means does not appear to have had any adverse effect on their ability to ensure resource adequacy.

Dynegy Response: Bilateral contracting and fixed resource adequacy plans do not "affect" resource adequacy; rather, they are means by which a LSE (or a retail customer, in the case of bilateral contracting) secures capacity. Self-supply is also a means by which a LSE or a retail customer secures capacity; however, self-supply can also impact resource adequacy if the LSE or retail customer constructs a new self-supply facility (*e.g.*, customer-owned generation) and thereby increases the overall supply of generating resources (or reduces the load on the external bulk power system).

Some participants have pointed out that only 15-20% of the Zone 4 capacity requirement is typically procured through the MISO PRA, with the remainder being procured through bilateral contracts, self-supply and other options; and that therefore, the low PRA prices may not be representative of overall capacity prices in Zone 4. However, it is clear that the capacity prices established in the PRA drive the pricing in negotiated bilateral contracts and other supply options. This is the case because capacity suppliers are faced with, and LSEs know the suppliers are faced with, the prospect of having to bid their available capacity into the PRA if the supplier is unable to negotiate a bilateral contract. The impact of the PRA prices in driving the pricing under other supply options in Zone 4 is illustrated by the discussion at pages 14-16 of the IIEC's initial pre-workshop comments.

Environmental Law & Policy Center Response: Bilateral contracting, self-supply, and fixed resource adequacy planning are all tools that load serving entities can use to meet their resource adequacy requirements. For nearly 20 years, Illinois has relied on these tools to meet resource adequacy needs. MISO's Planning Reserve Auction is a residual market used to meet any outstanding resource adequacy needs that are not met with the other options listed above. In Illinois, bilateral contracting and self-supply are especially important because of Illinois's status as a restructured state. In fact, non-Planning Reserve Auction means of procuring capacity made up over 85% of the 2017/18 auction year capacity requirement without posing any resource adequacy problems. Having a variety of ways that a load serving entity can meet its resource adequacy requirement is crucial for a well-functioning electric system. It allows for flexibility and variety in meeting needs, which leads to a more robust and resilient electric grid. Centralizing all capacity procurement would be detrimental to bulk electric system in Zone 4.

Illinois Industrial Energy Consumers Response: Self-supply and bilateral contracting are two important tools that allow Load Serving Entities (LSEs) to manage their price risk associated with acquiring the capacity they need to meet their MISO capacity obligations. Essentially, on a forward-looking basis, LSEs who utilize self-supply or bilaterally purchase capacity are agreeing to pay a known price in lieu of a future unknown price. Specifically, LSEs are facing the risk of paying the MISO Planning Resource Auction (PRA) price for capacity for future MISO planning years. They do not know the PRA price for capacity for each future planning year until a month

and a half before the start of that future planning year. However, LSEs do know that it could range from zero to as high as $260 per MW-day (the Cost of New Entry (CONE) price). Furthermore, from sources such as the forward-looking capacity prices offered by other market participants, the annual OMS MISO Survey, publicly announced generation additions, publicly released generation shutdown announcements and MISO's Preliminary PRA data, LSEs have some idea of whether those future MISO PRA prices are likely to fall within that range. Based on this information and their own risk tolerance, they decide whether to pursue self-supply and/or bilateral contracts to cover some or all of their expected future share of the MISO Planning Reserve Margin Requirement (PRMR).

It is important to also understand there is not some fixed point before the beginning of each MISO planning year where LSEs need to make a decision with respect self-supply and bilateral contracting. LSEs can make that decision anytime from many years to only two months before the start of that future planning year. As a result, there is a continuum of bilateral trading for capacity in the wholesale market that begins from several years in advance of the future planning year and continues up until just before the MISO PRA for that future planning year is conducted. In that ongoing trading, the market is iterating on the likely MISO PRA price for capacity for that future planning year, based on the expected balance between supply and demand for capacity in that future year and the risk associated with that balance. When price risks become high enough, LSEs tend to offload that risk by either pursuing self-supply (e.g., by building their own generation, expanding demand response or expanding energy efficiency) or entering into bilateral contracts. Those bilateral contracts can, in turn, provide an agreed upon advance revenue stream that can help to secure financing for investment in new capacity resources beyond those pursued through self-supply.

To date, this market structure has provided resource adequacy in MISO Zone 4. It will do so in the future and is the most cost-effective manner in which to do so. However, as discussed later, IIEC believes that measured reforms can be undertaken to improve this market structure by improving the transparency and liquidity of the existing forward bilateral market for capacity in MISO Zone 4 and improving price formation in the MISO PRA.

MISO Response: LSEs have four options to meet their resource adequacy requirements: (1) self-schedule capacity to be offered into the Planning Resource Auction; (2) submit a Fixed Resource Adequacy Plan ("FRAP") demonstrating that it meets its PRMR capacity obligations; (3) purchase capacity through the voluntary PRA, and/or; (4) pay a Capacity Deficiency Charge for any volumes below its PRMR obligations. LSEs may procure capacity from sellers by entering into bilateral contracting arrangements.

In the 2017/2018 PRA, 8,435 MW of capacity in Local Resource Zone 4 was associated with a FRAP or self-scheduled in the PRA. Additionally, a total of 4,482 MW of capacity was exchanged through bilateral contracts in Local Resource Zone 4. Specifically, 79 percent of the Local Resource Zone 4 Resource Adequacy Requirements were met through FRAPs or self-scheduling of resources into the PRA.

Montgomery County Board Response: In the absence of government subsidies, green energy is not economically feasible.

Rockland Capital Response: Bilateral contracting, self-supply, and fixed resource adequacy plans (FRAP) do not erode Resource Adequacy on their own merit. The manner in which MISO represents each of these items in the PRA, by allowing each of these be entered as a $0/MW-day offer, suppresses pricing and is a structural defect in the market.

Bilateral contracting, self-supply arrangements, and FRAPs all result in out of market payments. That out-of-market behavior has shown to be the most significant driver in the MISO PRA by continuously eroding the price signal embedded in each clearing price. This has put Resource Adequacy in Zone 4 at risk. Mechanisms to mitigate the impact of out-of-market payments and behavior on capacity market clearing prices are essential to fully address the resource and revenue sufficiency issues in Zone 4.

Sierra Club Response: Again, as noted in a previous section, much of the offers into the PRA come from capacity already secured through bilateral contracting and FRAPs. This significantly reduces the volatility of capacity availability in the region because such contracts typically run at least a few years into the future, meaning they can be relied on year-to-year. In the most recent PRA, over 7700 MW of the 10,600 MW of capacity that was offered in from Zone 4 came from self-scheduled capacity plans (from bilateral contracting) and FRAPs. This actually more than covered Zone 4's Local Clearing Requirement of just over 5800 MW, and provides further insulation against large swings in resource adequacy in Zone 4.

E. How do so-called out-of-market revenues (revenues separate and apart from those obtained in wholesale markets (e.g., Zero Emission payments or renewable energy credits) impact resource adequacy?

AARP Response: ZEC payments to out of market power plants distort the wholesale market and keep uneconomic plants in operation. This increases the power surplus.

AG Response: Zero Emission Credits ("ZECs") have the effect of supporting resource adequacy in Zone 4 by helping to retain resources that might be uneconomic or might close in the absence of additional compensation for their environmental attributes. As a result, additional resources are available to support resource adequacy in Zone 4 if a plant such as the Clinton Nuclear Generating Station remains open longer than it would have otherwise. Renewable Energy Credits ("RECs") can also affect Zone 4 resource adequacy by providing additional revenues to develop or retain resources such as wind and solar power in Illinois and adjacent states.

American Petroleum Institute Response: A competitive marketplace, as envisioned by the Illinois Public Utilities Act, should benefit all customers. Any out of market payment runs contrary to the foundation of a competitive market, in which providers of energy compete by responding to economic signals to provide customers with affordable, reliable, and cleaner energy.

Proposed solutions that require additional government intervention or mandates may have some limited success in the short run, but their impact will come at a cost. Subsidies only beget more subsidies. By sticking to a competitive framework, the economic impacts are multiplied and achieve better, more efficient outcomes than subsidies provide.

Dynegy Response: Zero Emission payments to nuclear power plants under the zero emission credit (ZEC) provisions of FEJA have aided resource adequacy in MISO Zone 4 insofar as the ZEC program resulted in the Clinton Power Station remaining in operation. The 2016 OMS/MISO Survey projected a capacity deficiency (capacity less than projected load plus PRMR) in Zone 4 in 2018, while the 2017 OMS/MISO Survey projected a capacity surplus for 2018, with the principal change being that in the 2016 Survey, Clinton was considered a Low Certainty resource, whereas in the 2017 Survey, following enactment of the ZEC program, Clinton was counted as a High Certainty resource.

RECs paid to renewable generators pursuant to long-term contracts can enhance resource adequacy in that the long-term REC contract can provide a revenue stream to the developer/owner that provides a basis (although, as explained in II.D, not necessarily a sufficient basis) for financing construction of the facility. RECs are paid on the basis of MWh produced by the facility, not on the basis of MW of capacity provided. Further, as noted in II.A, the contribution that a utility-scale wind or solar generator makes to resource adequacy (*i.e.*, capacity available from the facility at the time of system peak loads) is typically only a fraction of the facility's nameplate capacity. Spot REC payments made on a short-term basis (*e.g.* on a one-year contract) do not, standing alone, incentivize development of new renewable generation and therefore do not contribute to resource adequacy.

Both ZECs and RECs are subsidy payments made to generators in recognition of their environmental attributes. While ZECs and RECs can contribute to resource adequacy by subsidizing a nuclear plant so that it remains in operation (ZECs) or providing a revenue stream that supports financing construction of a new renewable generator (RECs), ZECs and RECs can also harm resource adequacy. This occurs because the receipt of the ZEC or REC payments enables the generator to bid its capacity or energy into the market at prices less than cost (or, at lower levels than the generator would have bid absent its receipt of the ZEC or REC revenue stream). This depresses prices for capacity and energy in the region and may result in market prices being insufficient for other generators to remain in operation or to incentivize investment in new generating capacity in the region.

Exelon Response: The recent adoption of the Zero-Emission Credit (ZEC) program in Illinois provides additional revenue to certain eligible nuclear units to compensate them for their clean air and environmental attributes. Based upon the ICC's Public Notice, dated January 26th only one such unit resides within MISO Zone 4 footprint. The ZEC program requires winning bidders to guarantee that they will operate for a ten (10) year period so this in turn provides a resource adequacy benefit to Illinois. The ZEC program explicitly targets nuclear units that would otherwise permanently retire.

International Brotherhood of Electrical Workers Response: If generation resources were provided credits or payments similar to Zero Emission Credits it would promote commitment to providing capacity to the region and could promote additional investment in existing or new resources. Without some sort of financial recognition to non-regulated generation supplying capacity to Zone 4 the future operation of multiple plants in Zone 4 is in jeopardy.

Illinois Industrial Energy Consumers Response: IIEC generally opposes subsidies such as mandatory acquisition of zero emission credits and the mandatory acquisition of renewable energy credits. Such subsidies favor certain stakeholders over others and lead to additional subsidies.

IIEC also generally opposes instituting market structure changes that have the effect of paying a subsidy to suppliers through higher market prices intended to compensate those suppliers due to the adverse impacts of subsidies previously provided to other suppliers. All that does is have retail electric customers take on the cost of yet additional subsidies.

Finally, IIEC agrees that the mandatory acquisition of zero emission credits and the mandatory acquisition of renewable energy credits have adversely affected the competitiveness of suppliers that do not receive the benefits of those subsidies. However, there has been no evidence to date that those subsidies have created a resource adequacy problem in MISO Zone 4.

MISO Response: Out-of-market transactions do not impact MISO's resource adequacy processes. MISO is able to accommodate any state policy mechanisms that Illinois may wish to pursue. MISO's Tariff calls for MISO to complement state-sponsored policies with its wholesale markets. It is MISO's role to recognize policies enacted by the states and develop the wholesale mechanisms required to assure resource adequacy in a complementary manner. This may include any unique features a state deems appropriate due to policy considerations. Because the vast majority of utilities in MISO's footprint arrange for supply resources to serve their demand well in advance of MISO's residual capacity auction, state policy programs designed to serve each state's consumer needs are common initiatives that MISO's market processes are designed to accommodate. The ZEC program that was introduced as part of the Future Energy Jobs Act, and which is at issue in this case, is one such policy program.

Montgomery County Board Response: Renewable energy credits play a large role in making a project "bankable." Without these credits, projects are not feasible.

PJM Response: To the extent out-of-market revenues cannot be reflected in the clearing price seen by all resources relied upon to fulfill resource adequacy in a given region, prices may not reflect the true costs required to meet resource adequacy needs. This may have long-term impacts on the ability to assure resource adequacy in the future. This is not about out of market payment themselves, but a need for the market to reflect those revenue streams in clearing prices.

Rockland Capital Response: Out-of-market revenues negatively impact Resource Adequacy in Zone 4 through the distortion and suppression of market price signals. Resources receiving out-of-market revenues become agnostic to market prices and offer resources into MISO markets at levels well below go-forward cost. These unreasonably low offers further suppress PRA clearing prices, erode the price signal created by the PRA, and in turn erode long-term Resource Adequacy.

Sierra Club Response: In an effort to avoid undue repetition, Sierra Club refers the ICC to comments submitted by other stakeholders, including the Natural Resources Defense Council, Environmental Law and Policy Center, and Environmental Defense Fun

IV. Scope

A. Please provide commentary on any relevant substantive or process issue you believe has not been adequately captured in the Sections above.

[Examples of issues under this question include: Should any of the following topics have received time and attention, or more time and attention, in the workshops than they received: reliability, resilience, price stability, price level, consumer cost, sustainability, security, environmental/public health impact, potential policy initiative impact on rates, etc.? Should additional workshops or other processes be conducted and, if so, what topics should be examined? What actions that may be forthcoming (e.g., FERC actions, PJM or MISO tariff changes, corporate mergers) could impact resource adequacy or this Zone 4 assessment and how?]

AARP Response: As noted in our introduction, the ICC and any study or survey should focus on impact to ratepayers. It should also focus on possible duplicative actions by others such as FERC (grid resiliency docket) or RTO actions (PJM's proposal to let nuclear and coal set the market clearing price) However, these may be "solutions" to a non-existent problem.

AG Response: Numerous ongoing efforts warrant an extension of time for this examination. The most significant is MISO's pending report to FERC on the topic of resiliency within the MISO territory. In dismissing the DOE's proposal for grid resiliency pricing, FERC initiated a new docket to solicit information from the RTOs and ISOs, including MISO. MISO will provide a report 60 days after FERC's Order in AD18-7: March 9th. Stakeholders will then have the opportunity to provide comment to FERC with respect to the grid operators' submittals.

In addition, transmission projects are currently underway in Illinois, including the Mark Twain/Illinois Rivers project being built by Ameren.[123] The large, high-capacity line is a MISO "Multi-Value Project" consisting of over three hundred miles of 345 kV transmission lines. The project will substantially increase the amount of transmission capacity available to MISO Zone 4, and will almost certainly have a positive impact on its import capability (which will allow more resources outside Zone 4 to supply load located within it). The ICC should continue to

[123] https://www.icc.illinois.gov/AmerenILRiversProject/

monitor the development of such projects and their impact on resource adequacy concerns in Zone 4. In addition, enhanced transmission will also enable export from Zone 4 to other MISO zones, potentially changing the conditions and opportunities available to Zone 4 generators.

Community Groups Response: There are a number of factors that should be included in the scope of any resource adequacy assessment:

> **Vistra Merger.** The sale of Dynegy to Vistra Energy will potentially impact this process in significant and unknown ways. Late last year, Dynegy was sold in a $1.7 billion dollar deal to Vistra Energy. The new company will have a value of $20 billion with $5.5 billion in excess capital. The sale is not final and is not expected to be until the second quarter of 2018. The ICC and the Governor should wait until the deal is finalized and more details are known to assess any concerns as they should impact any decision made.
>
> **Impacts on Health.** Health impacts from running old and outdated coal plants should be considered in the ICC's final report. The disproportionate impacts on impoverished communities and people of color should be noted. Artificially propping up these decades-old pollution sources is an environmental justice issue.
>
> **Impacts on the Environment.** Dynegy's power plants have dozens of unlined coal ash impoundments; huge waste dumps of toxic coal ash that contaminate groundwater and surface waters. Coal-fired power plants continually release pollution into Illinois's waters while in operation. These environmental impacts need to be part of the scope of any policy decision
>
> **Impacts of Climate Change.** The ICC should consider the impacts of energy sources on climate change in any resource adequacy study. Dynegy's coal plants released an estimated 35 million metric tons of CO2 in 2016, equivalent to one and a half times the emissions from all passenger vehicles in the state. Additionally, the impacts of climate change should be weighed into the resource adequacy studies. For example, as climate warms, water-cooled power plants will likely struggle to meet cooling water temperature regulation and may become less reliable and available.

Dynegy Response: Participants have cited one or more of the following as reasons why Illinois should delay or defer any action to maintain resource adequacy or reform the capacity market mechanism in MISO Zone 4: (1) the Vistra-Dynegy merger; (2) FERC's consideration of the Department of Energy (DOE) proposal that generators should be compensated for maintaining 90-day on-site fuel supply; (3) the Illinois EPA's proposed revisions to the Multi-Pollutant Standard (MPS) Rule pending before the Illinois Pollution Control Board; and (4) potential MISO and PJM initiatives on price formation. None of these activities justify delaying action to address the flaws in the MISO capacity market construct in Zone 4, the potential shutdown of additional Dynegy generating capacity, and the potential resource adequacy issues in Downstate Illinois.

The Vistra-Dynegy merger is expected to close during the second quarter of 2018. Vistra and Dynegy have projected that merger synergies will generate about $5.5 billion in free capital over the five-year period 2018-2022, which will be earmarked primarily for reducing outstanding debt. There is no reason why Vistra and Dynegy should be expected to use this capital to continue operating Illinois plants on a negative cash flow basis. Dynegy analyzes the financial viability of each generating unit based on the unit's individual financial performance. Dynegy anticipates that Vistra will do the same (as illustrated by Vistra's announcement that it will close three large coal-fueled generating stations in Texas). There is no reason why the merged company should continue to operate generating units that do not receive sufficient revenues to cover their fuel and other variable costs.

On January 8, 2018, FERC issued an Order completely rejecting the DOE Proposal. Dynegy had filed comments with FERC opposing the DOE Proposal. Further, it was unclear from the text of the DOE Proposal whether it would apply in MISO. In any event, the question of how the DOE Proposal, if adopted, would affect resource adequacy in Downstate Illinois is now moot.

The IEPA's revised MPS Rule, if adopted, will benefit Dynegy by enabling it to operate generating units covered by the MPS Rule, and bid them into the MISO near-real-time energy markets, on the basis of the units' fuel and operating costs, rather than based on the need to keep each MPS group of units within the emission rate limit specified in the current MPS Rule. The current MPS Rule has required Dynegy to operate higher-cost, lower-emitting units at a loss in order to keep each MPS group below its specified emission rate limit. However, while the revised MPS Rule, if adopted, will somewhat improve the position of the Dynegy Downstate generating units in the MISO energy market, it will do nothing to improve conditions in the MISO capacity market or Dynegy's ability to receive adequate capacity revenues for the units.

Recent and potential future MISO initiatives on "price formation," including Extended Locational Marginal Pricing, Ramp Capability, and revisions to the MISO Energy Offer Cap, have been or are directed to improving the MISO energy markets, not the capacity markets. None of these MISO initiatives hold out a promise of solutions to the Zone 4 resource adequacy and capacity market problems. Nor would any current or proposed PJM initiatives provide relief for the MISO Zone 4 resource adequacy and capacity market problems – in fact, enhancements to the PJM capacity or energy market constructs could exacerbate Zone 4 resource adequacy concerns by making diversion of MISO Zone 4 generating resources to the PJM markets more attractive.

Environmental Defense Fund Response: EDF expressed strong concern that the hurried process used for these workshops denied stakeholders the opportunity to meaningfully participate in the process, and denied the ICC opportunity to consider the complex issues in MISO Zone 4 in an appropriately comprehensive manner. The issues the ICC sought in a mere two workshops are complex and numerous. Identifying, analyzing, evaluating, negotiating, and implementing wholesale market concerns and solutions is typically a multi-year process for sophisticated wholesale market operators even when there is consensus that a problem exists and should be resolved.

Not only is there no consensus that a problem exists and should be resolved, there seems to be near consensus that the inverse is true – that a problem does not exist and that there is nothing that needs to be resolved. The ICC's own analysis acknowledges that there is no resource adequacy issue in the near term.

Two workshops and two substantive comment periods did not provide sufficient opportunity for stakeholders to prepare analyses on the issues, nor fully vet proposals by some participants that could raise rates on Illinois customers by billions of dollars. The process further does not allow adequate time for the ICC to thoroughly investigate the potential issues themselves. Further, the first workshop date and first set of substantive comments was scheduled less than one month after stakeholders were notified of the process, and fell during an exceptionally busy time of year for stakeholders, the Commission staff, and the Commission itself, with both regular annual dockets and docket load due to the implementation of the Future Energy Jobs Act.

These issues are only compounded by uncertainties currently surrounding MISO Zone 4 and Dynegy, the dominant generator in MISO Zone 4. Those include:

1. A pending merger of Dynegy and Vistra, which will close in Q2 of 2018.
2. Potential changes to the multi-pollutant standards rule pushed by Dynegy and currently under consideration at the Illinois Pollution Control Board.
3. Legislation before the Illinois General Assembly.
4. The results of the Notice of Proposed Rulemaking at the Federal Energy Regulatory Commission ("FERC"), which directed grid operators to review and extensive list of questions and report back to FERC.
5. Inter-RTO impacts on MISO of the pending PJM price formation market reform proposal and request that the FERC open a new docket to define grid resilience.

As such, EDF urged the ICC to amend its timeline to: 1) reschedule the first workshop and round of comments until such time as stakeholders had meaningful opportunity to conduct analysis, and 2) extend the schedule to provide additional time between workshops for stakeholders and the ICC to conduct thorough analysis, and to include additional workshops to take place in the wake of any outcomes of each of the five uncertainties outlined above, and any additional related issues that arise. EDF proposed a schedule that, at a minimum, would have added 3-4 workshop sessions, from March through September. EDF maintains that the truncated schedule of this process has been detrimental to all parties.

Environmental Law & Policy Center Response: MISO's existing plant retirement process does not provide the proper transparency to adequately signal the need for new capacity to meet resource adequacy. Generation owners need only tell MISO that they intend to retire 6 months before retirement. Those announcements are not made public until either retirement occurs or if there is an immediate reliability problem identified due to the retirement. Because of this lack of transparency, there is typically no signal that replacement capacity could benefit resource adequacy until it is too late. Under MISO's current proposal potentially makes this problem worse by allowing generation owners to hold their decision to retire for up to three years by

classifying the generator deactivation as a suspension rather than a retirement. This is in stark contrast to PJM, which posts all generator deactivation requests to a public website upon submission.

In addition to MISO's lack of transparency on plant closure, its existing load forecasting methodology does not properly and consistently consider the effect that demand-side resources such as energy efficiency will have on reducing demand and energy growth rates. There is no consistency about how load serving entities calculate and report their load growth estimates. Without consistent reporting, MISO cannot make accurate assessments of Zone 4's future resource adequacy needs. Improved load forecasting at MISO is crucial to better understand what the Zone 4 resource adequacy requirements should be going forward. MISO has recently announced an effort to reform its load forecasting methodology. As these changes go into effect, we hope to see an improvement in how MISO accounts for these resources. This could have a significant impact on what Zone 4's resource adequacy requirements will be in the future.

Exelon Response: The ICC Staff correctly examines a broad cross-section of solutions to the resource adequacy concern in Zone 4. Any such solution, however, must respect the great lengths to which Illinois has gone to advance its clean energy and environmental goals. Most recently, Governor Rauner's signature on the Future Energy Jobs Act (FEJA) ushered in a new era of clean energy policy in the State of Illinois. With FEJA, the State has greatly increased its investment in energy efficiency, renewable energy (including community solar), and nuclear energy. All of those investments are designed to maintain Illinois' position as the nation's leader in the production of zero-emission energy.

The MISO tariff is intended to be complementary and supportive of such state policies. As the ICC Staff notes, the tariff permits load serving entities to satisfy their capacity obligations through a fixed resource adequacy plan or FRAP. In Illinois, this would most likely involve procurement by the Illinois Power Agency (IPA) pursuant to additional authority delegated by the General Assembly. The General Assembly considered such a proposal in 2016 when it was debating the legislation that would ultimately become FEJA. Under that FRAP proposal, Illinois would have taken greater control of its long-term resource adequacy by directing the IPA to conduct competitive capacity procurements on behalf of Ameren to cover Ameren's Illinois capacity requirements. Those procurements would have been subject to approval by the ICC, with Ameren signing the contracts with selected resources. The proposed FRAP legislation contained detailed provisions addressing how those procurements would be conducted as well as consumer protections, including price benchmarks, that would have ensured the capacity was procured at a price that was cost-effective for consumers. Importantly, after a number of critical short-term procurements, it would have directed the IPA to develop long-term capacity procurement plans based on a 20-year planning horizon, and it would have authorized the IPA to award contracts with terms up to 10 years. This would have ensured that Illinois would no longer be subject to the annual one-year cycle of capacity auctions and the volatility that ensues.

Critical among the provisions in the FRAP proposal was the authority granted to the IPA to consider the environmental value provided by capacity from generating units that do not emit pollution such as sulfur dioxide, nitrogen oxide, carbon dioxide or hazardous air pollution like mercury and lead. Under that proposal, the cost of pollution would be considered in determining whether a resource was selected in the procurement, thus ensuring true competition between bids from emitting resources and non-emitting resources. Importantly, the formula for determining the value of avoided emissions in the FRAP proposal would have been applied to the bids of any non-emitting source of energy, whether renewable, hydro, demand resources, nuclear or clean coal. It would not, however, have been applied to the bids of units that are receiving payments for their environmental attributes through other programs or that are recovering their capital or operating costs through regulated rates. This would have ensured that the IPA was not double paying – or more to the point – ensured that the units would never be allowed to double dip. Only if non-carbon and other air pollution emitting units were uncompensated by Illinois or another state would the IPA consider the value of avoided emissions when evaluating their bids. This proposal had the support of Ameren and Dynegy.

However, we note that under the more recent FRAP proposal offered by Dynegy in SB 2250 (Clayborne/Rezin) during the current General Assembly, the ability of the IPA to select the resources that best meet the State's environmental goals was eliminated.

Although the FRAP provision itself was not included in FEJA, certain stakeholders embraced the same objective federal standard for determining the value to consumers of receiving electricity from a non-emitting source, including it in the section of FEJA establishing a Zero Emission Standard. As the ICC considers potential solutions going forward, it must ensure that it does not take action that will inadvertently lead to emissions increases in Illinois, and the FRAP proposal considered last year is one way to guard against that outcome. While the Whitepaper notes the competitive pressures facing carbon and other air pollution emitting resources in the State, those pressures should not obscure the need for emissions to be considered when selecting resources that will best serve customers in Illinois.

Montgomery County Board Response: The economic context for this conversation has not been adequately considered in the process. The fact that Illinois is home to THE cleanest coal-fired power plant in the world is an ASSET that the entire state should be protecting! $2 Billion of direct and indirect economic impact throughout downstate Illinois is a cornerstone of our downstate economy. Cheap energy has been one of the few selling points Illinois has from a business recruitment standpoint. That is the result of these plants generating a lot of energy with a skilled workforce. It is not simply a byproduct of manipulated markets.

In addition, examination of this legislation does not include the impact on downstate Illinois economy, which is as vital to the sustainability (as much as the energy itself) of:

- jobs (with that goes the reverse multiplier effect),
- taxing bodies (such as schools, municipal/county government and police/fire protection districts),

- tourism (Coffeen Lake),
- and the loss of the remarkable Dynegy employees who are an integral part of our communities.

We believe that the Governor needs consider the economic impact on Downstate. We believe our General Assembly members should acknowledge this downstate economic importance as well, as this is one of our few remaining assets. The negative economic impact on downstate Illinois, if this legislation does not pass, will eventually be felt throughout the whole state as downstate will fight for every penny it can get to make up for its losses.

Murray/Foresight Energy Response: Illinois must ensure that it maintains its diverse power supply options, which include currently operating baseload coal and nuclear generating facilities, as this is the most cost-effective means to ensure reasonable wholesale power costs on a long-term basis.

A cost-effective mix of generating resources contains variable operational parameters, such as wind and solar's availability, but such flexibility of generating resources is supported by a steady baseload flow of electricity. The on peak wind contribution within MISO is projected to be less in 2018 than it was in 2008. Other technologies such as gas generation has the flexibility to generate as needed, but is not always cost-effective based on the fuel costs if moving from a peaking unit to attempting to provide baseload.

If the price of the alternative fuels and costs for each technology always moved in harmony then there is little need for the diversity, but that is not the case. Power production from off peak or non-baseload technologies are unrelated and are inherently unstable as compared to baseload units where the fuel supply is onsite and normally purchased via long term contracts.

The closure of baseload coal and nuclear units across the U.S. has left the U.S. vulnerable to natural gas price spikes, overall electric cost spikes, and has created concerns for reliability and resiliency for decades to come. Illinois does not have to make the same mistake as our state has a diverse portfolio with a baseload foundation which provides the constant dollar cost averaging component of the diverse energy mix portfolio to consumers as other non-baseload and intermittent sources contribute to the required load.

Technologies such as coal and natural gas are considered dispatchable while solar and wind technologies are not due to coal and natural gas units can be ramped up or down based upon current load. The goal in a diverse energy portfolio, such as the one Illinois has, is to provide a cost effective electricity output to match the patterns of consumers' needs.

Baseload units must also be considered as primary when evaluating Illinois' long-term security, growth and ties to Homeland Security. Former Secretary of Homeland Security Tom Ridge warned that "Only a grid built on diverse and stable sources of energy can withstand evolving threats and keep the lights on around America".

Illinois must understand the impact of losing base load generation in the diverse mix of generation sources. Illinois must also educate the public of the value of baseload units and the value of having a diverse mix, which includes renewable resources and baseload coal and nuclear facilities. The removal of baseload generation the portfolio is cause for concern not only to the consumers' rates, but will have an effect for decades in Illinois due to no new construction of baseload units in our deregulated state.

A diverse power generation technology mix is essential to cost effectively integrate intermittent renewable power resources into the power supply mix, as long as each component is accounted for and are understood and balanced within the whole mix. Maintaining and preserving Illinois' diverse generation mix is important to Illinois consumers want stability in supply and predictability in their monthly bills. Illinois must ensure the diverse generation mix is balanced over the short and long-term as it allows Illinois protection from fuel price spikes and meets consumer demands.

International Brotherhood of Electrical Workers Response: There is no need to expand the current examination of MISO Zone 4 resource adequacy or extend the time to prepare and submit a summary report.

Illinois Industrial Energy Consumers Response: IIEC's members in Illinois collectively consume approximately 13 million MWh annually and employ approximately 90,000 people in Illinois. They pay significant taxes to both the State of Illinois and the local communities their facilities are located within. Electricity costs are a significant part of their costs. All of them are critically interested in the receipt of reliable electric service at the lowest reasonable cost. However, any change to the capacity market structure in MISO Zone 4 that has the effect of significantly raising capacity prices for the benefit of existing generation suppliers will adversely affect the ability of many of IIEC's members to compete in US and global markets. This could lead to decreased production in Illinois or, in the extreme, shutdown of facilities. For this reason, it is imperative that policymakers consider the economic implications to Downstate Illinois as a whole, not just to the coal-fired generation industry, when considering any proposed changes to the capacity market in MISO Zone 4.

MidAmerican Energy Response: MidAmerican takes no position at this time on issues affecting MISO's Local Resource Zone 4. MidAmerican asks the Illinois Commerce Commission and its Staff to affirm that the analysis is limited to Zone 4 and does not affect the Illinois portion of MISO's Local Resource Zone 3. It is appropriate to limit the discussion to Zone 4, since MISO's May 1, 2017 letter to Illinois Governor Bruce Rauner expressed concern about the "Ameren footprint," all of which is contained in Zone 4. MISO's November 30, 2017 comments explicitly state that the "Illinois portion of Local Resource Zone 3 should not be included in the ICC's resource adequacy evaluation." Likewise, Governor Rauner's request to the Commission dated October 26, 2017 is clearly limited to Zone 4. Finally, Staff's white paper prepared in response to the Governor's request focuses exclusively on Zone 4. To the best of MidAmerican's knowledge, no party's written comments submitted November 30, 2017 and

December 21, 2017, and no party's oral comments at the December 7, 2017 or January 16, 2018 workshops, have suggested that the current discussion be extended to Zone 3.

MISO Response: MISO remains committed to working with Illinois stakeholders, including the Illinois Commerce Commission and the Illinois General Assembly, as state-based resource adequacy solutions continue to be discussed. If any additional information would be beneficial to this process, MISO is available to provide additional support on any issues that may not have been captured to date in this proceeding.

Natural Resources Defense Council Response: Several important pieces of the discussion have been largely left out over the course of this process. Half of the Dynegy coal plants lack crucial emissions controls and are emitters of harmful pollutants like nitrogen oxides (NOx) and sulfur dioxide (SO2). These cause several respiratory illnesses and other severe health problems, which have quantifiable economic costs. Any discussion related to the value of the Dynegy plants requires a careful consideration of their public health impact on Illinoisans in terms of asthma attacks and other illnesses, along with their accompanied costs (missed work days, reduced productivity, healthcare payments)[124].

Moreover, a thorough evaluation of the economic benefits of ramping up renewable investments in Southern Illinois must be conducted. As we discussed at length in our pre-workshop comments, increasing wind and solar investments in Southern Illinois is an opportunity to vitalize the area, as clean energy access is quickly becoming an attraction for businesses looking to locate their facilities (refer to our pre-workshop comments for a list of neighboring states including Michigan, Missouri, Nebraska and Iowa that have significantly ramped up their clean energy investments to attract commercial activity, and are expected to reap large economic benefits). And these businesses are also creating jobs and beefing up counties' tax bases. A thorough and fair discussion should also evaluate the benefits of wind and solar expansion to counties in the form of land lease payments to farmers and tax revenues.[125] For example, local schools are often among the largest wind farm beneficiaries. Wind projects substantially expand local tax bases, with schools reaping the rewards[126]. For example, researchers from Oklahoma State University found wind farms in the Sooner State will pay schools over $1 billion during their lifetimes. This means educators can buy new computers, build athletic fields and offer college-level courses in places where they previously didn't have the resources to offer these opportunities.[127]

124 An NRDC analysis has estimated that between 2018 and 2030, the Future Energy Jobs Act would help cumulatively avoid 132,960 lost work days, 17,890 asthma attacks, 1,100 asthmarelated emergency room visits, 780 hospital admissions, 1,650 heart attacks, and up to 2,800 premature deaths. Analysis available here: https://www.nrdc.org/sites/default/files/healthbenefits-illinois-future-energy-jobs-act-report.pdf

125 Every year, farmers and ranchers who host wind turbines are paid $245 million in lease payments. That income can make the difference between continuing a multi-generation tradition and having to sell off the family farm.

126 https://www.awea.org/Issues/Content.aspx?ItemNumber=9806

127 http://www.aweablog.org/wind-offers-oklahoma-schools-lifeline-budget-cuts/

A thorough discussion should also touch on the elements of achieving a "just transition" for the Dynegy workers and the potential for creating economic opportunities that will help release the communities from their reliance on coal.

PJM Response: While the focus of this proceeding is on MISO Zone 4, example answers offered to this question proffer consideration on potential PJM changes that may impact resource adequacy in Zone 4. It is important to note there are no actions on PJM's behalf that affect resource adequacy in Zone 4.

PJM's long term planning processes work together with the energy, ancillary services and capacity markets to assure reliability in the PJM region. PJM's capacity market ensures long-term grid reliability by procuring the appropriate amount of power supply resources to meet forecasted energy demand three years in to the future, or by ensuring enough power supply resources are dedicated to meeting the forecasted energy demand through a Fixed Resource Requirement plan.

By matching power supply with future demand, PJM's capacity market creates long-term price signals to attract needed investments to ensure adequate power supplies. Capacity revenues are paid to power supply resources in return for delivering electricity when needed. Utilities and other load serving entities in both regulated and retail choice states utilize PJM's capacity market; some in regulated states utilize the Fixed Resource Requirement plan where full and exclusive resource adequacy is the sole responsibility of the vertically integrated utility.

Sierra Club Response: In order to fully discuss and understand the true impact of our energy choices, Sierra Club believes it is critical not just to look at the impact decisions could have on MISO's ability to meet reliability standards, but also at the impact these decisions could have on emission of toxic pollutants that hurt communities. Although reliability is a crucial aspect of energy regulation, and it is entirely proper to be considering what impact upcoming energy market trends might have on that reliability and how to address any changes, it is equally important to consider other impacts the energy markets are having on society, including to local economies, jobs, and the environment. This is particularly true for the ICC, which is a public entity serving the people of Illinois, and the Illinois legislature and governor, elected officials likewise charged to represent the general public. Thus, Sierra Club urges the ICC to consider the environmental impact of retiring several coal-burning power plants located in communities across Illinois, but replacing those coal plants with thousands of megawatts of new, clean energy.

V. Potential Policy Options

A. What changes, if any, should be made to better enable measurement and assessment of what resources are available to meet Zone 4 resource adequacy requirements?

[Examples of issues under this question should include: Can, and if so how can, MISO's plant retirement process be changed to better enable measurement of resource adequacy? Can, and if so how can, the OMS MISO survey (both load and resources) be revised to better enable assessment of resource adequacy? Can, and if so how can, MISO's load forecasting methodology be revised to better enable assessment of resource adequacy? Is there a role for MISO, Ameren Illinois or the ICC in improving industry trade press reporting of forward market prices for capacity bilaterally traded in MISO Zone? Should MISO renew its search for a MISO-implemented approach such as its former competitive retail solution initiative to assist resource adequacy in Zone 4?]

AARP Response: The state should stop relying on the MISO survey and instead do its own study using an independent consultant or in house personnel at the ICC or IPA. The competitive retail "solution" initiative is no solution since first, there is no problem and second, if there is one, it is not MISO's to solve. Their proposal was soundly rejected by FERC and panned by its own market monitor. The state of Illinois should stand firm – especially when an out of state, voluntary group suggests a plan which could raise electricity costs to Illinois consumers.

AG Response: Zone 4 resources are currently adequately reported to various authorities, including MISO and the United States Energy Information Agency, and available to the public. To the extent that a generator claims that its costs exceed market prices and justify a change in regulatory treatment or market rules, cost data should be made publicly available to support claims that a generator is uneconomic.

Dynegy Response: Adoption of the capacity market process for Zone 4 embodied in Illinois SB 2250 and HB 4141 (recently refiled by its sponsor as HB 4285) would provide for three-year forward capacity auctions, conducted by the IPA, to procure capacity needed to serve the loads of AIC and ARES in Zone 4, including reserves in accordance with the MISO PRM. This process would enable the IPA, LSEs and capacity suppliers, as well as policy makers, to know, three years in advance, what generation resources (including demand response resources and other non-traditional generation resources) were committed to meeting the Zone 4 resource adequacy requirements. The proposal advanced by Rockland Capital in its workshop comments, although somewhat different from the process in SB 2250/HB 4285, would accomplish the same result.

Dynegy notes that to address this question, the Michigan legislature has enacted a statute that requires each LSE to demonstrate to the Michigan Public Service Commission that the LSE has secured sufficient capacity resources to serve its projected load four years in the future.[128]

International Brotherhood of Electrical Workers Response: In counting resources within the current MISO interconnection queue for purposes of assessing their value in meeting future Zone 4 resources adequacy the individual capacity factor for each generation resource should be considered, the average percentage of the daily fuel source makeup in Zone 4 from each generation resource should be included and whether or not a generation resource is geographically located in Zone 4 should be a factor.

Scenario modeling is a reasonable approach for resource adequacy assessments. Loss of additional generation resources will impact the capacity factors of remaining plants. More approved shutdowns could cause some generating units to run at higher capacity factors while others may run less. Operating plants with adequate environmental controls often allow generating units with less environmental controls to operate more frequently. With a shutdown of a plant or unit with adequate environmental controls, a generating unit may run less if they lack adequate environmental equipment. In those cases, units not added to daily load serving needs would run less.

When MISO is notified of a generating unit retirement the loss of said capacity must be taken into account in determining the effect on resource adequacy, reliability, resiliency, adequate in region resources and the daily needed fuel mix in the MISO region and Zone 4.

MISO's plant retirement process should be altered to better measure resource adequacy by utilizing both immediate and long-term scenarios in the plant retirement process. The plant retirement process should include the percentage of the retiring plants fuel source in the daily fuel resource mix in Zone 4 and the impact on total generation capacity located in Zone 4. As a side suggestion, MISO should make accessible on their website a Zone 4 daily fuel resource pie chart (identical to the MISO Region pie chart).

Illinois Industrial Energy Consumers Response: In its Pre-Workshop Comments of November 30, 2017 and Post-Workshop Comments of December 21, 2017, IIEC made the following specific recommendations to better enable the measurement and assessment of the resources that are available to meet Midwest Independent System Operator, Inc. (MISO) Zone 4's resource adequacy requirements in order to improve the liquidity and transparency of the forward capacity market in MISO Zone 4:

1. **Improve the Organization of MISO States (OMS) MISO Survey** -- Further improve the annual OMS MISO Survey such that it provides a very good 5-year forward looking projection of supply and demand for capacity that is clearly and coherently communicated with minimal risk of misinterpretation. This should include providing a clear indication of the amount of capacity that can be exported and imported from

[128]Michigan Public Act of 2016, §6w (Michigan Compiled Laws §460.6w.)

each MISO zone. It should also include further consideration with respect to whether the proper amount of planned generation capacity from MISO's interconnection queue is being included in the survey. Finally, Load Serving Entities (LSE) responses from Illinois Alternative Retail Electric Suppliers (ARES) should be sought in the survey process, rather than relying on Ameren Illinois' responses alone.

2. **Improve the Lead Time and Transparency of Generation Suspension and Retirement Notices to MISO** -- Increase the notice time and eliminate the confidentiality requirement associated with MISO's Attachment Y suspension and retirement request process. Specifically, lengthen the notice for cessation of operation to 52 weeks and eliminate the confidentiality of MISO Attachment Y notices entirely.[129]

3. **Development of Forward Capacity Market Price Indices** -- Work with industry trade press to provide for regular reporting with respect to the forward market prices for capacity bilaterally traded in MISO Zone 4.

None of these recommendations require any legislative action. The first two items can be pursued with MISO through stakeholder discussions in MISO's Resource Adequacy Subcommittee. The third item could be facilitated by the Illinois Commerce Commission, Ameren Illinois and/or MISO. Greater detail on the reasoning behind these recommendations and how they could be pursued can be found on pages 10 through 13 of IIEC's November 30, 2017 Pre-Workshop Comments.[130]

MISO Response: The OMS MISO Survey provides a 5-year forward looking viewpoint of the resources which may be available to meet MISO resource adequacy requirements in general and of all MISO zones, including Local Resource Zone 4, resource needs individually. Although MISO believes the Survey provides a valuable snapshot of resource adequacy throughout the footprint, we are open to continuing to partner with OMS and to solicit stakeholder feedback on how to improve the Survey in the future. These improvements may include additional scenario analysis, variance reporting, and improvements on how to model potential new generation resources.

Montgomery County Board Response: We would like fair legislation that would allow coal power stations to compete on a level playing field in this market. Both the energy generators and the industrial users have referenced specific recommendations to improve MISO's survey process. Changing to a three-year contract from the current 6-month

[129] IIEC notes that it is not opposed to keeping MISO Attachment Y-2 submissions confidential. Attachment Y-2 submissions are permitted under the MISO Tariff in order to allow a generation resource to explore whether its continued operation might be necessary for transmission reliability and necessitate it entering in into a System Support Resource ("SSR") contract with MISO.

[130] (https://www.icc.illinois.gov/downloads/public/IIEC%20pre-workshop%20comments.pdf) and pages 3 through 6 of IIEC's December 21, 2017 Post-Workshop Comments (https://www.icc.illinois.gov/downloads/public/IIEC%20post-workshop%20comments.pdf)

contracts would greatly improve planning. Exploring price floors and price ceilings for the capacity market seems to be a conversation that will be chaired by the Power Authority — in the absence of having a marketplace where the rules are the same for all power generators. While the function of floors and ceilings is to manage risk, it also serves to dampen innovation and reinvestment over time. Even this option, however, is better than closing the plants.

Potential policy options also need to consider the economic importance of these downstate coal power generating stations. The eight plants and corporate office employ 1,400 people directly and 800 union positions that subcontract specialized work at the eight plants. 3,200 well-paying jobs in downstate Illinois are at risk due to the convoluted pricing structure that is in place. Property tax rolls have already felt the impact of reduced property valuations based on the sale of the plants from Ameren to Dynegy. Local employment and indirect spending have felt the negative impact due to layoffs and reduced energy production because of the lack of profitability.

Sierra Club Response: In an effort to avoid undue repetition, Sierra Club refers the ICC to comments submitted by other stakeholders, including the Natural Resources Defense Council, Environmental Law and Policy Center, and Environmental Defense Fund.

B. What changes, if any, should be made to MISO's capacity construct including to the MISO planning resource auction to better ensure resource adequacy?

[Examples of issues under this question include: Should MISO move to a forward rather than prompt auction. Should MISO employ a sloped rather than vertical demand curve in its auction design? What changes, if any, should MISO make to address participation of capacity supplied by facilities that recover their costs through regulated rates?]

AARP comment: See comment above

AG Response: This subject is continually under discussion at MISO and was the subject of a FERC Order rejecting a MISO proposal to change the Zone 4 PRA. FERC Docket No. ER17-284, Midcontinent Independent System Operator, Order Rejecting Tariff Filing (Feb. 2, 2017). Stakeholders are free to propose changes to MISO and have the option of seeking administrative and judicial review if they believe the MISO markets are not producing just and reasonable rates.

CUB Response: CUB recommends no changes to the PRA. In 2017, the Federal Energy Regulatory Commission rejected MISO's attempt to establish a three-year forward capacity auction for Local Resource Zones with competitive retail demand, which would have included

Zone 4. FERC, noting that MISO's stated purpose for the proposal was to address resource adequacy, found that MISO had failed to demonstrate that the change was warranted.[131]

Dynegy Response: Ideally, MISO would adopt a capacity acquisition process for Zone 4 comparable to the capacity acquisition process provided for in Illinois SB 2250 and HB 4285. This process would include: (1) annual capacity auctions to procure capacity projected to be needed to serve loads plus PRM three years into the future, and to procure any incremental capacity needed for the immediately upcoming, or "prompt", year (*e.g.*, due to higher-than projected load growth since the applicable three-year forward auction); (2) a requirement that AIC and all ARES serving retail load in Zone 4 participate and obtain their capacity requirements in the annual capacity auctions; (3) eligibility to participate for all generation resources (including demand response and other non-traditional resources) that can qualify as Zonal Resource Credits or other Planning Resources in Zone 4 under the MISO Tariff (including resources located outside Zone 4 that have adequate transmission access into Zone 4); and (4) selection of winning capacity bidders on the basis of price, with the winning bidders paid on a pay-as-bid basis. This construct would address the flaws in the current MISO capacity auction process as it applies to the unique (among the MISO states) electricity market structure of Downstate Illinois.

Unfortunately, it is extremely unlikely that MISO could or would be able to adopt a capacity market construct that would apply only to Zone 4 and differ from the capacity construct applicable to the rest of MISO. The current MISO PRA process is not suitable for Zone 4, due to Illinois' competitive market structure, and has produced auction clearing prices for capacity in Zone 4 as low as $1.50 per MW-Day. However, the MISO PRA is suitable for the other 14 states in the MISO footprint. In the other 14 MISO states, retail customers, which (except for a limited exception in Michigan) do not have the ability to choose their electricity suppliers, are served entirely or primarily by regulated, vertically-integrated utilities that own their own generation and recover their costs of service through regulated, cost-based rates. The MISO PRA, which is a residual capacity procurement mechanism, is suitable for the market structures in the other MISO states, but not in Zone 4. In 2017, FERC, in rejecting MISO's proposed Competitive Retail Solution (CRS), which would have addressed the unique market configuration of Downstate Illinois, expressed concern about having a different capacity acquisition construct in place for Zone 4 than for the rest of MISO.[132]

In any event, Dynegy is unware of any basis on which the ICC or the Illinois General Assembly could specifically compel MISO to adopt a different capacity construct to be applicable solely to MISO Zone 4.

International Brotherhood of Electrical Workers Response: MISO's capacity construct does not ensure resource adequacy. One problem is when plants submit retirement notices MISO identifies distribution or transmission reliability issues associated with the retirement without a

[131] 158 FERC ¶ 16,128 (Docket No. ER17-284, Feb. 2, 2017).
[132] The capacity procurement process embodied in SB 2250 and HB 4285, however, would be permissible under the existing Fixed Resource Adequacy Plan provisions of the MISO Tariff.

direct assessment of the overall impact of the loss of a generation resource on Zone 4 resource adequacy. Therefore, a SSR designation from MISO doesn't directly relate to Zone 4 resource adequacy. The process could shed light indirectly on resource adequacy, if multiple and, possibly excessive, SSR designations occur in a given geographical area or in a compressed time frame. Although the identified issues will likely be tied to reliability, the lack of adequate transmission facilities and distribution equipment may signal a resource adequacy deficiency would exist without significant and/or immediate remedial action to ensure reliability. The work to remediate reliability issues associated with excessive and compressed plant shutdowns could be long term in duration and the cost of construction could be high in many situations. When coupled with costs to operate SSR plants MISO customers will face rate increases.

MISO should move to a more forward-looking auction rather than a prompt auction. A longer forward-looking process will help promote the stability of existing capacity and provide a clearer view of what plans are being made for new generation capacity. In addition, if regulated entities bid generating resources, who recover their costs through regulated rates, into the auction MISO must change the auction process. Regulated generation resources must be required to bid in at prices no lower than their cost to produce the capacity plus the regulatory rate of return ensured by their regulatory body.

Illinois Industrial Energy Consumers Response: IIEC strongly opposed MISO's now defunct Competitive Retail Solution (CRS) because, among other things, it used a downward sloping demand curve, a mandatory three-year in advance forward capacity auction, and contained provisions which inhibited retail customer access to the bilateral wholesale market for capacity within MISO. Those radical changes would have acted to unduly raise the market price for capacity in MISO Zone 4 to the benefit of suppliers and at the expenses of retail customers. IIEC generally opposes any similar changes to the MISO capacity market structure.

While IIEC opposes the forgoing changes, as outlined in its Pre-Workshop Comments of November 30, 2017 and Post-Workshop Comments of December 21, 2017, IIEC does support exploring in the MISO stakeholder process a measured change to price formation in the MISO Planning Resource Auction (PRA). Specifically, IIEC recommends cautiously exploring the possibility of raising the maximum auction clearing price allowed in the MISO PRA from the gross Cost of New Entergy (CONE) for a Combustion Turbine (CT) generator (currently approximately $260 per MW-day) to some greater value, in order to provide greater headroom in the PRA above the net CONE of a CT generator. Details on the reasoning and specifics of the recommendation can be found on page 13 of IIEC's November 30, 2017 Pre-Workshop Comments.[133]

MISO Response: MISO is continually working to enhance its resource adequacy construct, and reviews its resource adequacy processes, Tariff practices, and other parameters with stakeholders through the Resource Adequacy Subcommittee. Currently, MISO is focused on

[133] (https://www.icc.illinois.gov/downloads/public/IIEC%20pre-workshop%20comments.pdf) and pages 6-7 of IIEC's December 21, 2017 Post-Workshop Comments (https://www.icc.illinois.gov/downloads/public/IIEC%20post-workshop%20comments.pdf).

potential improvements including locational changes to establish External Resource Zones. Nonetheless, even with potential resource adequacy enhancements, MISO believes that a state-based resource adequacy mechanism is necessary in Illinois to ensure long-term resource adequacy needs are met.

Montgomery County Board Response: Longer and multiple time horizons for contracts.

Natural Resources Defense Council Response: MISO's market and planning rules significantly affect resource adequacy in Zone 4. For that reason, MISO should adopt market and planning rules that would strengthen resource adequacy in Zone 4. For example:

- Implement a seasonal component to the resource adequacy construct.

A seasonal component would accurately value and extract more capacity value from wind and solar energy, provide flexibility for uneconomic retiring generators, and mitigate seasonal resource adequacy challenges. For example, MISO's current resource adequacy construct does not fully credit the non-summer peak contributions of wind resources, which on average generate more energy during non-summer months. Implementing a seasonal component to MISO's resource adequacy construct will provide more credit for seasonal resources and reduce overprocurement.

- Reduce market barriers to entry for new, flexible energy technologies and improve their incorporation in MISO transmission planning and generator retirement processes.

Changes in the fuel mix are creating new opportunities for flexible demand response and distributed energy resources that contribute to resource adequacy by providing capacity, energy, and fast-ramping capabilities. To facilitate integration of these resources into the grid, MISO should reduce the minimum eligibility level for participation in MISO's markets from 5 MW to 100 kilowatts (kW). MISO also should allow aggregation of distributed and demand resources across planning boundaries. Other markets, including PJM and ISO NE, do not have MISO's barriers; these markets have minimum participation limits of 100 kW and allow for aggregation of distributed resources. MISO's barriers have real consequences to resource adequacy. Without the ability to earn revenue in energy and ancillary services markets, many developers are unwilling to invest in distributed energy resources in MISO, blocking new technology development and preventing them from contributing to resource adequacy.

- Develop or support interregional transmission projects capable of carrying large amounts of wind from the Great Plains to Illinois.

Building off of its successful MVP initiative, MISO should keep evaluating transmission options enabling states to accelerate their transition to more low-cost renewables and support the completion the projects.

Rockland Capital Response: The prompt timing of the MISO capacity market, the reliance on a vertical demand curve, the lack of market mitigation mechanisms, and voluntary nature of PRA participation all contribute to its excessive volatility and failure to produce a price signal. Currently, the PRA is held approximately two months prior to the start of the relevant Planning Year and establishes capacity pricing and compensation for a one-year period. This two-month space between the PRA and the start of the Planning Year is insufficient to allow for resources to make decisions regarding long-term participation in the MISO footprint, market exit, or the retention of capital. Ideally, to provide market participants with adequate time to make decisions on market participation, the MISO capacity auction or any capacity auction for southern Illinois, should be held three years in advance of the relevant Planning Year.

The vertical demand curve causes unnecessary volatility by pushing prices near zero even when there is a very small excess in the market, while pushing prices upwards towards the cap when there is shortage of only a single MW. As a result, it causes the PRA to fail to value capacity MWs at values consistent with their contributions to reliability. To address this, a sloped demand curve should replace the vertical demand curve.

The absence of market mitigation provisions to protect against the deterioration of the PRA price signal in light of subsidized resource participation further erodes the PRA price signal. It allows for resources to enter uncompetitively low offers that distort the price. Therefore, Minimum Offer Price Rules should be installed to ensure that resources participating in the PRA behave competitively.

Lastly, there are no requirements for load regarding PRA participation. Due to the ability for load to "toggle" in and out of the market on a yearly basis, the volume of MWs secured in the PRA can vary widely year-over-year. To provide greater certainty on the demand-side, minimum participation duration requirements should be adopted. For example, if load opted-out of the PRA, a durational requirement would mandate load to remain out of the PRA for three years. Similarly, if load opts into the PRA, it should be required to do so for a period of three years. This modification partially aligns with the "must-offer" requirements imposed on previously cleared generation resources that are not designated as part of a self-supply or FRAP arrangement.

Sierra Club Response: In an effort to avoid undue repetition, Sierra Club refers the ICC to comments submitted by other stakeholders, including the Natural Resources Defense Council, Environmental Law and Policy Center, and Environmental Defense Fund.

C. What changes, if any, should be made to MISO's energy or ancillary service constructs that would help maintain resource adequacy?

AARP comment: See comment under A.

AG Response: See response to V.B, above.

Ameren Illinois Response: While Ameren Illinois generally supports the consideration of modifications to the MISO markets to improve price formation, we believe it is unlikely modest tweaks to the market structure will be sufficient to ensure resource adequacy in the future.

Dynegy Response: Dynegy does not have any proposals for changes to MISO's energy or ancillary constructs that would help maintain resource adequacy in Zone 4. In any event, the principal problem threatening resource adequacy in MISO Zone 4 is the flawed capacity construct and resulting non-compensatory capacity prices, not flaws in the energy or ancillary services constructs. Further, as noted in V.B, it is unlikely that MISO could or would be allowed to adopt different energy or ancillary services constructs for Zone 4 than for the rest of the MISO footprint.

Illinois Industrial Energy Consumers Response: IIEC does not believe any changes are needed at this time.

MISO Response: MISO values discrete reliability attributes for generation resources through proven market-based mechanisms and continues to work with stakeholders on further market-based reliability improvements. Through its Market Roadmap, MISO is exploring several such initiatives including: enhanced modeling of combined cycle generators; multi-day market commitments; revisions to its Energy Offer Cap and Value of Lost Load, and; additional enhancements to Extended Locational Marginal Pricing. Again, even with potential market enhancements, MISO believes that a state-based resource adequacy mechanism is necessary in Illinois to ensure long-term resource adequacy needs are met.

Sierra Club Response: Sierra Club does not believe the ICC or any stakeholder has presented information sufficient to justify any cost-positive policy to "address" resource adequacy. However, MISO can and should change its energy and ancillary service constructs to more fully recognize and reward the significant role wind, solar, storage, and demand-side resources can play in providing resiliency to the grid.

In an effort to avoid undue repetition, for further commentary Sierra Club refers the ICC to comments submitted by other stakeholders, including the Natural Resources Defense Council, Environmental Law and Policy Center, and Environmental Defense Fund.

D. What actions should the Illinois Commerce Commission and/or the Illinois Power Agency take, if any, to address resource adequacy assuming no new legislative authority?

[Examples of issues under this question include: Should the IPA alter its strategy for hedging either energy or capacity Ameren's eligible retail customers?]

AARP Response: The ICC should monitor the matter and also re-assert its authority at MISO that Illinois is in charge of resource adequacy.

AG Response: Energy prices in Illinois have been stable and have largely followed the IPA's procurement of energy for default customers based upon its risk-managing procurement

strategy.[134] Additionally, there have been no reliability issues to date or forecasted to occur in Illinois in the reasonably foreseeable future.[135] The IPA reviews its procurement strategy every year, which is open to stakeholder comment and review and approval by the ICC. We see no need for the IPA to significantly adjust its strategy at the present time, and the agency's most recent Procurement Plan likewise does not indicate any major changes to its strategy are needed (and no major departures from past practices were made in the 2018 Plan).[136] There should be no opposition to the ICC continuing to gather information and stakeholder feedback regarding resource adequacy. The People support a process with which the ICC measures, appraises, and responds to evolving energy needs through careful, data-driven consideration.[137] The ICC should continue seeking information on, inter alia, generation retirements, generation additions, transmission retirements, transmission additions, demand response deployment and performance, and distributed resource installations.

Ameren Illinois Response: While Ameren Illinois acknowledges that such an approach has the potential to modestly enhance resource adequacy, such an approach could also result in adverse impacts on the price eligible retail customers pay for supply and potentially lead to volatile switching to or from Alternative Retail Electric Suppliers (ARES). The IPA currently considers many factors when determining the appropriate quantity of energy and capacity to be procured for eligible retail customers. One key factor is switching risk — the risk that customers will switch to or away from Ameren Illinois eligible retail load in the future. Increasing the amount of energy and capacity procured on behalf of the eligible retail customers could result in switching away from Ameren Illinois supply if the IPA procurement prices are higher than the prices available from ARES or the spot market. The resulting excess supply would then be sold through the MISO markets at prices lower than those procured by the IPA. Conversely, if the prices paid through IPA procurements are lower than those offered by ARES or the spot market, customers could leave their ARES and return to Ameren Illinois supply. The resulting shortfall of supply would then be procured through the MISO market at prices higher than the spot market. The point is that volatile switching can cause price swings to customers, which may be detrimental to retail competition. Historically, the uncertainty of future eligible retail load due to switching has limited the term of forward IPA hedging for both energy and capacity to no more than three years.

Community Groups Response: No changes should be made at this time. The examples of issues should read "Can, and if so *should*, MISO's…" Presupposing action in the question frames this

---

[134] 2018 IPA Procurement Plan at 60 ("Given the volatility in forward energy prices from month to month and within months experienced in the last several years, the IPA investigated the merit of considering alternative procurement schedule strategies with the goal of further minimizing the volatility of the resulting portfolios of contracts for each delivery month.")

[135] *Id*. at 49 ("The RTO-based reliability assessments examined in this Section are important measures of resource reliability in Illinois because the Illinois electric grid operates within the control of these two RTOs. The IPA concludes that it does not need to include any extraordinary measures in the 2018 Procurement Plan to assure reliability over the planning horizon.").

[136] *Id*. at 1-2 ("The 2018 Plan proposes to continue using the risk management and procurement strategy that the IPA has historically utilized . . . . The IPA's energy hedging strategy for the 2018 Procurement Plan is consistent with the strategy used for the 2017 Plan.").

[137] See, e.g., id., at 49.

discussion in a way that is incongruent with the vast majority of responses at the workshops which have called for no action.

Dynegy Response: As noted in the ICC Staff White Paper, the actions that the ICC or the IPA could take to address resource adequacy, assuming no new legislative authority, are limited, and are unlikely to have material impact in terms of improving the flawed capacity construct in MISO Zone 4. One option that the ICC and IPA could implement, as described in the White Paper, is that the IPA could propose in its annual procurement plans for the AIC eligible retail customer load, or the ICC could require in its orders approving the IPA's annual procurement plans, that AIC procure capacity to meet its capacity obligations regarding the eligible retail customer load through three-year forward contracts. However, as AIC noted in its comments, the load of AIC's "eligible retail customers" is a relatively small portion (less than 20%) of the total Zone 4 retail load, so this action would impact only a portion of the capacity needed for customer load plus reserve margin requirements in Zone 4.

Environmental Defense Fund Response: The ICC can, either through the forward-looking NextGrid process or a separate proceeding, discuss ways to improve the functions and markets for different day-to-day or other reliability questions included by Dynegy in their legislative proposal[138]:

- transmission security
- voltage support
- dynamic stability
- frequency response
- fuel security and on-site fuel supply
- import transfer capability

A thoughtful investigation of these reliability questions would not seek to lump them into a capacity market, or use them as a scoring system for a capacity market, but instead to determine the fundamentals of their grid value and how different technologies could meet their needs. The investigation should raise the following questions:

1. What are the various functions on bulk transmission system that are needed to maintain reliability of power delivery?
2. What are the risks of failure for each of those functions and the likelihood of those risks?
3. What technologies can provide those functions (energy storage, smart inverters, equipment, traditional generators, DER)?
4. How well do different technologies perform those functions?
5. How can (and should) markets be designed to allow different actors and technologies to perform those functions (such as the frequency regulation reform at other RTOs)?

[138] *See* 100th Gen. Assem., House Bill 4141 2017 Sess.; SB 2250.

6. What rules and regulations at MISO could be changed to allow for new actors to perform reliability functions better and at a lower cost?

Environmental Law & Policy Center Response: Neither the Illinois Commerce Commission nor the Illinois Power should not take any action at this time because there is currently no MISO Zone 4 resource adequacy problem.

Exelon Response: The ICC and the Illinois Power Agency should continue to explore all avenues to solving the resource adequacy challenges facing Central and Southern Illinois. In doing so, both should use their respective statutory authority to continue to analyze the shortcomings of the current construct and more thoroughly examine proposals put forward in this workshop process. In Exelon's view, there is an opportunity to more rigorously study the issue. A thorough analytical framework must be the predicate for changes to the capacity construct in MISO Zone 4 if those changes are to produce positive results. The ICC and IPA should consider creating a process for gathering and assessing data that could shed light on the shortcomings of the current capacity market construct. This body of information could serve a valuable purpose in informing and shaping the most cost-effective capacity market and administrative reforms.

Illinois Industrial Energy Consumers Response: The Illinois Commerce Commission (ICC), through its Staff, could work with Illinois stakeholders and the MISO in advancing discussions with regard to IIEC's recommendations to: (i) Improve the Organization of MISO States (OMS) MISO Survey; (ii) Improve the Lead Time and Transparency of Generation Suspension and Retirement Notices to MISO; and (iii) Explore Raising the Maximum Auction Clearing Price Allowed in the MISO Planning Resource Auction (PRA). The ICC, through its Staff, could also facilitate IIEC's recommendation with respect to the Development of Forward Capacity Market Price Indices.

The Illinois Power Agency (IPA) should continue to perform its role with respect to the acquisition of capacity for default service customers of Ameren Illinois. This includes managing price risk by using a combination of bilateral contracting and the MISO PRA to acquire that capacity in a manner that balances price risk and cost based on future expected market prices for capacity in MISO Zone 4.

Natural Resources Defense Council Response: We recommend that the Illinois Commerce Commission take no action. Zone 4 resource adequacy is secure through at least 2022 and trends discussed in these comments give reason to expect that long-term resource adequacy will be secure as well. Any action to drastically overhaul the functioning Zone 4 capacity market should be grounded in in-depth, thorough modeling that examines the impact, if any, of the Dynegy plants retirements on resource adequacy and reliability, as well as an extensive stakeholder process with a timeframe long enough to evaluate this complex issue.

Rockland Capital Response: Without new legislative authority, it is likely the ICC cannot on its own fully address the Resource Adequacy issues facing southern Illinois. However, the ICC could inform FERC of MISO's failure to fulfill its Tariff obligations to ensure Resource Adequacy in Zone 4. Per the MISO Tariff, specific mandatory requirements are imposed on MISO to ensure

Resource Adequacy throughout its footprint[139]. Although MISO goes to great lengths to highlight its intention to not have its markets or rules supplant or encroach on state managed programs, it cannot simply ignore its Tariff obligations as they apply to deregulated market areas.

The ICC has the ability to submit a formal complaint, pursuant to Section 206 of the Federal Power Act, to FERC and request an Order that would direct MISO to follow its Tariff, install market mechanisms that support Resource Adequacy in Zone 4, and to end the existing practice of discriminating against market participants in deregulated areas. In fact, MISO has already admitted its existing Tariff is unjust, unreasonable, and unduly discriminatory and preferential to the detriment of market participants in its deregulated areas, specifically Zone 4. MISO acknowledged this when it filed its Competitive Retail Solution (CRS) with the FERC. FERC's ultimate rejection of the CRS was not because it disagreed with MISO's contention that its Tariff was unjust and unreasonable, but because MISO's proposed solution was not adequately supported.[140] MISO's attempt to bifurcate its capacity market was deemed to be less efficient than a market-wide clearing mechanism, and left open material issues.[141] After the rejection of the widely protested CRS proposal, MISO has taken no additional steps to ensure Resource Adequacy in Zone 4.

In MISO's letter to Governor Rauner in May 2017, MISO stated that they have not further attempted to fulfil their duty to ensure Resource Adequacy due to "current circumstances at FERC – including lack of quorum and uncertainty about timing of appointments and future leadership." They argued the situation made resolution of the Resource Adequacy issue at FERC through a rehearing of their CRS proposal unclear. Rockland is not aware why MISO has not revisited the issue now that FERC once again has a quorum.

Also, the ICC could intervene in existing and future proceedings at FERC that put at-issue MISO's capacity market, like the existing FERC Docket ER18-642,[142] to seek relief from the FERC that would require MISO to adhere to its Tariff and reliability obligations.

Sierra Club Response: Sierra Club does not believe the ICC or any stakeholder has presented information sufficient to justify any cost-positive policy to "address" resource adequacy. With that in mind, because the ICC acts in the best interest of Illinois residents and ratepayers, it should continue to enact policies that support a transition to a cleaner, safer, and more affordable electric sector. Furthermore, Sierra Club urges the Assembly to enact long-term policies to support the long-term needs of communities and workforces that will be impacted by the inevitable transition to new energy sources.

---

[139] MISO Tariff Module E-1, Section 68A.
[140] FERC, Order Rejecting Tariff Filing, Docket No. ER17-284 (February 2, 2017).
[141] Id.
[142] *Midcontinent Indep. Sys. Operator, Inc*., Refiling of MISO 's Resource Adequacy Construct, FERC Docket No. ER18-462 (December 15, 2017).

E. What actions should the Illinois General Assembly take, if any, to address Zone 4 resource adequacy?

[Examples of issues under this question include: Should the General Assembly pursue any of the legislative approaches addressed in the "Potential Policy Options" section of the November 1, 2017 ICC Staff White Paper. Should the General Assembly authorize the Illinois Commerce Commission to collect information for purposes of assessing resource adequacy from Illinois generation resources?]

AARP Response: No action is needed at this time.

AG Response: No action is currently needed by the Illinois General Assembly to address Zone 4 resource adequacy. The existing regime is producing a reliable electric grid with plenty of generating capacity. As such, the People do not believe that changes are needed to state rules, regulations, or laws due to concern for resource adequacy.

Ameren Illinois Response: Section IX(2)(b)(ii) of the ICC MISO Zone 4 White Paper discusses an IPA FRAP procurement process whereby the IPA would procure multi-year capacity for ARES load.

Ameren Illinois interprets this section to be proposing a long-term process very similar to what is included in HB4141 and SB2250. Ameren Illinois believes such a long-term planning and procurement process could be a viable solution to ensure long-term resource adequacy. However, unless MISO projections of Zone 4 excess supply over the next few years change materially, we do not believe near-term implementation is warranted.

Community Groups: No changes should be made at this time. The examples of issues should read "Can, and if so *should*, MISO's…" Presupposing action in the question frames this discussion in a way that is incongruent with the vast majority of responses at the workshops which have called for no action.

If action is to be considered by the General Assembly, the Community Group's concerns center on electricity rates and health and environmental impacts. Each legislative alternative should be analyzed with respect to its impact on electricity rates and any alternatives which lengthen the life of coal plants should also be analyzed for health and environmental impacts. Other metrics such as impact on renewable sector growth should also be included.

The Community Group recognizes the impact that the loss of a power plant can have on a town economically dependent on the power plant and encourages discussion on this topic that is centered on the community, not the power plant operator, and explores the ways in which a community can have a equitable economic transition on the event of a closure.

CUB Response: CUB believes that existing policies are well-suited to meet Zone 4's resource needs for the time being and does not see any need for further policy changes on account of resource adequacy.

Dynegy Response: The General Assembly should enact SB 2250 (or HB 4285), which was developed by Dynegy and AIC. MISO has indicated that the approach presented in this legislation would be a reasonable and workable solution. The following paragraphs summarize key provisions of this legislation.

- Capacity needed for the load of AIC and ARES customers in Zone 4 would be procured in capacity procurement events conducted by the IPA. The IPA would develop annual capacity procurement plans, post them for public comment, then file them with the ICC. The ICC would conduct a proceeding to review the IPA's plan, and issue an order approving the plan or requiring revisions.
- The IPA would procure the capacity requirements for the entire AIC service area load, to meet the capacity requirements for customers served by AIC or by ARES. The total amount of capacity to be procured would be the amount needed to serve the load of these customers plus the PRM established by MISO. However, the IPA would *not* procure capacity required for retail customers of municipal utilities and electric cooperatives; those entities would retain their traditional responsibility and prerogative to obtain the electricity supply needed to serve their consumers.
- After a short initial transition period, in each year the IPA would procure 90% of the capacity projected to be needed 3 years in the future to meet MISO's resource adequacy requirements. The remaining 10% of the capacity needed would be procured shortly before the start of each year. Capacity would be procured through a mix of contracts of different lengths as proposed in the IPA's plan and approved by the ICC. The "last 10%" provision will give the IPA flexibility to purchase the precise amount of capacity required for the upcoming year based on the most recent load forecasts.
- During the transition period, ARES will have options to sell capacity they may have already acquired into the new IPA procurement process.
- The IPA would be required to establish market price benchmarks to evaluate the reasonableness of supplier bids. The IPA's selection of winning bidders would be based on price and would be approved by the ICC. These procedures are in existing law and used for procurement of renewable resources and of electric supply for retail customers who remain with ComEd or AIC.
- All capacity resources, including demand response, renewables and energy efficiency, would be allowed to participate as bidders in the IPA procurement events, so long as they meet MISO's requirements to qualify as a capacity resource. Capacity resources located outside Zone 4 could participate if they have transmission access to deliver into Zone 4. However, some portion of the capacity, as specified in the IPA's plans and approved by the ICC, would have to be physically located within Zone 4, to meet MISO's requirements for in-Zone resources.
- Capacity resources would be selected on a pay-as bid basis, rather than all bidders selected being paid the price bid by the last bidder selected. This will provide a range of prices, resulting in a weighted average price. It will also discourage lowball or zero price bidding, so that the bid submitted by each supplier will have to realistically reflect that supplier's costs.

- The legislation establishes procedures to allocate the costs of the capacity procured in the IPA events among AIC and ARES, based on each LSE's load. There is no "wires charge" imposed on consumers to recover capacity costs. Each ARES, just as they can today, will be responsible for recovering the capacity costs attributable to its customer load through whatever pricing mechanisms and offers it chooses in the competitive retail market

Environmental Defense Fund Response: Every stakeholder, excepting Dynegy and MISO, emphasized in their comments (and presentations, where applicable), the positive resource adequacy outlook for Illinois. In fact, even MISO had no choice to concede that, at least in the short-term, there is no resource adequacy concern.[143] Only Dynegy asserts a potential near-term adequacy issue, and that is solely on the basis of Dynegy's threatened closure of certain of its own generation.[144]

Dynegy has - in this and other processes - used its position as the largest generator in downstate Illinois to attempt to strong-arm regulators and legislators into "solving" a problem that does not exist (and, if it does, it is a problem of Dynegy's own creation). Dynegy relies on politically-sensitive narratives, such as reliability and economic impact, as a scare tactic.[145] The reality is that Dynegy's aging coal fleet is simply not economically competitive, and its units may not be necessary to maintain resource adequacy. The ICC is quite right to propose, as its first potential policy option, continuing to rely on existing competitive forces and market structures.[146] No legislative action is necessary or appropriate at this time.

Environmental Law & Policy Center Response: The Illinois General Assembly should not take any action at this time because there is currently no MISO Zone 4 resource adequacy problem.

Exelon Response: As an initial matter, the Illinois General Assembly should explore legislation facilitating further analysis to the extent Illinois' state agencies are not already statutorily authorized or equipped to collect and/or examine information pertaining to resource adequacy in the state. Defining the problem and exploring the various solutions more thoroughly is the first step to take before developing a long-term solution.

International Brotherhood of Electrical Workers Response: Pass legislation proposed in Senate Bill #2250 or House Bill #4141 will help ensure resource adequacy in Zone 4; it could be changed to include any necessary issues identified in this process.

Illinois Industrial Energy Consumers Response: For the reasons outlined by IIEC in the other sections of these comments, there is no need for new legislation at this time. There is no current or looming resource adequacy problem in MISO Zone 4. The existing capacity market structure as it has evolved over the past 15 years has and continues to provide resource

[143] See MISO Pre-Workshop comments, at 1.
[144] See Dynegy Pre-Workshop comments, at 1 and 4.
[145] See, Dynegy December 7 Presentation, at 6.
[146] ICC Whitepaper, at 17.

adequacy. Measured improvement can be made through the MISO stakeholder process or facilitation by the Illinois Commerce Commission without the need for new legislation.

IIEC generally opposes the introduction of any new subsidies or the introduction of market structure changes that would have the effect of providing a subsidy to suppliers by significantly raising the market rice for capacity in MISO Zone 4. In particular, IIEC opposes: (i) imposing additional capacity requirements on Load Serving Entities (LSEs), (ii) having the Illinois Power Agency (IPA) acquire capacity for all retail customers, (iii) creating an Illinois resource adequacy portfolio standard and (iv) moving Ameren Illinois from MISO to PJM.

The foregoing would act to unduly raise market prices for capacity, to the benefit of suppliers, at the expenses of retail customers. Imposing additional capacity requirements on Alternative Retail Electric Suppliers (ARES) and the Illinois Power Agency (IPA) , such as requiring them to use a Fixed Resource Adequacy Plan (FRAP) or to bilaterally purchase capacity a year or more in advance of a planning year, would eliminate the market manipulation protections afforded by the MISO Planning Resource Auction (PRA) and inhibit the ability of those ARES and their retail customers to directly manage their cost of capacity within their risk tolerance through a combination of bilateral contracting and the use of the MISO PRA.
Requiring the IPA to acquire the capacity for all Ameren Illinois retail customers through bilateral contracts or an auction process would be even more problematic. In particular, it is important to note that the State of Illinois cannot require wholesale capacity suppliers to offer power into an IPA solicitation for capacity. As a result, those suppliers could manipulate the price paid for capacity by the IPA. In addition, the IPA approach would completely eliminate the ability of ARES and their retail customers to directly manage their cost for capacity within their own risk tolerance. Finally, it would eliminate the ability of retail customers to self-supply their own capacity through behind-the-meter cogeneration or by being interruptible under MISO's Demand Response provisions.
Creating an Illinois resource adequacy portfolio standard would add yet another mandated subsidy on the back of retail customers. Finally, moving Ameren Illinois from MISO to PJM would involve retail customers paying large exit fees to MISO in addition to paying unduly higher capacity prices. All of the forgoing IIEC concerns are discussed in greater detail on pages 14 through 18 of IIEC's November 30, 2017 Pre-Workshop Comments.[147]

MISO Response: A stable resource adequacy mechanism for Local Resource Zone 4 is needed to ensure long-term investment in electric resources. Since no such-state-based approach existed in Illinois, MISO developed a market-based approach to support and facilitate resource adequacy in late 2016. While the proposal was ultimately rejected by the FERC, MISO continues to believe that additional action is needed in Illinois.

MISO appreciates the near-term reliability improvements provided by the recent Future Energy Jobs Legislation ("FEJA"). However, improvements in the near-term outlook should not be confused with ensuring long-term reliability. The short-term outlook reflects only a single year

[147] https://www.icc.illinois.gov/downloads/public/IIEC%20pre-workshop%20comments.pdf

commitment of resources and can result in increased price volatility. The legislation that is currently pending before the Illinois General Assembly may be a viable solution that achieves long-term resource adequacy.

We look forward to continuing to work closely with state officials and Illinois stakeholders to support efforts to develop a resource adequacy mechanism that will ensure there are sufficient electric resources available to meet customer needs.

Montgomery County Board Response: Pass House Bill 4141 and Senate Bill 2250; (OR, allow all of Illinois to participate in the PJM market — that would be the first choice). Additionally, Illinois should highly consider tariffing all energy coming into this market (and state)!

Natural Resources Defense Council Response: As stated above, there is no need for action, and the General Assembly should not take any. Zone 4 resource adequacy is secure through at least 2022, and trends discussed in these comments give reason to expect that long-term resource adequacy will be secure as well. Any action to drastically overhaul the functioning Zone 4 capacity market should be grounded in in-depth, thorough modeling that examines the impact, if any, of the Dynegy plants retirements on resource adequacy and reliability and cost, as well as an extensive stakeholder process with a timeframe long enough to evaluate this complex issue.

Rockland Capital Response: The Illinois General Assembly should consider establishing a Resource Adequacy Portfolio Standard, reconfiguring RTO participation, adopting the proposal set forth by Dynegy, or establishing an additional procurement mechanism like the one articulated by Rockland in this proceeding. Each of those options are an improvement over the existing construct. As more fully articulated below, the Illinois General Assembly should consider any market-based solution as it would improve the current circumstance for merchant resources located in southern Illinois.

Related to Rockland's support of Dynegy's solution, Rockland believes the Illinois General Assembly could adopt House Bill 4141 and Senate Bill 2250 to address the Resource Adequacy issues and revenue sufficiency issues impacting southern Illinois. The current market design and pricing is inadequate to incent the long-term retention of capital in merchant generation in Zone 4. MISO's broken market is not just inadequate for coal resources and unsubsidized nuclear resources, but also for efficient natural gas-fired generation

Sierra Club Response: Sierra Club does not believe the ICC or any stakeholder has presented information sufficient to justify any cost-positive policy to "address" resource adequacy. With that in mind, because the ICC acts in the best interest of Illinois residents and ratepayers, it should continue to enact policies that support a transition to a cleaner, safer, and more affordable electric sector. Furthermore, Sierra Club urges the Assembly to enact long-term policies to support the long-term needs of communities and workforces that will be impacted by the inevitable transition to new energy sources.

F. Please describe any additional potential policy option(s) you would like to see considered or that you would recommend not be considered.

AARP Response: Any discussion should always focus on cost to consumer and keeping the lights on.

Dynegy Response: The ICC Staff White Paper identified the policy option of legislation that would require all of Illinois to be placed into a single RTO. This option would require either that ComEd be moved from PJM into MISO, or that AIC and MidAmerican be moved from MISO into PJM. As the White Paper pointed out, current law essentially allows each Illinois electric utility to choose its RTO. Although the White Paper did not recommend which RTO should be given responsibility for the entire State, the White Paper noted, correctly, that PJM, unlike MISO, relies almost solely on market mechanisms to ensure there is sufficient capacity to meet customer demand. In recent years, the PJM capacity market processes have generally produced higher (and more stable, *i.e.*, less year-to-year fluctuation) capacity prices than has the MISO capacity construct. Reflecting this, some capacity suppliers with resources not physically located in PJM (including some capacity resources in Zone 4) have "pseudo-tied" their resources into PJM, enabling the resources to participate in the PJM capacity market processes that are viewed as being more attractive and producing better pricing.

Legislation has previously been introduced in the General Assembly that would, in effect, require AIC to move to PJM. This option may have additional advantages for the State beyond addressing the specific Zone 4 resource adequacy and capacity market concerns that are the subject of this workshop process. However, Dynegy notes, as did the ICC Staff White Paper, that there could be considerable costs, including exit fees, associated with moving an Illinois electric utility into a different RTO. Dynegy believes that the approach provided for in SB 2250/HB 4285 is a more readily-executable option.

Another potential option identified by the ICC White Paper is the development of a "Resource Adequacy Portfolio Standard" (RAPS), perhaps modeled, at least in concept, on the ZEC program established by FEJA. This option would also require legislation. As described in the White Paper, this option could be implemented by developing a measurable attribute of generating capacity that capacity suppliers could provide, and requiring LSEs (AIC, or both AIC and ARES) to purchase the attribute in specified amounts. The sale of the capacity attributes would provide additional revenues to the capacity suppliers serving Zone 4. Comparable to the ZEC program established by FEJA, the costs incurred by the applicable LSE(s) could be recovered through a "wires charge" to all delivery services customers in Zone 4, or could be recovered individually by each LSE through its charges to its customers, as the LSE deemed commercially appropriate.

Although RAPS is potentially workable, there would be many details to be worked out. Dynegy believes the approach presented in SB 2250 and HB 4285 is a superior option. The SB 2250/HB 4285 approach can be more readily implemented based on the existing procurement processes conducted by the IPA under ICC oversight, using competitive bidding procurement processes similar to those already used to procure energy for the AIC eligible retail customer load and to procure renewable energy resources.

Environmental Law & Policy Center Response: As described in more detail above, MISO and FERC should remove barriers that prevent storage, demand-side management, and distributed generation resources from fully participating in all its wholesale markets (including, energy, capacity, and ancillary services markets).

MISO should also improve its plant retirement processes to create greater transparency and better signaling to the market, and improve its load forecasting methodology to require greater consistency in how load serving entities calculate and report their load growth estimates.

Illinois Industrial Energy Consumers Response: For the reasons discussed elsewhere in IIEC's comments herein, IIEC does not believe any additional potential policy options need to be considered at this time beyond the ones it has proposed elsewhere in its comments.

MISO Response: While some stakeholders in this proceeding noted the availability of MISO's System Support Resource ("SSR") as a potential resource adequacy backstop, MISO does not believe that the potential for a resource to be designated as a SSR should be considered as a solution in the event that a resource adequacy issue emerges. SSR designation is limited in scope and limited to **transmission** issues created by potential resource retirements.

The SSR designation is a temporary, last resort measure requiring the electric generating unit(s) to keep operating until an alternative is identified. Only if MISO finds that an electric generating unit or power plant is required for reliable operations and no alternative exists, it designates the generator as an SSR. If the plant is not needed for reliable operations or if feasible alternatives exist, then the power plant owner is permitted to suspend or retire.

Montgomery County Board Response: "No Action" is not an option. Dynegy will ultimately follow the path for its own corporate interest; however, it is important to all of Illinois to have a capacity market that allows companies to be profitable. For the past several years, the companies operating in MISO Zone 4 in downstate Illinois have not even had a chance to break even. The system is fundamentally flawed.

PJM Response: Please see previously submitted comments.

Rockland Capital Response: In this proceeding, Rockland set forth a detailed proposal that it would like to be considered. Regardless, Rockland feels that doing nothing is unreasonable and should not be considered as an option in this proceeding.

Rockland proposed a solution to the Resource Adequacy issues impacting southern Illinois by suggesting mechanisms that would introduce market dynamics into southern Illinois. Rockland's solution proposed the establishment of a procurement mechanism to secure generation to maintain reliability to a 1-in-10 LOLE standard from resources located in MISO Zone 4 on a 3-year forward basis. This mechanism would set pricing using a sloped demand curve and impose Minimum Offer Price Rules on participating resources. The combination of these features would establish stable pricing driven by the competitive market dynamics in southern Illinois.

Sierra Club Response: Sierra Club opposes all resource adequacy policy measures that might subsidize or ensure high prices to capacity providers based on a concern that they are needed to ensure resource adequacy or system reliability. If the ICC does recommend such a course of action, at least Sierra Club urges that any such process remain public and allow for public participation.

G. Is it important for any selected policy option to be market-based? If so, why? If not, why not?

AG Response: In 1997, the State of Illinois opted to move from a system that regulated distribution and generation of electricity to one that relies on market forces to produce reliable and reasonably priced electricity supply.[148] As a result of this shift in regulation, generators accepted by the risks and the rewards associated with competitive markets. People have benefited from this shift to competitive markets because they have saved consumers millions of dollars by selecting the least-cost options for meeting demand by using market forces to govern market participation, entry, and exit. As discussed above, Illinois and Zone 4 and MISO generally have more than sufficient resources for meeting customer demand, ensuring system reliability.[149] Further, MISO's substantial investment in transmission, paid for in consumer rates, further enhances reliability as well as resiliency by enabling the delivery of electricity from multiple locations.

Competitive markets are central features of an overall trend toward fostering competition in the sector that has been ongoing for the past 30 years.[150] Abandoning a market-based approach to electricity supply would be to go backwards, would be counter to current public policy, and should not be pursued.

American Petroleum Institute Response: Any action by the ICC, the legislature, and/or the IPA to address this issue should be anchored to transparent metrics and driven only by resource adequacy needs. Illinois regulators should not account for other policy initiatives like local economic development or subsidizing a certain fuel or technology in addressing a resource adequacy issue. As we have consistently addressed in previous comments, out of market payments or subsidies only beget more subsidies. Generation assets excluded from FEJA triggered payments, including natural gas generation, should not be afforded of subsidy or out of market revenue just because it was left out of the program. All generating assets or investments in Illinois ought to compete on a level playing field to provide the affordable, reliable, clean, and dispatchable power to meet the needs of Illinois customers. A market-based approach can protect Illinois customers from any politically induced volatility. Illinois' power system should be driven by system needs, not shifting political priorities. The objective of system planning ought to be to promote competition in the energy landscape to best serve

[148] See 220 ILCS 5/16-101, creating the Electric Service Customer Choice and Rate Relief Law of 1997
[149] http://www.misomatters.org/2016/03/miso-delivering-value-every-day
[150] *Grid Reliability and Resilience Pricing*, 162 FERC ¶ 61,012, at PP 7-11 (2018).

Illinois citizens, not to provide windfalls to one company or fuel source on the backs of customers.

Community Groups: A true market-based solution would take into account the external costs of energy production with the rest of the other market impacts of each energy source, such as local pollution, health impacts, and climate change impacts. (See Section IV. 4 for more details). Any market-based solution that ignores these external costs forces the public and the environment to bear some of the costs of coal, natural gas, and other energy sources with significant externalities.

CUB Response: CUB supports policies that cost-effectively provide necessary grid value for consumers. Many market-based policies are effective in achieving this goal. Any non-market policies would have to provide an alternative means to ensure cost-effectiveness to have CUB's support.

Dynegy Response: Yes, the selected policy option should be market based. Dynegy prefers market-based solutions and opposes non-market-based subsidy programs such as the ZEC program, which distort the outcomes that would be produced in a competitive market. The competitive market solutions for Downstate Illinois provided in SB 2250 and HB 4285 do not provide for a subsidy to any generators, whether located within Zone 4 or not. Under the proposals in these bills, all generating resources that are eligible to be selected as Zonal Resources under MISO's tariff will be eligible to compete and be selected, through a competitive bidding process, as capacity suppliers to Zone 4 load on the basis of price and willingness to commit to serve Zone 4 customers on a long-term (at least 3-year forward) basis.

Exelon Response: Yes, any selected policy solution should deploy the powers of the competitive market. Illinois' embrace of competitive retail energy markets has produced savings for Illinois consumers and businesses. Exelon remains a steadfast supporter of efficient markets and proper market structures that benefit Illinois customers of all sizes. However, competitive wholesale markets must adhere to basic market design principles and send proper market signals to market participants. Rules must be adjusted when market outcomes reveal that the rules have grown outdated, as they have in this instance. These market rules are a vestige of a different regulatory scheme that does not fit MISO Zone 4.

Illinois Industrial Energy Consumers Response: Yes, IIEC supports market options that allow its members to directly manage their acquisition of electric capacity, energy and ancillary services through properly-functioning competitive markets. Putting aside the existing renewable and zero emission credit mandates that are currently imposed on Alternative Retail Electric Suppliers (ARES) and their retail customers in Illinois, IIEC believes that the current retail and wholesale electricity markets in Illinois largely succeed in providing these market options. IIEC generally opposes any option, market-based or not, that would have the effect of providing a subsidy to suppliers by unduly raising market prices and limiting the ability of each of IIEC's members to directly manage their cost of capacity within their own risk tolerance.

MISO Response: As referenced above, MISO's resource adequacy construct is able to accommodate any potential policy solution, including market-based mechanisms and non-market based mechanisms. MISO's resource adequacy construct provides the necessary flexibility to include additional capacity requirements on load serving entities and accommodate potential reliability portfolio standards. MISO's resource adequacy construct provides the ICC and Illinois with the flexibility to utilize both a FRAP and the PRA to ensure supply adequacy for electric consumers.

Further, Illinois can enter into long-term resource arrangements in advance of the Planning Year and still use the PRA as a backstop to procure any additional capacity in the event demand needs change. Similarly, any state policy created through legislation or ICC order, regardless of whether it's more akin to FEJA or a Renewable Portfolio Standard, is able to be accommodated by MISO's resource adequacy construct.

Montgomery County Board Response: Market-based sounds great in theory; however, it does not seem that any option can be truly market-based given the disparities between regulated states and deregulated states in addition to the disparities created in our own internal policy environment between regions of Illinois.

Rockland Capital Response: Yes. Market-based solutions provide the most efficient results for consumers and the best investment signals to merchant resources. Competitive markets have been shown to save consumers billions of dollars while pushing supply resources to perform better and more efficiently. A market-based solution would allow for merchant resources in MISO to compete with subsidized resources, and help establish a functional price signal with the appropriate structure.

Sierra Club Response: Again, Sierra Club does not believe the facts currently exist to justify any policy that might be designed to preserve resource adequacy. To the event any such policy is considered, or to the extent particular areas require particular resources for a short transitory period of time, we encourage ICC to focus on market-based mechanisms, that (critically) are not only resource neutral, but actively designed to ensure all resources are able to participate fairly.

VI. Additional Stakeholder Comments

Allen Gaffner, Mayor, City of Greenville Response: Thank you very much for the opportunity to demonstrate the City of Greenville's support for the continued operation of the Dynegy owned Coffeen Power Station.

Greenville is located just a short 15 to 20 minute drive south from the Coffeen facility.

Several years ago, the City of Greenville entered into an electrical aggregation agreement with a Dynegy subsidiary, Wakefield Energy, to provide rate stability for our residents. Dynegy is the power generator for the City of Greenville. As a result, the City of Greenville likely daily receives power from the Coffeen Station.

As a result of its many benefits to the community, the Greenville City Council unanimously passed a Resolution of Support for the Coffeen Power Station.

The presence of the Coffeen facility is an important economic development factor and force for the Greenville area. Five Greenville residents, and an additional six residents in Bond County, are employed at the Coffeen Power Station. Greenville and Bond County are "home" for these 11 Coffeen Power Station employees and their families.

Property taxes, sales taxes, gasoline taxes, home purchases, and retail sales are generated by these residents.

Through the years, Coffeen Power Station employees have made invaluable contributions to the quality of life in Greenville and Bond County. Bob Kulhan, a retired Coffeen facility employee who resides in Greenville, is a Past - President of the Greenville Kiwanis Club. He and his wife, Kathy, have served as dedicated volunteers at the local hospital's Health Fair, and are volunteers with the Hospital Auxiliary. The spouse of a former employee of the Coffeen facility is the Treasurer of the Bond County Community Unit 2 School Academic Foundation. They exemplify the quality of life contributions made by Coffeen Power Station employees.

Closure of the Coffeen facility would not occur in a vacuum. A ripple effect would take place in the economic development and quality of life components of the community.

For decades, the City of Greenville has provided and sold treated water to the Coffeen Power Station that is used in cooling and other processes associated with electrical generation. During just the past five years, 57,291,000 gallons of treated water was sold to the Coffeen Power Station, which resulted in revenue of $357,901.80 for the City of Greenville. The sale of water to the Coffeen facility is an important revenue source for the community.

At the December 2017 Greenville City Council meeting, the City entered into a five - year contract with Voltus Energy to reduce electrical demand at City facilities when the power grid is experiencing a high demand for electricity that cannot be met. Over the next five years, the City will receive $5,355 annually, with total reimbursement of $26,775 over the length of the agreement, to reduce power consumption upon request by Voltus Energy.

The existence of Voltus Energy, and this contractual arrangement, demonstrate a lack / shortage of an adequate power supply. Closing the Coffeen Power Station would be disastrous and illogical for electrical generation reliability.

The need for the City of Greenville to have an adequate and reliable power supply is linked directly to its economic development efforts. The City owns a 232 - acre industrial park that is adjacent to a 500 - acre business and technology park that have been designated "Select Sites" by two, Class One railroads. CSX Railroad and the Burlington Northern Santa Fe Railroad intersect within a half - mile of each other, the only site east of the Mississippi River that hosts two, Class One railroads within close proximity.

The City of Greenville's ability to recruit industrial tenants, distribution centers, and other businesses is weakened and rendered virtually useless unless a highly reliable, and adequate, supply of power is available.

Greenville's ability to both retain and create new jobs is dependent on multiple partners. In this instance, and on the topic of a reliable power supply, the Illinois Commerce Commission, the Governor, and the Illinois General Assembly are standing at the doorway to either significantly limit the prospects of reliable power for the City's industrial park, or establish a framework that allows the Coffeen Power Station to remain in operation.

In conclusion, we support the legislation introduced in the Illinois General Assembly to address the continued operation of facilities like the Coffeen Power Station, and other similar generation sites, to provide both reliable and adequate power.

Sheila White, Mayor, City of Coffeen Response: The City of Coffeen appreciates the efforts of the Illinois Commerce Commission in conducting this important workshop proceeding to consider electric power supply issues in downstate Illinois and, in particular, the market policies and conditions that are adversely impacting power plants that have reliably served downstate Illinois for many years and are important drivers of employment and economic activity in their local areas. We also appreciate the opportunity being provided to downstate Illinois stakeholders such as City of Coffeen to provide our views on these issues. We especially want to thank the Commission for scheduling this workshop to be held here in Hillsboro, so that local stakeholders most likely to impacted by the policies under discussion can express their views.

City of Coffeen wishes to express its concern to the Commission about the potential closing of the Coffeen Power Station and to express to the Commission the severe adverse impacts this closing would have on our community and the citizens of our community. In considering policy options, it is critical that the Commission – and ultimately, the General Assembly and the Governor – take into account the impacts of policy choices on the power plants that provide jobs, economic stimulus and fiscal support to the State and to local governments in downstate Illinois. The City of Coffeen strongly urges the Commission to recommend policy solutions such as proposed in Illinois Senate Bill 2250 and House Bill 4141, which will implement changes to the downstate Illinois power markets that will give the Dynegy of power station and other downstate power stations a fair opportunity to compete in the market and remain in operation.

The Coffeen power station is located near the City of Coffeen in Montgomery County. It has been an economic mainstay of Coffeen, Montgomery County and the surrounding area for over 50 years. Today the Coffeen power station employs approximately 151 area residents. We understand that the plant’s payroll is approximately $388.6 million annually. The plant provides good, family-sustaining jobs which are among the best available in our area. Many employees have worked at the power station for many years. Because these employees largely live, and spend much of their income, in the area, the operation of the power station supports many other local businesses and jobs. The Coffeen power station itself also purchases supplies and services from local businesses that employ local residents. The positive economic impacts of

the Coffeen Power Station benefits not only Montgomery County but also the surrounding area Counties.

Dynegy is one of the largest property taxpayers to Montgomery County and Hillsboro School District. In 2017, the property taxes paid by the Coffeen power station were $4.2 million [note: 2016 property taxes payable in 2017]. These tax payments provide substantial support to Montgomery County and Hillsboro school district. If this revenue were lost, it would have to be made up by other local taxpayers, to the extent possible given legal limits on property tax rates and extensions. If the revenues could not be made up by increasing taxes on other taxpayers, then the lost revenues would translate into reduced services provided by local governments and the local school district.

Through their spending in the area, the Coffeen Power Station and its employees also pay sales taxes on their purchases. The Coffeen power station pays Illinois Use Tax on its deliveries of coal from out-of-State sources. A portion of these taxes go to City of Coffeen and Montgomery County while the balance goes to help support the programs of the State government.

In addition to being one of the largest employers and taxpayers in our community, the Coffeen Power Station and its employees are also good citizens of our community. Many of the Coffeen Power Station's employees are local community leaders, including by taking leadership roles or serving on local government boards and community organizations.

If the Coffeen Power Station were to be closed, that would likely initiate a severe downward spiral for our community and the surrounding area. Many employees of the Coffeen Power Station, many of whom have worked at the plant for many years, are unlikely to find comparable, well paying jobs in our area. Many will be forced to either leave the area to find new jobs; take lesser paying jobs in the area, if available; or retire. Local spending for goods and services will be reduced and there will be a ripple effect on local businesses that currently serve the employees and their families and the power station itself. Local businesses in turn may be forced to lay off employees or shut down entirely.

We understand that some feel there is an excess supply of power available to downstate Illinois and the surrounding areas, including through power imported from plants located in other states, and that as a result, it is not a problem if some or all of the Dynegy plants retire. However, in our community, the Coffeen Power Station is well known as a reliable, low cost producer of electricity. We are not just concerned about the job losses, property tax losses, and other negative economic impacts of plant retirements. We are also concerned about power plant retirements in downstate Illinois resulting in tightening of supply that in turn could produce volatile prices from year to year. Neither our local citizens, nor our local governments, which must budget and set local tax rates in advance, wish to see significant fluctuations in electric prices from year to year. Such fluctuations can make it very difficult for local governments and school districts to budget and can affect our ability to provide the services our citizens expect and deserve.

We also believe it is unwise for downstate Illinois to rely heavily on power plants in other states that are under the authority of different legislatures and regulatory commissions, to supply the electricity that is needed for our homes and businesses in downstate Illinois. Further, while we accept development of new wind and solar plants in Illinois, we know that their availability is dependent on the wind blowing and the sun shining, which does not necessarily correspond to the times when power is most needed by consumers. Downstate Illinois has power stations that are physically located in our area, were built to serve Illinois homes and businesses, and are reliable producers of power 24 hours per day, 7 days per week, 365 hours per day – as well as employing local residents and supporting local businesses and governments as I have described. It makes no sense to let these plants go into retirement – not because they are technologically obsolete or physically ready for retirement, but due to a poorly-designed market – while relying for our power supply on out-of-state plants that were not built to serve Illinois consumers.

Our citizens would be extremely upset if the General Assembly and the Governor failed to act on the proposed Illinois-centered electric capacity market reforms that will provide the opportunity for Coffeen Power Station to remain in operation. Our citizens see on their electric bills every month an additional charge, imposed by the General Assembly and the Governor, to subsidize and sustain in operation two Exelon power stations, including one in northwest Illinois. We understand the importance of those two plants to their local communities, and the reasons the General Assembly acted to create a subsidy mechanism, which is paid for by every Ameren and ComEd customer in Illinois, to keep those plants in operation. Our citizens also are being charged on their electric bills for payments made to support renewable generators under the renewable portfolio standard program mandated by the General Assembly. Should no action be taken by the General Assembly and the Governor regarding policies impacting the Dynegy downstate plants, our citizens would certainly wonder why the General Assembly and the Governor imposed a 10-year subsidy program on ratepayers to support the Exelon plants, and have enacted a plan to subsidize the construction of new wind and solar plants though long-term guaranteed contracts, but could do nothing to help to keep the Dynegy downstate Illinois plants in operation.

The City of Coffeen supports the downstate capacity market reforms that have been proposed by Dynegy and are incorporated in House Bill 4141 and Senate Bill 2250. One of the reasons we support these proposed solutions is that they would provide for market reforms, rather than for a ratepayer-funded subsidy like the General Assembly and the Governor have already imposed for the Exelon plants. Under the proposals in the bills, the power plants that would be selected as capacity suppliers for downstate Illinois would be selected through a competitive bidding process on the basis of the prices they bid. One of the core changes these proposals would implement would be that capacity contracts would be awarded three years in advance, rather than three months in advance. This certainly makes economic sense to the City of Coffeen, as we understand the need for longer-term planning, beyond just the next fiscal year. This approach will also help to ensure that capacity suppliers to downstate Illinois are making longer-term commitments to serve our downstate power needs.

In conclusion, City of Coffeen reiterates its appreciation for the Commission's efforts in studying the important issues relating to long-term power supply and the related local economic impacts in downstate Illinois, and thanks the Commission for the opportunity to provide our comments today.

Mark Bolander, Mayor of the City of Newton Response: Good afternoon. My name is Mark Bolander and I am the mayor of the city of Newton, population 3000. The City of Newton appreciates the efforts of the Illinois Commerce Commission (ICC) in conducting this important workshop proceeding to consider electric power supply issues in downstate Illinois and, in particular, the market policies and conditions that are adversely impacting power plants that have reliably served downstate Illinois for many years and are important drivers of employment and economic activity in their local areas. We also appreciate the opportunity being provided to downstate Illinois stakeholders such as the City of Newton to provide our views on these issues. We especially want to thank the Commission for scheduling this workshop to be held here in Hillsboro, so that local stakeholders most likely to be impacted by the policies under discussion can express their views.

The City of Newton wishes to express its concern to the Commission about the potential closing of the Newton power station and to express to the Commission the severe adverse impacts this closing would have on our community and the citizens of our community. In considering policy options, it is critical that the Commission - and ultimately, the General Assembly and the Governor - take into account the impacts of policy choices on the power plants that provide jobs, economic stimulus and fiscal support to the State and to local governments in downstate Illinois. The City of Newton strongly urges the Commission to recommend policy solutions such as proposed in Illinois Senate Bill 2250 and House Bill 4141, which will implement changes to the downstate Illinois power markets that will give the Newton power station and other downstate power stations a fair opportunity to compete in the market and remain in operation.

The Newton power station is located near Newton in Jasper County. It has been an economic mainstay for over 40 years. Today the Newton power station employs approximately 95 area residents. We understand that the plant's payroll is approximately 11 million annually. The plant provides good, family-sustaining jobs which are among the best available in our area. Many employees have worked at the power station for many years. Because these employees largely live, and spend much of their income, in the area, the operation of the power station supports many other local businesses and jobs. The Newton power station itself also purchases supplies and services from local businesses that employ local residents. The positive economic impact in excess of $100 million benefits not only Newton & Jasper County but also the surrounding area including Cumberland, Crawford, Richland, Clay and Effingham counties.

Through their spending in the area, the Newton power station and its employees also pay sales taxes on their purchases. The Newton power station pays Illinois Use Tax on its deliveries of coal from out-of-State sources.

In addition to being one of the largest employers and the largest taxpayer in our community, the Newton power station and its employees are also good citizens of our community. Many of the

Newton power station's employees are local community leaders, by taking leadership roles or serving on local government boards and community organizations. (Alan Bogardus story)

If the Newton power station were to be closed, that would likely initiate a severe downward spiral for our community and the surrounding area. Many employees have worked at the plant for many years and are unlikely to find comparable, well-paying jobs in our area. They will be forced to either leave the area to find new jobs; take lesser-paying jobs in the area, if available; or retire. Local spending for goods and services will be reduced and there will be a ripple effect on local businesses that currently serve the employees and their families and the power station itself. Local businesses in turn may be forced to lay off employees or shut down entirely.

We understand that some feel there is an excess supply of power available to downstate Illinois and the surrounding areas, through power imported from plants located in other states, and that as a result, it is not a problem if some or all of the Dynegy plants retire. However, in our community, the Newton power station is well known as a reliable, efficiently operated, low cost producer of electricity. We are not just concerned about the job losses, property tax losses, and other negative economic impacts of plant retirements. We are also concerned about power plant retirements in downstate Illinois resulting in tightening of supply that in turn could produce volatile prices from year to year. Neither our local citizens, nor our local governments, which must budget and set local tax rates in advance, wish to see significant fluctuations in electric prices from year to year. Such fluctuations can make it very difficult for local governments and school districts to budget and can affect our ability to provide the services our citizens expect and deserve.

We also believe it is unwise for downstate Illinois to rely heavily on power plants in other states that are under the authority of different legislatures and regulatory commissions, to supply the electricity that is needed for our homes and businesses in downstate Illinois. Further, while we accept development of new wind and solar plants in Illinois, we know that their availability is dependent on the wind blowing and the sun shining, which does not necessarily correspond to the times when power is most needed by consumers. Downstate Illinois has power stations that are physically located in our area, were built to serve Illinois homes and businesses, and are reliable producers of power 24 hours per day, 7 days per week, 365 days per year — as well as employing local residents and supporting local businesses and governments as I have described. It makes no sense to let these plants go into retirement — not because they are technologically obsolete or physically ready for retirement, but due to a poorly-designed market — while relying for our power supply on out-of-state plants that were not built to serve Illinois consumers.

Our citizens would be extremely upset if the General Assembly and the Governor failed to act on the proposed Illinois-centered electric capacity market reforms that will provide the opportunity for Newton power station to remain in operation. Should no action be taken by the General Assembly and the Governor regarding policies impacting the Dynegy downstate plants, our citizens would certainly wonder why the General Assembly and the Governor imposed a 10-year subsidy program on ratepayers to support the Exelon plants, and have enacted a plan to subsidize

the construction of new wind and solar plants through long-term guaranteed contracts, but could do nothing to help to keep the Dynegy downstate Illinois plants in operation.

The City of Newton supports the downstate capacity market reforms that have been proposed by Dynegy and are incorporated in House Bill 4141 and Senate Bill 2250. One of the reasons we support these proposed solutions is that they would provide for market reforms, rather than for a ratepayer-funded subsidy like the General Assembly and the Governor have already imposed for the Exelon plants. Under the proposals in the bills, the power plants that would be selected as capacity suppliers for downstate Illinois would be selected through a competitive bidding process on the basis of the prices they bid. One of the core changes these proposals would implement would be that capacity contracts would be awarded three years in advance, rather than three months in advance. This certainly makes economic sense to us, as we understand the need for longer-term planning, beyond just the next fiscal year. This approach will also help to ensure that capacity suppliers to downstate Illinois are making longer-term Commitments to serve our downstate power needs.

In conclusion, the City of Newton reiterates its appreciation for the Commission's efforts in studying the important issues relating to long-term power supply and the related local economic impacts in downstate Illinois, and thanks the Commission for the opportunity to provide our comments today.

Peoria Area Residents Postcard Response (118 Total): 118 residents in the Peoria area submitted postcards to the ICC. The postcards contain the name, address, and in almost all cases, an e-mail address of the person commenting. The language of the postcards is the same and is as follows:

> Dear Governor Rauner and Illinois Commerce Commission,
>
> As an Illinois resident and ratepayer, I strongly encourage you to include these concerns in the final report on MISO Zone 4 Resource Adequacy.
>
> - There is no urgent need for action. The MISO forecasts indicated resources are more than adequate through the next few years.
> - New wind and solar are coming online and Illinois should continue to invest in clean energy sources rather than dirty coal.
> - The final report should clearly note that no there is no actual proof of Dynegy's financial hardship. With the Vistra merger, the company is valued at $20 billion.
> - Dynegy has promises only to its shareholders, not Illinois workers or communities. When asked in the Joint Legislative hearing last November, Dynegy could not promise to keep plants open even if its bailout proposal was enacted.

Dynegy's bailout request will ultimately raise rates for Illinois residents and these rate increases will hit the poor the hardest. There is no urgent need for action.

Citizens of Randolph County Response: The citizens of Randolph County, Illinois are submitting these comments to the Illinois Commerce Commission. The citizens of Randolph County appreciate the ICC's efforts in conducting this important proceeding to consider electric power supply issues in downstate Illinois. We also appreciate the opportunity for local stakeholders to express our views on these issues.

The citizens of Randolph County express our concern about the potential closing of the Baldwin Power Station and express to the ICC the severe adverse impacts this closing would have on our community. In considering policy options, it is critical that the ICC – and ultimately, the General Assembly and the Governor – consider the impacts of policy choices on the power plants that provide jobs, economic stimulus and fiscal support to Randolph County and the State of Illinois. We strongly compel you to recommend policy solutions like Illinois Senate Bill 2250 and House Bill 4141, which will implement changes to the downstate Illinois power markets. SB2250 and HB4141 will give Baldwin Power Station and other downstate power stations a fair opportunity to compete in the market and thus, remain in operation.

Baldwin Power Station initially began operations decades ago in our community and has been an economic driver since. Baldwin Power Station employs hundreds of area residents. Baldwin Power Station's payroll is millions annually. These are family-sustaining jobs, among the best available in Randolph County. Because these employees largely reside in the area and spend much of their income here, the continued operation of Baldwin Power Station supports hundreds of other local businesses and jobs. Baldwin Power Station purchases supplies and vendor services from local businesses that employ *local* residents.

Dynegy, as the owner of the Baldwin Power Station, is one of the largest property taxpayers to Randolph County and the Red Bud School District. In 2017, the property taxes paid by Baldwin Power Station totaled more than $4.8 million dollars. The lost revenues would translate into reduced services and unendurable job loss. In other words … devastation to our community and to Red Bud schools.

Through employee spending and power station purchases, sales taxes are also generated for Randolph County and the State of Illinois. Baldwin Power Station also pays Illinois Use Tax on out-of-state coal purchases. A significant amount of these taxes goes directly to Randolph County while the balance helps support the State of Illinois.

The Baldwin Power Station is an economic development attractor. Randolph County is fortunate to enjoy robust job growth via agribusiness, mining, manufacturing, and the Baldwin Power Station. This Spring, a new company will open on the grounds of Baldwin Power Station. The company is not just new to the State of Illinois, it is new to the United States. The new company will employ more than 100 local people. Were it not for the Baldwin Power Station, this company would never have considered Randolph County as their flagship American plant.

In addition to being one of the largest employers and largest taxpayers in our community, Baldwin Power Station and its employees are also good community citizens. Many employees are local community leaders, serving on local government boards and community organizations. Baldwin Power Station employees help with events like river cleanups, Eaglefest, and numerous village and city festivals.

Ladies and gentlemen, closing the Baldwin Power Station will cause a severe downward spiral for Randolph County. Spending for goods and services will be reduced and there will be a ripple effect on local businesses. They will be forced to lay off employees or to close their doors.

It is important to Randolph County citizens that adequate supplies of electric power be provided at stable prices. We understand that some parties feel that some or all of the older Dynegy power stations should be retired. Baldwin Power Station is one of our largest employers and is well known as a reliable, low cost producer of electricity. Neither our local citizens, nor our local governments, which must budget and set local tax rates in advance, wish to see significant variations in electricity prices from year to year. From the point of view of the citizens of Randolph County, such fluctuations make it very difficult to budget and can affect our ability to provide the other governmental services we expect.

The citizens of Randolph County feel it is unwise for our community, and for downstate Illinois in general, to rely heavily on utilities and power plants located in other states (under the authority of different regulatory commissions), to supply the electricity that is needed for our homes and businesses. We also support the ongoing development of wind and solar generating facilities in Illinois, but we know that wind and solar generating facilities are called "variable generation" because their availability and output are dependent on daylight and a blowing wind, which does not necessarily correlate to the times when they are needed. The citizens of Randolph County have a reliable power station that is here in Randolph County, producing power 24 hours per day, 7 days per week. Why close this facility while relying for our power supply on out-of-state plants that were not built to serve Illinois electricity consumers?

The people of Randolph County are *especially* concerned about the possibility of the Baldwin Power Station being closed because we have seen that Dynegy has closed other plants in recent years. These closures have included the Vermilion Power Station near Danville in Vermilion County; the Wood River Power Station in Madison County; one unit at the Baldwin Power Station here in Randolph County; and one unit at the Newton Power Station in Jasper County. Our community is already experiencing adverse economic and employment impacts from closing one of the Baldwin units.

The citizens in our community will be extremely distressed and financially emaciated if the General Assembly and the Governor fail to act on the proposed Illinois-centered electric capacity market reforms that will allow Baldwin Power Station to remain in operation. Our citizens see on their electric bills every month an additional charge, imposed by the General Assembly and the Governor, to subsidize and sustain in operation two of the Exelon power stations, including one in far northwest Illinois. We understand the importance of these two power stations to their respective local communities and fully understand the reasons the

General Assembly acted to create a subsidy mechanism, (that is paid for by every Ameren Illinois and ComEd customer in the State), to keep those plants in operation. Randolph County citizens also know that they are being charged on their electric bills every month for payments made to support renewable generators under a program mandated by the General Assembly. Should no action be taken by the General Assembly and the Governor regarding the Dynegy downstate plants, the citizens of our community would certainly wonder why the General Assembly and the Governor enacted and imposed a massive, 10-year subsidy program on ratepayers to support the Exelon plants, and have enacted a massive plan to subsidize the construction of new wind and solar plants though 15-year guaranteed contracts, but could do nothing to help to keep the Dynegy plants of downstate Illinois in operation, especially our station at Baldwin.

The citizens of Randolph County support the downstate capacity market reforms that have been proposed by Dynegy and are incorporated in House Bill 4141 and Senate Bill 2250. We also understand that Rockland Capital has proposed a similar policy reform. We understand these proposed solutions would provide for market reforms, and would not provide for a ratepayer-funded subsidy like the General Assembly and the Governor have already imposed for the Exelon plants. Under these proposals, the power plants that would be selected to be the capacity suppliers for downstate Illinois would be selected on the basis of a competitive bidding process on the basis of the prices the various power stations offered. We understand that one of the core changes that these proposals would implement would be that capacity contracts would be awarded three years in advance, rather than three months in advance. This certainly makes economic sense to the citizens of Randolph County. We understand the need for longer-term planning, beyond just the upcoming fiscal year, and we must always be planning for the longer-term future in our own operations. This approach will also help to ensure than the capacity suppliers to downstate Illinois are making longer-term commitments to serve the power needs of downstate Illinois.

In conclusion, Randolph County thanks the Illinois Commerce Commission's efforts in studying the important issues relating to long-term power supply and the related local economic impacts to Randolph County and downstate Illinois. We appreciate the opportunity to provide these comments.

Spoon River Partnership for Economic Development Response: The SRPED appreciates the ICC's efforts in conducting this important proceeding to consider electric power supply issues in downstate Illinois and, in particular, the market policies and conditions that are adversely impacting power plants that have reliably served downstate Illinois for many years as well as being critical drivers of employment and economic activity in their local areas. We also appreciate the opportunity being provided to local stakeholders such as SRPED to provide our views on these issues. Our Duck Creek power plant happens to be one of our largest employers to the Canton/Fulton County area. One of our organization's goals is to help create and maintain jobs that pay a living wage and this is one of our employers who does just that.

The Spoon River Partnership for Economic Development (SRPED) wishes to express its concern about the potential closing of the Duck Creek power station and to express to the ICC the severe adverse impacts this closing would have on our Canton/Fulton County area and the citizens of our community. In considering policy options, it is critical that the ICC – and ultimately, the General Assembly and the Governor – consider the impacts of policy choices on the power plants that provide jobs, economic stimulus and fiscal support to the State and local governments in downstate Illinois. SRPED strongly urges the ICC to recommend policy solutions such as proposed in Illinois Senate Bill 2250 and House Bill 4141 [, or as proposed by Rockland Capital], which will implement changes to the downstate Illinois power markets that will give the Duck Creek power station] and other downstate power stations a fair opportunity to compete in the market and remain in operation.

The Duck Creek power station is located in/near Canton, IL in Fulton County. It initially began operations in 1975 and has been an economic mainstay of Canton/Fulton County and the surrounding area for over 42 years. Today the power station employs approximately 72 area residents, as well as, numerous contractors. We understand that the power station's payroll is approximately $9 million annually. The power station provides good, family-sustaining jobs which are among the best if not the best available in our area. Many of the employees have worked at the power station or at others of the Dynegy power stations for many years. Because these power station employees largely reside in the area and spend much of their income in the area, the continued operation of the power station thereby supports many other local businesses and jobs. The power station itself also purchases various supplies and services from local businesses that employ local residents. Although the Duck Creek power station is located in Fulton County, its positive economic impact also benefits the surrounding area which includes Mason, Peoria and Tazewell Counties.

Dynegy, as the owner of the Duck Creek power station, is one of the largest property taxpayers to Fulton County and Canton School District #66. In 2017, the property taxes paid by the Duck Creek power station (2016 property taxes payable in 2017) were $1.9 million. These tax payments provided substantial support to the Fulton County, and Canton School District #66. Of course, this loss of revenue would have to be made up by other local taxpayers, to the extent possible given the statutory limits on property tax rates and extensions. If the revenues could not be made up by increasing taxes on other taxpayers, then the lost revenues would translate into reduced services provided by Fulton County and Canton School District #66.

Through their spending in the area, the employees of Duck Creek, and the power station itself through the materials and supplies it purchases, also pay sales taxes on their purchases. The Duck Creek power station also pays Illinois Use Tax on its purchases of coal from out-of-State sources. A portion of these taxes go directly go to Canton/Fulton County while the balance goes to help support the State of Illinois government.

In addition to being one of the largest employers and largest taxpayers in our community, the Duck Creek power station and its employees are also good citizens of our community. Our Duck Creek power plant supports several local organizations such as the St. Mary's food pantry,

First Baptist Church food pantry, Toys for Tots-Fulton County and was a very large contributor to the Canton Disaster Recovery Fund after a devastating explosion affected Canton's downtown. Many of the Duck Creek's employees are local community leaders, including by taking leadership roles or serving on local government boards and community organizations. Unfortunately, closing the Duck Creek power station would almost certainly initiate a severe downward spiral for our community and the surrounding area. The employees of Duck Creek, many of whom have worked at the power station for many years, are unlikely to all find comparable, well-paying jobs in our area. Many of them will either leave the area to obtain new employment, take lesser-paying jobs in the area, if available, or retire. Under any of these scenarios, local spending for goods and services will be reduced and there will be a ripple effect on local businesses that currently serve the power station employees and their families and the power station itself. Local businesses in turn may be forced to lay off employees or to shut down entirely.

Additionally, it is important to our community to maintain adequate supplies of electric power provided at stable prices. We understand that some parties feel that there is an excess supply of power available to downstate Illinois and the surrounding areas, including through power imported from plants located in other states, and that as a result, some or all of these older Dynegy power stations should be retired. However, as the Duck Creek plant is one of the largest employers in our area, and as most of the employees of the Duck Creek station employees reside in the local area, the Duck Creek power station is well known as a reliable, low cost producer of electricity. Duck Creek has made several investments in the plant with regard to Environmental Compliance including: new Precipitators, installation of SCR (Selective Catalytic Reduction) unit, a scrubber and most recently won the Peabody Environmental Award for being the low SO2 emitter in the United States. We are concerned about the possibility of power plant retirements in downstate Illinois resulting in tightening of supply that in turn could produce volatile prices from year to year. Neither our local citizens, nor our local governments, which must budget and set local tax rates in advance, wish to see significant variations in electricity prices from year to year. From the point of view of SRPED, such fluctuations can make it very difficult to budget and can affect our ability to provide the other governmental services that our citizens expect.

Additionally, we feel that it is unwise for our area and for downstate Illinois in general, to rely heavily on utilities and power plants located in other states that are under the authority of different regulatory commissions, to supply the electricity that is needed for our homes and businesses. We also support the ongoing development of new wind and solar generating facilities in Illinois, which we understand to be mandated by State law, but we know that wind and solar generating facilities are called "variable generation" because their availability and output are dependent on the wind blowing and the sun shining, which does not necessarily correlate to the times of the day and the year when power is most needed by consumers. Downstate Illinois has power stations that are physically located in our area, were built to serve Illinois homes and businesses, and are reliable producers of power 24 hours per day, 7 days per week, 365 hours per day, as well as employing local residents and supporting local businesses and governments as described above. It makes no sense to let these plants go into retirement

– not because they are technologically obsolete or physically ready for retirement, but due to a poorly-designed market – while relying for our power supply on out-of-state plants that were not built to serve Illinois electricity consumers.

Our community is particularly concerned about the possibility of the Duck Creek power station being closed because we have seen that Dynegy has closed other plants in recent years. These closures have included the Vermilion Power Station near Danville in Vermilion County; the Wood River Power Station in Madison County; one unit at the Baldwin Power Station in Randolph County; and one unit at the Newton Power Station in Jasper County.

The citizens in our community would be extremely upset if the General Assembly and the Governor failed to act on the proposed Illinois-centered electric capacity market reforms that will provide the opportunity for Duck Creek power station to remain in operation. Our citizens see on their electric bills every month an additional charge, imposed by the General Assembly and the Governor, to subsidize and sustain in operation two of the Exelon power stations, including one in far northwest Illinois. We understand the importance of these two power stations to their respective local communities and fully understand the reasons that the General Assembly acted to create a subsidy mechanism, that is paid for by every Ameren Illinois and ComEd customer in the State, to keep those plants in operation. Our citizens also know that they are being charged on their electric bills every month for payments made to support renewable generators under a program mandated by the General Assembly. Should no action be taken by the General Assembly and the Governor regarding the Dynegy downstate plants, the citizens of our community would certainly wonder why the General Assembly and the Governor enacted and imposed a massive, 10-year subsidy program on ratepayers to support the Exelon plants, and have enacted a massive plan to subsidize the construction of new wind and solar plants though 15-year guaranteed contracts, but could do nothing to help to keep the Dynegy plants downstate Illinois in operation, including the Duck Creek power station in our community.

SRPED supports the downstate capacity market reforms that have been proposed by Dynegy and are incorporated in House Bill 4141 and Senate Bill 2250. We also understand that Rockland Capital has proposed a similar policy reform. We understand that these proposed solutions would provide for market reforms, and would not provide for a ratepayer-funded subsidy like the General Assembly and the Governor have already imposed for the Exelon plants. Under these proposals, the power plants that would be selected to be the capacity suppliers for downstate Illinois would be selected on the basis of a competitive bidding process on the basis of the prices the various power stations offered. We understand that one of the core changes that these proposals would implement would be that capacity contracts would be awarded three years in advance, rather than three months in advance. This certainly makes economic sense to SRPED, as we understand the need for longer-term planning, beyond just the upcoming fiscal year, and we must always be planning for the longer-term future in our own operations. This approach will also help to ensure than the capacity suppliers to downstate Illinois are making longer-term commitments to serve the power needs of downstate Illinois.

In conclusion, SRPED reiterates its appreciation for the Illinois Commerce Commission's efforts in studying the important issues relating to long-term power supply and the related local economic impacts in downstate Illinois, and thanks the ICC for the opportunity to provide these comments.

Deanna Tarter, Coffeen Plant employee Response: To the Illinois Commerce Commission, please consider the impact that the closing of Coffeen Power Station will have on the communities in Montgomery County and the employees that work for Dynegy and their contractors. Montgomery County relies heavily on the tax revenue from Coffeen Power station for their law enforcement, county jobs, veterans assistance, and especially the school districts. They will all suffer tremendously, especially Hillsboro School District if it does close. This will also lead to less revenue for local businesses and community members relocating for better job opportunities. We are asking for a level playing field in Illinois to help supply electricity at a reasonable and stable cost for downstate Illinois. Please help support legislative proposal SB 2250.

Trina Britton, Coffeen Plant employee Response: I am writing today to show my support of SB 2250. This will provide for the implementation of an Illinois-specific process for securing electric generation resource adequacy and stable pricing for electric capacity within Midcontinent Independent System Operator, Inc., (MISO) Zone 4. We (power plants) are not asking for a bail out. What we are asking for is an even playing field so that we can survive.

The closing of our power plant will be devastating to Montgomery County economy. Our plant provides hundreds of good paying union jobs and closing Coffeen Power Station will not only affect us working at the plants but also those industries that support or depend on us. We support local small businesses with our paychecks. The closure of our plant or any plant within MISO Zone 4 would lead to less local spending due to job loss.

Coffeen Power Plant closing will affect tax revenue for Hillsboro School District, law enforcement and other critical functions of county government. Employees will move from Illinois, let's face it not too many good paying jobs left here.

I plead with you to please fix the MISO region – please make it an even playing field. Please do this for Illinois, the families, our children.

Patricia Rykhus Response: As a concerned citizen and resident of Illinois, residing in MISO Zone 4, I am concerned with the policy decisions of the governing entities when it comes to electrical generation and transmission within our Zone. When I think of MISO Zone 4, my thoughts immediately go to Dynegy and their electricity produced by coal powered generating plants. As we look at resource adequacy in the long run, coal fired power plants appear to be taking advantage of our political climate. Dynegy has been receiving regulation variances and bailouts for years. Yet, that has not stopped them from closing plants, while posting positive financial analyses, while refusing to address their vast environmental issues.

Their representatives/ lobbyists have been working on many fronts. Seeking legislation - attempting to set rates high enough to support coal, Environmentally seeking regulatory cut-backs on air pollution and attempting to influence electrical distribution systems.

First, a little history: In Sept 2005, New York Attorney General Andrew Cuomo sued Dynegy (and other utilities) arguing the the companies were not properly accounting for the financial risks that pollutants from coal fired power plant created. At that time, Dynegy's response was to issue statements to current and future investors that regulations and lawsuits over pollution could pose a financial risk to the company.

Then, in 2012, one of Dynegy's largest subsidiaries "Dynegy Holdings" filed for Chapter 11 bankruptcy. The company structured itself so that the holding company Dynegy, Inc. had little or no debt. Nearly all the debt was held by Dynegy Holdings, which also guaranteed the debt for the operating divisions. Dynegy, Inc also created 3 operating divisions: the Natural Gas Group (GasCo), the coal group (CoalCo) and for all other businesses (known as the Stub Group). GasCo and CoalCo were structured so that they would be little affected by any bankruptcy filing by either Dynegy, Inc or Dynegy Holdings. Part of this structure also meant that few of GasCo and CoalCo dividends were actually given to Dynegy Holdings. To separate Dynegy Holdings from Dynegy, Inc., Dynegy Holdings was transformed from a corporation into a Limited Liability company (LLC).

This legal maneuvering made/makes it difficult for creditors to sue the LLC's board for failing to uphold their fiduciary duty. It also allows GasCo and Coal Co to sell themselves in whole or in part, at whim, to Dynegy, Inc and leave Dynegy Holdings in debt while also preventing creditors seizing the assets of CoalCo or GasCo. This structure provides an incentive for Dynegy, Inc to withhold payment and force Dynegy Holdings to declare bankruptcy (and reduce the value of the debt and make it easier to pay off). This restructuring plan allows Dynegy, Inc. to place assets with the worst performance into the hands of Dynegy Holdings. The goal was (is) to protect Dynegy's secured creditors at the expense of its unsecured creditors. To date, this plan has already generated one lawsuit.

In 2013, Dynegy purchased 3 electric generating subsidiaries of Ameren, an Illinois power company. This deal was worth $900 Million. Dynegy formed a new subsidiary, Illinois Power Holdings (IPH), to purchase the Ameren Subsidiaries. Dynegy agreed to honor the union collective bargaining agreement in force for all the plants. Under the deal, Dynegy acquired 5 coal generating plants (Coffeen: Duck Creek, Canton: E.D. Edwards Bartonville, Joppa, and Newton). No monies actually changed hands.

The Ameren "Plants-for-Debt" swap also ran into trouble. The Federal Energy Regulatory Commission (FERC) said the studies submitted by Dynegy and Ameren were inadequate and it ordered the 2 firms to re-run them. The agency stated that Dynegy's study showed it changing the market rates for energy in the Midwest. The FERC also stated that it worried that transmission bottlenecks in the area would permit Dynegy to charge much more. In August 2013, the Sierra Club formally filed opposition to the Dynegy-Ameren Deal. The Environmental Group said the transmission bottleneck gave Dynegy too much market power and that Dynegy

and Ameren had submitted only regional market power data and had not accounted for local impacts (which could be very costly).

Environmental Concerns: By 2015, Ameren was required to install pollution control equipment on its 5 coal fired generating plants. But because Ameren was in financial difficulty, it sought and received a waiver from the state of Illinois, granting it a 5-year delay. Ameren sought to transfer this waiver to Dynegy (so that they wouldn't have to install the equipment until 2020). The Illinois Pollution Control Board denied the transfer and Dynegy filed its own request. The Sierra Club, The Environmental Law and Policy Center (ELPC), and other environmental groups believed that Dynegy had the resources to install the equipment and opposed the waiver. ACM partners (a financial firm hired by the Sierra Club) argued that Dynegy purposefully left IPH (their newest subsidiary) significantly underfunded and unable to tap into the parent company's resources. The firm (Dynegy) warned that if IPH went bankrupt, "workers would lose pensions and local communities would have to pay for any environmental remediation)." Tomic, Jeffrey. "Pollution Waiver May Decide Fate of Illinois Coal Plants", St Louis Post-Dispatch. Sept 13, 2013

There is some speculation by financial analysts that the Dynegy-Ameren (Plants for Debt) deal was a poor one. Executive director of UBS Investment Research believes that Dynasty is far more likely to shutter all 5 coal fired power plants rather than add pollution control devices. They also pointed out the US EPA issued the final rules on sulfur dioxide emissions that go into effect July 2018. Because the Edwards plant is in an area of low air quality, EPA is likely to force Dynegy to close that plant anyway. The remaining 4 plants are borderline with the exception of Duck Creek which spent nearly $800 Million on sulfur dioxide removal, however its fate is far from guaranteed.

Please remember, the first standards for suffer dioxide were set in 1971. The EPA health standard for one-hour sulfur dioxide emissions was adopted in 2010 (well before Dynegy even purchased these coal fired power plants in IL). The EPA estimated these Clean Air Act mandates would prevent 2,300-5,900 premature deaths and 54,000 asthma attacks a year. **The EPA estimated the cost to the industry at $1.5 Billion over the 10-year phase in period and the value of the health benefits at $13 Billion to $33 Billion an year.**[151]

Electrical Transmission: The transmission of electricity requires planning. The Federal Energy Regulatory Commission (FERC) has approved the Midcontinent Independent System Operator (MISO) as a regional transmission organization (RTO). It manages the electric transmission system to over 15 states and Manitoba, Canada. As such, it is responsible for transmission planning, reliability coordination, and the operation of wholesale energy markets. We are in MISO Zone 4. Transmission planning involves identifying electric grid needs, and developing solutions to meet those needs. Through its transmissions planning process, MISO takes into account many factors including **potential customer demand, existing planned and retiring**

[151] EPA Tightens Sulfur Dioxide Limits, John M. Broder June 3, 2010.

power plants, state and federal environmental and clean energy standards, grid reliability issues, and the cost of moving power across the grid.

Currently, Dynegy plants are responsible for approximately 50% of electricity production in MISO Zone 4. In 2017, MISO projects a surplus of energy for the 2018 delivery year of 2.7 to 4.8 GW in excess of the reserve margin. For 2018, Zone 4 (our area) 0.7-1.6 GW surplus which is up from the 2016 estimates. The electric industry is currently facing a relatively static demand with a growth rate of an estimated 0.45 %. All generators in MISO compete against each other and since load growth is minimal, the competitive pressure is not likely to decrease. IEPA and Dynegy: For Dynegy, the initiation of the 2006 Multipollutant Standards (MPS) resulted in a series of waivers and variances. Original documents gave Ameren until 2015 to meet the standard. In 2008, the Pollution Control Board (PCB) rejected the variance request finding the requestor sought to re-write the rule rather than meet the standard. In 2012, the PCB granted Ameren an additional variance giving the company until Dec 31, 2019 to reduce the SO2 levels called for in the standard. In 2013, Dynegy assumed ownership of the 5 plants. Postponing compliance with SO2 until Dec 31, 2019. Oct 27, 2016 the PCB issued an order terminating the Dynegy variance because the company was "able to comply with the MPS limits". Nov 7, 2016 IEPA Director Alec Messina received an email from Jeff Ferry, Dynegy lobbyist, to "check his pulse" on changing the MPS rule, a request he writes referring to conversations they "had discussed in the past". Through Freedom of Information Act (FOIA), it was determined that IEPA and Dynegy Representatives met/or held discussions on an series of 9 dates spanning from Nov 7, 2016 - July 17, 2017. The purpose of these meetings/discussions/negotiations was to write a rule revision that was favorable to Dynegy. By making one regulated company part of the rule making team, it is my opinion that the IEPA abdicated its responsibility to the Illinois public and showed favoritism to a private company.

> Recent financials: Market Watch Published Oct 30, 2017 7:14 ET Dynegy's stock rallies after Vista Energy merger confirmed[152]
>
> Shares of Dynegy Inc. DYN, +0.42% rallied 3.7% in premarket trade Monday, after the energy company said it agreed to merger with fellow power generation company Vista Energy Corp. VST, +0.16% in a deal that values Dynegy at over $1.7 billion. Under terms of the deal, Dynegy shareholders will receive 0.652 shares of Vista for each Dynegy shares they own. Based on Friday's closing prices, the deal values Dynegy shares at $13.24 each, an 18% premium. With 131.2 million shares outstanding, that would put Dynegy's market capitalization at about $1.74 billion. Vista's market cap through Friday was $8.68 billion. The companies said the merger would make over $5 billion in excess capital available for capital allocation. The companies expect $500 million to $600 million in net present value benefit from tax synergies. The Wall Street Journal had reported last Thursday that the companies were in merger talks. Dynegy's stock had run up 33% year to date through Friday, while Vista's stock had rallied 31%, the SPDR

[152] http://on.mktw.net/2D6J6bj

Energy Select Sector ETF XLE, +0.97% had shed 11% and the S&P 500 SPX, +0.67% had climbed 15%.

Conclusion: I'm looking at Cost and benefits here for the real stakeholders, the people of Illinois. So what have I outlined here? The Ameren-Dynegy "Plants for Debt" deal was a raw deal to those of us living in Illinois. The Federal Energy Regulatory Commission (FERC) predicted that this deal in particular would raise the market rates for energy in the Midwest and it also predicted that the ensuing transmission bottlenecks in the area would permit Dynegy to charge even more.

Dynegy, Inc has insulated itself from Illinois Power Holdings, (IPH, the actual "owner" of the 5 Dynegy Coal fired power plants along with their liabilities here in Illinois). The firm (Dynegy) warned that if IPH went bankrupt, "workers would lose pensions and local communities would have to pay for any Environmental remediation)."

Dynegy has been meeting with the IEPA in closed-door sessions attempting to re-write existing Multipollutant Standards (MPS). But did it do anything to remediate the environmental issues other than to isolate the costs in a subsidiary shackled to employee pensions while insulating themselves financially?

In my opinion, Dynegy is waging an attack on public health and our finances to prop up their corporate profits without fulfilling their already existing responsibilities. MISO's responsibility to the Illinois public far outweighs the manipulations of the systems by Dynegy. I feel their coal-fired power plants have been receiving more than their share of incentives at the expense of other electrical power generators within MISO 4. I urge the ICC, along with MISO to take the steps necessary to increase the diversification of our electrical power generation and transmission within MISO Region 4 and MISO in general. You have a tough job to do. I feel our electrical power infrastructure needs improvement.

Brian Sullivan, Mayor, City of Hillsboro Response:

Hillsboro, IL 01/16/18

Good afternoon. My name is Brian Sullivan and I am the Mayor of the City of Hillsboro. We sincerely appreciate the Commission holding this hearing in Hillsboro and to allow local voices like the City of Hillsboro to convey our feelings and concerns about the possible closure of the Dynagy Power plant at Coffeen.

It is imperative that the Coffeen plant be allowed to remain open. It is a primary asset to the entire area and if closed will negatively affect many aspects of our economy including peak power needs, Expansion Power needs, jobs, school system, housing, and dollars circulated throughout the region and State.

Illinois is experiencing record exodus in businesses closing or leaving the state with jobs and population following close behind. Montgomery County is one of the worst areas in the state for high unemployment and low average household incomes. Job opportunities are few and far between here. This is not a partisan issue. The jobs lost will cover every political belief system indiscriminately.

Imagine for a moment that this plant was never here, and today Dynagy came to the Illinois Department of Commerce and Economic Opportunity and said
"We want to locate in Coffeen Illinois."
We will bring over 150 good paying jobs, Union Jobs.
We will add over $380 Million to the local economy annually.
We will build the cleanest burning Coal fired power plant in the World! Something that we can be very proud of.
And oh yes, we will also pay about 1/3 of the net property taxes of the local school System's levy.

Folks, this is what we have!

I would imagine that DCEO would and should eagerly put together an incentive deal to help them locate and build out. It is time we give that same attention to the companies that are currently in Illinois and have been providing jobs and services here for years - Boosting the local economy and helping to maintain adequate funding for local schools.

Help us save this facility. This is not an issue that can be solved at the local or County government level or believe me it would already be done. It requires attention by the ICC and ultimately the State of Illinois legislature to provide relief like what was given to Chicago land power providers in the PJM market or the Nuclear power plants through previous legislation, or to wind and solar as is subsidized by federal and state money. We are not asking for something different for the Coal fired plants in this region than has been allowed to all other aspects of power production already. At the very least please allow for an auction of Power Capacity that is only open to the providers located within the deregulated area. Such bills have been introduced both in the House (HB 4141) and in the Senate (SB 2250). The time to act is NOW! We strongly urge the commission to recommend policy solutions such as these.

I beg of you to not let this be another example of how nothing was done and now it is lost. Don't let it be said that the Cleanest power plant in the world just closed in Illinois due to lack of solutions.

Dillon Clark, State Representative 95th District Response:

Good afternoon everyone, My name is Dillon Clark and I am a county board member of Montgomery County and a candidate for State Rep. here in the 95th. First of all, I'd like to say that we here in Montgomery County appreciate the efforts of the Illinois Commerce Commission in conducting this important workshop. I also want to echo the sentiment that we here in Montgomery County and the 95th are greatly concerned with the potential closing of the Coffeen Power Station and how this would impact our local jobs, our local economy, our school districts, and how this would push even more people and more jobs out of Illinois. I strongly urge the Commission to recommend policy fixes such as Senate Bill 2250 and House Bill 4141, so that way our downstate power plants are able to compete, and have a fighting chance to survive once again!

Donnie Nowell Response:

ICC public hearing in Hillsboro, IL

Good Afternoon, my name is Donnie Nowell I work at the Coffeen Power Plant.

Thank You to everyone for this opportunity to voice our concerns on this very important subject affecting power generation in southern Illinois.

As I understand it the proposed rule(s) will change the way emissions from power plants are treated and ensure a more fair bidding process allowing generators to be compensated for not only the power produced, but also, the power they are able to produce.

My concerns are that the emissions rules will be written so as not to negatively affect the Coffeen Power Plant, which has been recognized for many years, as being the lowest emitter of sulfur dioxide in the world. The ability to produce clean power comes with a higher cost. In short the rules need to be written to prevent producers from shutting down the cleanest, more expensive plants.

The other concern is that generators are able to reliably produce electricity and are fairly compensated in southern Illinois. As you may know there are many fixed costs associated with electricity production. Illinois coal plants are not being fairly compensated for these capacity cost, as a result, repairs and improvements are being delayed, jeopardizing reliability. It is not just a matter of other in state producers receiving subsidies. Often times we cannot get our power onto the lines due to "line congestion", and that line congestion comes from out of state generators pushing power into and thru Illinois to more lucrative markets. These out of state generators are not subjected to the same pollution and pricing rules which constrain southern Illinois generators.

In closing, it is my hope the rule changes will ensure the cleanest power plants will be the primary generators and they will be fairly compensated thru the bidding process, preserving southern Illinois jobs and tax revenue, not importing the generation and giving the jobs and tax revenue to other states.

Grain and Feed Association of Illinois Response: The Grain and Feed Association of Illinois ("GFAI") appreciates this opportunity to provide comments on Resource Adequacy in MISO Illinois Zone 4.

GFAI is the statewide trade association for the grain and feed industry in Illinois. The Association traces its roots back to 1893. GFAI represents more than 90% of the commercial grain storage space in the state of Illinois where members include grain handling facilities, processors, feed mills and companies that provide goods and services to the industry. GFAI sponsors several programs for its members, including a long history of collaborative efforts between various state and federal governmental regulatory agencies including OSHA, EPA, the ICC, the Illinois General Assembly and the United States Congress.

GFAI also sponsors aggregate electric and natural gas purchasing and risk management services through the GFAI Energy Consortium (GFEC), an Illinois not-for-profit corporation. GFEC arranges electric capacity, transmission, energy supply and related services for 426 accounts across the ComEd and AmerenIL systems. GFEC participant members purchase approximately 100,000,000 kWh of electricity annually and rely on both the PJM and MISO energy and capacity markets. Electricity is a major operating cost to GFEC members. Thus, price and supply reliability are of paramount importance. Capacity Market Perspective

GFEC recognizes that there are clear differences between the PJM upstate Illinois and MISO downstate Illinois capacity markets. The PJM capacity price is over 100 times higher than the near zero MISO capacity price. Relative to the MISO capacity market, the PJM capacity price is more stable and reflects longer term, three year capacity supply commitments whereas the MISO capacity commitment is for one year.

Clearly, the PJM Illinois market is preferred by capacity sellers with generation investments which require assurances of multi-year capacity revenue streams. Selling capacity into the MISO market without a commitment of longer than one year is still attractive to utilities in other states which do not have retail competition. These regulated utilities are able to recover capacity costs from their rate payers through established rates of return to support plant investments while downstate Illinois generators in the retail choice area must receive a revenue stream for MISO Zone 4 capacity sales to remain viable. Regulated utilities from other states and other Illinois REC and municipal utilities are able to offer short-term excess capacity at prices that do not reflect the true marginal cost of that capacity and that is driving the MISO capacity market prices to near zero, provided there is adequate capacity in the market. This near zero pricing is not sustainable for downstate Illinois merchant generators and causes retirements of baseload plants or drives owners to sell capacity into the PJM market where prices are higher and more stable over multiple years.

Federal and state tax credits have stimulated utilities to build wind and solar electric generation projects which are often in excess of regulated utilities' retail customer short-term capacity requirements. Regulated utilities in adjacent states are investing billions of dollars in tax supported large scale wind generation facilities within MISO and selling short-term excess capacity into downstate Illinois.

In the short term, GFEC member participants, and downstate Illinois consumers in general, benefit from relatively inexpensive MISO capacity, but GFEC does not believe the one-year MISO capacity auction process for procuring generation capacity is sustainable at current near zero capacity prices. Under the current MISO capacity market construct, downstate Illinois merchant generators do not have sufficient incentive to build new generating plants and are even being forced to redirect sales to PJM or shut down. GFEC is concerned that when MISO system-wide capacity erodes and out of state regulated utilities no longer have excess capacity, there will be a point when the MISO Illinois Zone 4 capacity price will spike.

GFEC recognizes that the current MISO annual capacity market construct is causing overall MISO Illinois Zone 4 capacity levels to fall and believes there is a need for a future modified longer-term, more stable capacity resource mechanism. GFEC believes it is important that downstate Illinois not rush to switch to PJM or isolate itself from the larger MISO capacity footprint by creating its own capacity procurement construct independent of MISO. GFEC supports the ICC continuing its efforts to collaborate with stakeholders, utilities, power plant owners and employees, MISO, the Organization of MISO States, PJM and FERC to fully research the need, timing and construct which best serves downstate Illinois in the long term.

Mary Ellen DeClue, Litchfield, Response: Thank you for coming to Hillsboro and for listening to our comments. I regret that we did not have warmer weather to welcome you.

To begin, I do not see how there should be any change in capacity allotments based on the possible closing of coal-fired power plants in MISO Zone 4. I ask that the Illinois Commerce Commission carefully consider the additional impacts of solar and wind energy and energy efficiency in its review of the MISO Zone 4 capacity. It seems to me that earlier MISO reports showed decreasing electric demand. Also, the recent analysis and decision of the Federal Energy Regulatory Commission concluded there is no shortfall in electric resources that would require stockpiling coal and FERC clearly is not requiring any change along those lines.

Illinois regulators and legislators have promoted the coal-utility industry for decades, but the demand for coal has declined nationally because less expensive and far better, cleaner alternative energy sources have become available. My concern is that the coal-utility industry has a long history of undue influence on governmental agencies. A Chicago Tribune article recently pointed out that the IEPA and Dynegy have been rewriting IL air pollution laws behind closed doors since last year without public input. The legacy of undue influence ends up harming the state's future economic development, health, and safety. Public policy should promote changes that are beneficial to the interests of residents and their communities, not just corporate coal-utility interests.

Part of a review by the ICC should examine how coal mining impacts IL and its communities. A recent study concluded that IL spends 40 million dollars a year in subsidizing coal extraction through tax exemptions, grants, and benefits. There is no coal severance tax in IL unlike most of the coal mining states. The CST in WV is 6.5% and WY is 10.6%. Not having a CST in IL is a missed opportunity to increase revenue and facilitate coalfield communities with external costs from mining. A legacy coal fund would greatly help communities in IL with infrastructure

problems, contaminated areas, and damage from coal mining after the coal companies are long gone. Montgomery County Board passed a pro-severance tax resolution, but a CST is a hard sell to legislators. Their concern is that a CST might affect the IL coal industry's competitiveness. The truth is that coal use is declining nationally and communities see few benefits from continued coal mining.

The fact is coal mining in Montgomery County has not been the panacea that was portrayed by regulators and Hillsboro Energy LLC (HEL) when Deer Run Mine was established. From the beginning, the residents of the county were short-changed in the sale of the coal reserves. The County Board sold 200 million tons of coal reserves to the Cline Group for $7.2 million in 2004. This group turned around a short time later and resold the coal rights to another Cline affiliate for $255 million. Also, the 3% royalty rate is inappropriately low for any economic growth in the county. After Deer Run Mine subtracts Black Lung, Abandoned Mines, transportation, etc, payments, the rate is closer to 1.5% royalty. The royalty rate should be changed to a fair and just rate. Again, communities see few benefits from an industry that contaminants the area and causes countless health and safety issues.

Deer Run Mine has not extracted coal since March 2015 due to an underground fire. The fire has not been extinguished after several attempts, including sealing the mine. HEL plans to seal the section of the mine where the LWM machine and fire are located. Insurance will compensate HEL for the loss of the LWM equipment, but there is no compensation to the county for the loss of royalty revenue. The ongoing fire is a threat to the safety of Hillsboro and a deterrent to the growth of the county.

HEL has applied to the IL Department of Natural Resources for a 7,731.8 acre expansion to Deer Run Mine in 2015. IDNR/OMM has not approved or denied the permit application. The LWM expansion will cause additional subsidence of farmland and more damage to water resources in Montgomery County. Longwall mining drops the surface of the land in uneven sections over thousands of acres. These are permanent changes to the land affecting prime farm land and water resources because the land drops about the depth of the coal seam that was mined out and that can be three to ten feet. Remember that we are talking about what were mostly flat fields that farmers have worked generations to drain and make efficient.

The City of Hillsboro receives little economic benefits from Deer Run Mine, but experiences many threats to safety and health. To my knowledge, Hillsboro only receives money from water sales to the mine. That is unfortunate since the residents endure coal dust, threat from failure of 2 high hazard coal slurry impoundments, contaminated water resources, damaged roads, and subsided farmland. The Hillsboro Airport was sold to HEL for a price well below replacement value and has not been replaced after 9 years.

The presence of Deer Run Mine has not promoted economic gain for the community. This negative outcome mirrors the predicament of other coal extraction counties in IL as well as other states. The health, safety, and economic growth of mining counties are typically ranked at the bottom of survey charts.

The air and water permits approved for Deer Run Mine do not adequately monitor the mining operation to verify compliance with the CAA and the CWA. Regulators and legislators must address coal impact issues affecting the communities surrounding Deer Run Mine. Rewarding the coal-utility complex for its profit survival and at the same time disregarding the survival needs of coalfield communities must not happen.

IL public interests must not be left to the political interests of the coal-utility complex. I don't want to see air emission standards for health weakened for Dynegy and I hope that the ICC will not change the capacity allotments that will raise electric rates. Residents deserve healthy, clean air and the advantages of including more non-carbon based energy for their electricity.

Sandy Leitheiser, Montgomery County Clerk & Recorder Response:

Dear ICC Representatives:

As Montgomery County Clerk, I assist county residents by providing services for elections, vital records, land records, county board proceedings, accounts payable, property tax extension as well as various other needs. Since my tenure began in 1998, I have been very appreciative of the tremendous asset Dynegy brings to our county including the high paying jobs, the dedicated employees, and the substantial tax dollars. As an example, Dynegy is Montgomery County, Illinois' Number #1 Property Taxpayer (See attached listing from the most recent tax year (2016).

Now we are faced with Dynegy's dilemma where current regulations are not allowing them to be competitive with other power suppliers, which could result in the Coffeen plant closure. This closure would be devastating to our county in many, many ways- the economic impact would result in the catastrophic loss of jobs, population, and revenue, which would cripple Montgomery County for many years to come. As you may know, Montgomery County is already one of the poorest counties in Illinois, and should Dynegy leave us, I fear that we may not overcome this loss.

I implore the Illinois Commerce Commission, our state legislators, the Governor, and our county and local leaders to work together to resolve the issues that prevent Dynegy from continuing to operate their power plants in Illinois.

Thank you for your consideration, and please contact me should further information be needed.

Top 10 Taxpayers Listing
Montgomery County

Name Address	Taxcode	Use Code	Tax Billed
DYNEGY INC C/O PROPERTY TAX			
601 TRAVIS ST STE 1400Houston, TX 77002-			
17-27-300-018	04006	0080-Industrial	372.92
17-33-200-001	04006	0021-Rural Unimproved	69.04
17-33-400-003	04001	0080-Industrial	525.22
17-34-300-001	04001	0080-Industrial	6,318.60
21-02-151-002	04006	0080-Industrial	191.78
21-02-176-005	04006	0080-Industrial	68.90
21-02-300-001	04006	0080-Industrial	168.32
21-02-300-002	04006	0080-Industrial	97.12
21-02-300-003	04006	0080-Industrial	106.02
21-02-300-004	04006	0080-Industrial	67.36
21-02-300-005	04006	0080-Industrial	68.28
21-02-300-010	04006	0080-Industrial	484.30
21-02-300-011	04006	0080-Industrial	531.56
21-03-300-003	04001	0080-Industrial	10,022.66
21-03-400-001	04006	0021-Rural Unimproved	96.66
21-03-400-002	04006	0011-Rural Land Improved	1,232.26
21-03-400-008	04006	0080-Industrial	112.54
21-03-400-009	04006	0011-Rural Land Improved	1,880.64
21-03-400-012	04006	0080-Industrial	137.48
21-04-200-004	04001	0080-Industrial	3,073.88
21-09-200-012	04006	0080-Industrial	433.60
21-09-400-002	04001	0080-Industrial	3,501.60
21-10-100-002	04001	0080-Industrial	3,927,123.86
21-10-200-002	04006	0080-Industrial	257.08
21-10-200-004	04006	0080-Industrial	1,021.06
21-11-100-001	04006	0080-Industrial	212.04
21-11-100-002	04006	0080-Industrial	165.56
21-11-100-003	04006	0080-Industrial	172.46
21-11-100-004	04006	0080-Industrial	323.96
21-11-100-005	04006	0080-Industrial	15,360.94
21-11-200-003	04006	0080-Industrial	2,048.18
21-11-300-001	04001	0080-Industrial	1,090.42
21-11-300-002	04001	0080-Industrial	5,382.10
21-11-400-001	04006	0080-Industrial	2,048.18

Copyright (C) 1997-2018 DEVNET Incorporated

Top 10 Taxpayers Listing
Montgomery County

Name Address	Taxcode	Use Code	Tax Billed
DYNEGY INC C/O PROPERTY TAX			
601 TRAVIS ST STE 1400Houston, TX 77002-			
21-11-400-005	04006	0080-Industrial	624.30
21-11-400-008	04006	0080-Industrial	293.06
21-11-400-012	04006	0080-Industrial	6,533.48
21-14-300-001	04001	0080-Industrial	10,692.08
21-14-426-010	04006	0080-Industrial	34.30
21-15-200-001	04001	0080-Industrial	17,783.18
21-16-400-005	04001	0080-Industrial	4,143.80
21-16-400-007	04006	0080-Industrial	82.40
21-21-200-002	04001	0080-Industrial	739.26
21-22-200-002	04001	0080-Industrial	4,299.66
21-22-200-006	04001	0080-Industrial	11.96
21-23-100-001	04001	0080-Industrial	59,178.98
		Total Tax Billed	**4,089,183.04**

Name Address	Taxcode	Use Code	Tax Billed
WAL-MART STORES PROPERTY TAX DEPT			
1205 W FERDON ST LITCHFIELD, IL 62056-0000			
10-32-251-004	11006	0060-Commercial Business	375,953.74
		Total Tax Billed	**375,953.74**

Name Address	Taxcode	Use Code	Tax Billed
COLT LLC			
P O BOX 609 Benton, IL 62812-			
02-33-200-301	02014	7100-Coal Assessments	340.96
03-20-200-306	12004	7100-Coal Assessments	0.00
03-22-300-301	12004	7100-Coal Assessments	362.36
03-24-200-302	12004	7100-Coal Assessments	0.00
03-28-100-304	12003	7100-Coal Assessments	49.10
03-33-400-301	12006	7100-Coal Assessments	14.54
05-07-100-308	19004	7100-Coal Assessments	0.00
05-07-300-303	19004	7100-Coal Assessments	0.00
05-07-400-301	19004	7100-Coal Assessments	0.00
05-08-100-301	19004	7100-Coal Assessments	0.00

Copyright (C) 1997-2018 DEVNET Incorporated

IUOE Local 148 Response:

The members at the generating stations represented by I.U.O.E. Local 148 are active stakeholders of the pending legislation. The International Union of Operating Engineers, Local 148 has been representing approximately 225 members in downstate Illinois for over thirty-seven years. Due to the structure of the MISO Zone-4 market it has been increasingly difficult for their employers to compete. The Future Energy Job Act only added to the problem by not allowing generation from older coal-fired plants to successfully compete for sale capacity and long-term energy contracts.

Our members are provided good wages and benefits that sustain their families and communities. Without these generating stations, not only they, but the surrounding communities will be devastated by the closing of the facilities if something is not done.

The establishment of a competitive capacity procurement mechanism that addresses the long-term resource adequacy issues that are currently placing southern Illinois at risk of a capacity shortfall is needed. Therefore, the members of I.U.O.E. Local 148 support HB-4141 and SB-2250.

Glenn Savage, Montgomery County Board, Response:

"Thank You" to Representatives Chapa LaVia, Bourne and Sims for sponsoring and Senators Clayborne and Rezin for sponsoring the HB 4141 and SB 2250. "Appreciation" to the Illinois Commerce Commission for being here today.

My Name is Glenn Savage. I represent South Litchfield in Montgomery County as a member of the Montgomery County Board and am newly appointed Chairman of Economic Development.

You have heard or will hear well reasoned arguments for retaining clean burning coal generation stations in central Illinois.

Please consider this: The security of the United States relies on dependable power generation and effective distribution across the national grid. If the United states is attacked by nuclear means, terrorism, conventional, or cyber warfare or is challenged by fire, flood, hurricane, earthquake, ice storms, or tornados, the national "grid" must not be allowed to become concentrated into fewer "nodes" of generation.

Realities of power density of fuel and cost, prevent a sudden transition to solar and wind power. Coal will be an important part of the national mix of power for coming decades because it is physically impossible to replace the power generated by coal all at once.

Past planning for generation and distribution has been sound, resulting in carefully engineered placement of power stations and the construction of electric grids. Coffeen power plant (cleanest generator of coal fueled electricity in the world) should be kept open for the purpose of national security while we make an orderly, planned transition to becoming the cleanest power producing nation in the world.

Jasper County Board Response:

Good afternoon. My name is Mike Hall and I am here representing the Jasper County Board. Jasper County appreciates the workshop the Illinois commerce commision is providing. Some history on Jasper County; we have a declining population of 9700, no industry and no interstate access. Jasper County lacks in the way of medical facilities and hospitals. Our senior citizens feel more secure moving to a county with access to medical care and our young people are leaving the area for better jobs.

Jasper county wishes to express its concern to the commission about the potential closing of the Dynergy Plant located in Jasper County. The Dynergy Plant has been an economic mainstay for Jasper County and the surrounding area for over 40 years.

Dynergy is the largest property tax payer to the county and Jasper County School District.

In 2017, the property taxes paid by Dynergy were $3,616,984.00. The tax dollars received from Dynergy pays 25% to our school district and helps support our schools. Losing this tax base would be a devastating loss for our school system. We have nothing else available in the county to help make up this loss.

Dynergy makes up 29% of the total tax base for Jasper County.

We are concerned about job losses, property tax losses and negative economic impact of the plan shutdown.

Jasper County supports the downstate capacity market reforms that have been proposed by Dynergy and are incorporated in House Bill 4141. and Senate Bill 2250

We support these proposed solutions that they would provide for market reforms, rather than for a rate payer funded subsidy like the General Assembly and the Governor have for Exelon Plants.

Jasper County needs longer term planning beyond just the next fiscal year.

Jasper County Community Unit District #1 Schools Response:

Good afternoon. My name is Andrew D. Johnson and I am the Superintendent of the Jasper County Community Unit District #1 Schools. Jasper County Community Unit District #1 appreciates the efforts of the Illinois Commerce Commission in conducting this important workshop proceeding to consider electric power supply issues in downstate Illinois and, in particular, the market policies and conditions that are adversely impacting power plants that have reliably served downstate Illinois for many years and are important drivers of employment and economic activity in their local areas. We also appreciate the opportunity being provided to downstate Illinois stakeholders such as the Jasper County Community Unit District #1 Schools to provide our views on these issues. We especially want to thank the Commission for scheduling this workshop to be held here in Hillsboro, so that local stakeholders most likely to be impacted by the policies under discussion can express their views.

Jasper County Community Unit District #1 Schools wishes to express its concern to the Commission about the potential closing of the Newton Power Station and to express to the Commission the severe adverse impacts this closing would have on our community and the citizens of our community. In considering policy options, it is critical that the Commission – and ultimately, the General Assembly and the Governor – take into account the impacts of policy choices on the power plants that provide jobs, economic stimulus and fiscal support to the State and to local governments in downstate Illinois. Jasper County Community Unit District #1 Schools strongly urges the Commission to recommend policy solutions such as proposed in Illinois Senate Bill 2250 and House Bill 4141, which will implement changes to the downstate

Illinois power markets that will give the Newton Power Station and other downstate power stations a fair opportunity to compete in the market and remain in operation.

The Newton Power Station is located in/near Newton in Jasper County. It has been an economic mainstay of Newton, Jasper County and the surrounding area for over 40 years. Today the Newton Power Station employs approximately 95 area residents. We understand that the plant's payroll is approximately eleven million dollars annually. The plant provides good, family-sustaining jobs which are among the best available in our area. Many employees have worked at the power station for many years. Because these employees largely live, and spend much of their income, in the area, the operation of the power station supports many other local businesses and jobs. The Newton Power Station itself also purchases supplies and services from local businesses that employ local residents. The positive economic impacts of the Newton Power Station benefits not only Jasper County but also the surrounding area including Effingham, Crawford, Clay, Richland and Cumberland Counties.

Dynegy is one of the largest property taxpayers to the City of Newton, Jasper County and the Jasper County Community School District. If the plant were to close I would estimate the impact financially to be devastating. My guess would be that we would lose between $1.5 - 2.5 million in revenue for the Jasper County School District, alone, each year. If this revenue were lost, it would have to be made up by other local taxpayers, to the extent possible given legal limits on property tax rates and extensions. If the revenues could not be made up by increasing taxes on other taxpayers, then the lost revenues would translate into reduced services provided by local governments and the local school district. With the new EBM passed legislatively this past year, the initial numbers show that our district is currently short approximately thirty employees to meet the needs of our children. We have real issue financially already, the impact of our district without a power plant, as stated earlier would be devastating for our children.

Through their spending in the area, the Newton Power Station and its employees also pay sales taxes on their purchases. The Newton Power Station pays Illinois Use Tax on its deliveries of coal from out-of-State sources.

In addition to being one of the largest employers and taxpayers in our community, the Newton Power Station and its employees are also good citizens of our community. Dynegy has supported our Technology 1-1 initiative this past year ($10,000 donation) as well as many other activities in our district. Many of the Newton Power Station's employees are local community leaders, including by taking leadership roles or serving on local government boards and community organizations.

If the Newton Power Station were to be closed, that would likely initiate a severe downward spiral for our community and the surrounding area. Many employees of Newton Power Station, many of whom have worked at the plant for many years, are unlikely to find comparable, well-paying jobs in our area. Many will be forced to either leave the area to find new jobs; take lesser-paying jobs in the area, if available; or retire. Local spending for goods and services will be reduced and there will be a ripple effect on local businesses that currently serve the employees and their families and the power station itself. Local businesses in turn may be forced to lay off employees or shut down entirely.

We understand that ***some*** feel there is an excess supply of power available to downstate Illinois and the surrounding areas, through power imported from plants located in other states, and that as a result, it is not a problem if some or all of the Dynegy plants retire. However, in our community, the Newton Power Station is well known as a reliable, low cost producer of electricity. We are not just concerned about the job losses, property tax losses, and other negative economic impacts of plant retirements. We are also concerned about power plant retirements in downstate Illinois resulting in tightening of supply that in turn could produce

volatile prices from year to year. Neither our local citizens, nor our local governments, which must budget and set local tax rates in advance, wish to see significant fluctuations in electric prices from year to year. Such fluctuations can make it very difficult for local governments and school districts to budget and can affect our ability to provide the services our citizens expect and deserve.

We also believe it is unwise for downstate Illinois to rely heavily on power plants in other states, that are under the authority of different legislatures and regulatory commissions, to supply the electricity that is needed for our homes and businesses in downstate Illinois. Further, while we accept development of new wind and solar plants in Illinois, we know that their availability is dependent on the wind blowing and the sun shining, which does not necessarily correspond to the times when power is most needed by consumers. Downstate Illinois has power stations that are physically located in our area, were built to serve Illinois homes and businesses, and are reliable producers of power 24 hours per day, 7 days per week, 365 hours per day – as well as employing local residents and supporting local businesses and governments as I have described. It makes no sense to let these plants go into retirement – not because they are technologically obsolete or physically ready for retirement, but due to a poorly-designed market – while relying for our power supply on out-of-state plants that were ***not*** built to serve Illinois consumers.

Our citizens would be extremely upset if the General Assembly and the Governor failed to act on the proposed Illinois-centered electric capacity market reforms that will provide the opportunity for the Newton Power Station to remain in operation. Should no action be taken by the General Assembly and the Governor regarding policies impacting the Dynegy downstate plants, our citizens would certainly wonder why the General Assembly and the Governor imposed a 10-year subsidy program on ratepayers to support the Exelon plants, and have enacted

a plan to subsidize the construction of new wind and solar plants through long-term guaranteed contracts, but could do nothing to help keep Dynegy Downstate Illinois plants in operation.

The Jasper County Community Unit District #1 supports the downstate capacity market reforms that have been proposed by Dynegy and are incorporated in House Bill 4141 and Senate Bill 2250. One of the reasons we support these proposed solutions is that they would provide for market reforms, rather than for a ratepayer-funded subsidy like the General Assembly and the Governor have already imposed for the Exelon plants. Under the proposals in the bills, the power plants that would be selected as capacity suppliers for downstate Illinois would be selected through a competitive bidding process on the basis of the prices they bid. One of the core changes these proposals would implement would be that capacity contracts would be awarded three years in advance, rather than three months in advance. This certainly makes economic sense to the Jasper County Community Unit District #1, as we understand the need for longer-term planning, beyond just the next fiscal year. This approach will also help to ensure that capacity suppliers to downstate Illinois are making longer-term commitments to serve our downstate power needs.

In conclusion, I, Andrew D. Johnson representing the Jasper County Community Unit District #1, would like to reiterate our District's appreciation for the Commission's efforts in studying the important issues relating to long-term power supply and the related local economic impacts in downstate Illinois, and thanks the Commission for the opportunity to provide our comments today. This is extremely important to the future of Jasper County and the mission and vision we have for our future generations. Please keep us in mind when making these decisions!!

Senator Andy Manar Response:

Dear Chairman Sheahan:

Thank you for holding a public hearing recently in Hillsboro. Given the fact that there isn't a single member of the Illinois Commerce Commission from downstate Illinois, I am glad that your staff traveled to listen directly to downstate taxpayers.

I am writing today to express my support of SB 2250, a legislative proposal that will help ensure that energy consumers in downstate Illinois have access to reliable electric supply at costs that are both reasonable and stable while preserving local jobs and supporting the downstate economy. Since Governor Rauner signed legislation to bail out Exelon nuclear plants, plants generating electricity and good-paying jobs in the MISO region, such as the plant I represent in Coffeen, are at risk of closing.

Please consider the following regarding this proposal:

Dynegy plants support local jobs. The closing of any plant in downstate Illinois will devastate the local economy. A number of counties and municipalities have correctly articulated to the Commission that the plants provide hundreds of good-paying union jobs, and closing these plants not only will affect those working at the plants but also those in industries that support or depend on the plants. These plants support good-paying jobs in a part of the state that desperately needs more good-paying jobs, not less. Employees of these plants are good, upstanding citizens in the communities where they live. They volunteer, donate to charitable organizations and support local small businesses with their paychecks. The closure of any plant within MISO Zone 4 would lead to less local spending due to job loss and eventually the displacement of many families, and this will have a ripple effect on the entire downstate region. In total, the economic impact of these plants is $1,500,000,000 in 24 downstate counties. Losing that would be devastating for working families, small businesses and consumers.

Dynegy plants produce revenue for schools and local government. The closure of plants in downstate Illinois immediately will affect tax revenue for school districts and local units of government. The Hillsboro School District alone would lose millions of dollars that support classrooms immediately. Like many school districts in downstate Illinois, Hillsboro already is managing a tremendous funding gap while Chicago-area schools spend upward of three to four times the amount of money per pupil compared to the districts I represent. Montgomery County also relies heavily on the Coffeen plant for revenue that supports law enforcement, veterans assistance services and other critical functions of county government. Losing revenue generated by the Coffeen plant without a doubt will impact critical services provided by the Montgomery County government.

Dynegy plants help retain and create new business. The closure of any plants in downstate Illinois will dissuade businesses and corporations from moving to Illinois for a number of reasons. First, many industrial businesses will see the closure of plants as a sign that there may not be enough energy produced in the state at a reasonable cost to effectively run their business. Second, a reduction in the local economic activity will lead to less spending by the average citizen, thereby causing companies to set up shop or relocate in areas where the average individual has expendable income.

Illinois should be a producer of electricity. While the MISO region covers several states, if downstate Illinois plants close, electricity for consumers in the region would be imported from other states. That means the consumers and taxpayers I represent in the Illinois Senate would be subject to the regulatory decisions of other state legislatures and other regulatory bodies not in Illinois.

When I served as chairman of the Macoupin County Board, I experienced first-hand what the loss of a major employer(s) does to a rural county. In 2008, Macoupin County lost two of its three coal mines, and county government lost 25 percent of its revenue literally overnight. I said at the time that had Cook County lost the amount of revenue that Macoupin County lost, Governor Quinn would have called the legislature into special session and financial aid would have been sent to Cook County immediately. In addition to lost revenue, more than 1,000 jobs vanished. The shock is still being felt in our small towns. County government managed our way through it, balancing our budget and prioritizing spending, but we were forced to make difficult choices. Law enforcement, our court system and our school districts suffered, but most of all good, hard-working families suffered. And let me be clear: unemployment went up dramatically. Solar energy jobs didn't replace those coal mining jobs. Yes, retraining services were available, but good-paying jobs weren't available for workers to be retrained for in most cases. To this day, nearly a decade later, our region continues to deal with the devastating impact of those mine closures. I'm tired of it and so are the people I represent. We have a challenge in Illinois in the MISO region. Let's fix it.

It is important that the Illinois Commerce Commission, the General Assembly and the Rauner administration come together with a reasonable plan. I believe SB 2250 is a good start. I ask that you give it full consideration and support in the report that you plan to submit in the coming weeks.

Sincerely,

Andy Manar
State Senator
48th District—Illinois

Heather Hampton+Knodle Response:

Great thanks to Representatives Chapa LaVia, Bourne and Sims for sponsoring House Bill 4141 and Senators Clayborne and Rezin for sponsoring Senate Bill 2250. Thank you to the Illinois Commerce Commission for being here today. I hope while you are here you have a chance to visit the cleanest coal-fired power plant in the world located just 8.5 miles southeast of here at Coffeen.

My name is Heather Hampton+Knodle. I remember visiting the plant under Ameren management when I was the founding chairman then Executive Director of the Montgomery County Economic Development Corporation. At that time, it was an incredible experience to be on the front line of the plant installing far more than $300 million in clean coal technology. It was also exciting to see the Coffeen Lake ranked #1 in the nation for bass fishing in a thermal cooling lake.

As I served as the founding Chairman of the Central Illinois Economic Development Authority or CIEDA which is a $250 million bond authority covering 11 central Illinois counties, I learned that we could not issue industrial bonds or even waste management bonds to an electric generating utility due to federal regulations guiding financing of such facilities.

When I served on the Montgomery County Board as Economic Development Committee Chair, I visited the plant during its transition to ownership and management by Dynegy on multiple occasions to see this amazing technology in place and working and to marvel at the plaques awarded to the company at global events – over multiple years - hosted in Europe for being the world's cleanest coal-fired plant.

In my role as founding Chairman of Montgomery CEO (Creating Entrepreneurial Opportunities), I have appreciated the community-engagement of the current plant manager and employees in helping our high school seniors create their own businesses and succeed in developing professional skills that will serve them and ultimately our communities.

When I served as a Co-Chairman of Governor Bruce Rauner's Agriculture Transition Team, I advocated for an approach that looked at the health of rural economies overall. One that did not simply assess a flat percentage of the local government distributive fund (aka income tax), but took into account their overall capacity of property tax base, sales tax base, population and its disbursement as well as its earning capacity. The direct and indirect economic impacts of plants in the MISO area total more than $1.5 BILLION. That's real money with real people and homes and educations and futures at stake.

Although my background is rooted in agriculture and the policy and physical infrastructure needed to keep goods growing and flowing, it seems to me that we citizens in downstate Illinois are ultimately at a disadvantage in the energy market as it stands today. After hearing MISO's statement about capacity projections for the next five or so years at a hearing in November, the data is concerning from my perspective. Based on that data, a person could conclude that no energy production is needed in downstate Illinois.

But two things really struck me at that hearing. 1. The earnestness which pervaded legislators' remarks when they said the power plant employees could be trained to work in renewable energy technologies. And 2. The economic and intellectual importance of adding value to raw products close to home.

More than one legislator offered encouragement to Dynegy to train their employees to work with renewable technologies, specifically solar. The fact that so few people are needed to maintain solar

projects once they are in the ground is concerning because the 151 jobs from Coffeen would most likely have to disburse across the entire MISO area and beyond to compete for solar jobs.

My concern is the apparent lack of knowledge of what scale of solar project or wind would be needed to replace the amount of power generated by one coal-fired plant let alone the eight plants that are at risk. At full capacity, the Coffeen plant is approximately 900 Megawatts (MW). Based on electrical engineer projections at Minnesota State University, to produce 1 MW continuous from solar power requires at least 150,000 panels on 120 acres of land – just to accommodate the array of panels (this does not include storage), probably double that to allow for tilt and no shadow (Based on 10-15% efficiency of panels, 5 hours average sunlight). AT 240 acres for 1 MW, then at least 216,000 acres of land would have to be covered with solar panels to replace the Coffeen power plant. That is almost half our entire county!

We installed a 20Kwh unit at one of our grain storage sites last May. Only because we were allowed to accrue the solar credits until October, did it cover the October bill. But not the $1800 bill in November. People who purchase through a cooperative are not able to allow their credits to accrue that long. Only that feature – of accruing credit which we can currently do with Ameren – and the state's investment credits make this a 'bankable' proposition. In their absence, solar is not an economical option.

Regarding the second point that stuck with me from the November hearing – the importance of 'adding value' close to home. A simplistic view of what's at stake here can be compared to the beef market of the last decade plus. My friends in Montana and North Dakota who raise beef cattle blamed NAFTA for an increase in Canadian cattle coming across the border. They rallied against packers and processors and many of those companies packed up and went north of our border. On the market side, we saw the Adkins and some Beach diet tout the benefits of proteins while at the same time the stock market plunged making fund traders dive into commodities and ultimately create record prices for many agricultural and other commodities. However, as the stock market has healed and rebounded, commodities have suffered. Bottom line – my plains states' friends thought they had won a battle but completely lost the war because the packing and processing capacity moved away from them. It took its jobs, their taxes, their homes and cars and other measurements of 'wealth creation' with them and now people have to haul their livestock a lot farther to be processed.

We Illinoisans can learn from this lesson and not rely on other states or even countries to 'add value' to our raw commodity of coal. We have been called the Saudi Arabia of coal due to the BTUs, breadth and depth of our coal reserves. Rather than exporting our "value-added" capabilities of producing energy, we need to invest in building our intellectual capacity to maintain and to improve our current plants' abilities to use Illinois coal and ultimately to pursue infrastructure capacity for gasification projects that simultaneously produce other valuable products and limit emissions.

In the interim, it is imperative that some change be made to the capacity process – either allowing Dynegy to trade in PJM or pursuing the measures set forth in HB 4141/SB 2250 – so they can keep the lights on for us and thousands of other people throughout the Mid-West.

We have both history and foresight to inform our efforts. Let's hope we have the political resolve to get it done.