ILLINOIS RESOURCE ADEQUACY STUDY POST-WORKSHOP STAKEHOLDER FEEDBACK

July 16th, 2025

Middle River Power LLC ("MRP") appreciates the opportunity to provide feedback on the resource adequacy outlook for Illinois.

Headquartered in Chicago, MRP is a merchant power producer with an 8 GW portfolio across the United States, about 800 MW of which is in Illinois. MRP's core strategy centers on adding new renewable resources at under-utilized legacy generation assets, delivering cleaner, more reliable, and cost-efficient resources, faster than standalone development. MRP is dedicated to facilitating a clean, affordable, and reliable energy transition via unit-specific, innovative solutions.

MRP is a member of the PJM Power Providers Group (P3). MRP provides the comments below in support of, and in supplement to, the comments of P3.

TOPIC 1: Resource Adequacy Study goals and scenario analysis considerations.

Question 1: The Agencies recognize this study process is purposefully targeted in its nature, with Section 9.15(o) providing clear goals and expectations of the resource adequacy study and resulting report. What additional goals, objectives, or evaluation metrics should be considered, either as part of this study process or future resource adequacy study efforts?

As cited in the Agencies' questionnaire, Section 9.15(o) calls for a study of "electric resource adequacy and reliability." MRP believes it is imperative that the scope of the study deliberately consider aspects of "electric reliability" that are not encompassed within the definition of "resource adequacy." For example, components of "electric reliability" that should be considered include Black Start, Synchronous Reserves, and Frequency Regulation.

Question 2: Which variables are the highest priority to explore? Further, are there important policies or drivers missing in addition to those outlined in the preceding stakeholder workshop that could help shape scenario development?

MRP strongly recommends that this study, and any resultant policy recommendations, evaluate how resource retirement requirements may shift carbon emissions "out-of-state" rather than decreasing total emissions. Though robust climate policies are the product of good intentions, specific designs can, and in some cases, ***have*** produced adverse impacts.

A prominent case of "emissions leakage" comes from the early days of California's carbon market, which occurs when emissions reductions in one area cause emissions increases in another. A 2014 Energy Policy Institute study found that since California's neighboring states did not have similar emissions restrictions, "companies in California [had] an incentive to transfer their high-emitting activities outside the state.[1]" The study also discussed "resource shuffling," a

[1] Leakage in California's Carbon Market - ScienceDirect

specific form of emissions leakage that shuffles contracts in such a way that "produces the false appearance of emissions reductions without reducing net emissions to the atmosphere."

While there have been subsequent policy amendments to reduce emissions leakage, a 2020 report from California's Legislative Analysis Office expressed concern that "resource shuffling potentially offsets some of the emissions reductions[2]." The same report later discussed that the magnitude of this impact is difficult to articulate, their preliminary estimates suggest that at least 70% of emissions leaked out of state[3]. ***Said otherwise, for every ton of decreased carbon emissions California claimed, surrounding states increased their emissions by 0.7 tons.***

MRP encourages the Agencies to ensure that the policy recommendations resulting from this study do not suffer from the same "emissions leakage" blind spot. While net decreases in emissions should be celebrated, such blind spots can undermine the environmental and economic benefits of climate policy.

Question 3: Which of the following drivers are most critical to explore in the resource adequacy modeling scenarios and why?

a. Extreme weather

MRP recommends that weather risk assessments include risk during shoulder periods.

Much of the industry's weather risk modeling duly focuses on summer and winter extreme weather events. However, risk is also shifting to shoulder periods, which many plants rely upon for scheduled maintenance outages. For example, this last May's blackouts in New Orleans and surrounding areas were driven in part by unseasonable weather events overlapping with planned maintenance outages[4]. Whether or not weather risk during shoulder periods is ultimately included in the final analysis, consideration for its inclusion is prudent.

b. Demand growth

MRP recommends that the Agencies consider reasonable scenario analysis for load growth and expected peaks.

In a June interview with Crain's Business Chicago, ComEd CEO Gil Quiniones said there are 75 data center projects, totaling 28 GW of new load, hoping to come online within the next few years[5]. For reference, ComEd's record peak is 24 GW. While this figure is dizzying, there is little data to inform how many of these 28 GW will materialize. As such, the state of resource adequacy in Illinois will likely depend on demand growth assumptions, which have been historically difficult to get right.

c. Thermal retirements

MRP recommends that the Agencies' assumptions include (1) potential early retirement prior to the CEJA sunset dates and (2) the permanent nature of many such retirements.

[2] Assessing California's Climate Policies—Electricity Generation, pg 2
[3] Assessing California's Climate Policies—Electricity Generation, pgs 20-21
[4] MISO 20250717 RSC Item 07 May 25 Load Shed Event707855.pdf, slide 3
[5] ComEd seeks bigger deposits for AI-era data centers | Crain's Chicago Business

With demand forecasts soaring, gas plant turbines are in increasingly short supply. Look no further than Texas, where this last week, developers submitted applications for over 100 new gas-fired power plants[6]. Given supply chain constraints for new turbines[7], much of this demand will likely be met with existing turbines. ***Said otherwise, any gas plants decommissioning in the near-term will likely be shipped to states with high demand, like Texas.*** This supply need is urgent, so relocation of gas turbines will not wait for the CEJA sunset dates. And if these retired plants are later found to have reliability value in Illinois, it will be impossible to turn them back on if the assets have relocated to another state.

d. Transmission build and future needs

MRP recommends that the Agencies do not rely on electric imports to maintain resource adequacy. The value of electric deliverability is contingent on generation, somewhere, providing those electrons. The capability for Illinois to import and export electricity should not be a partial or holistic substitute for sufficient generation.

The June 2025 heat wave demonstrated that neighboring RTOs can simultaneously experience peak demand[8]. Though grid operators managed the tight conditions reliably, the margins were razor thin and PJM saw widespread reserves shortages[9].

As FERC Commissioner Christie noted during the June 2025 Resource Adequacy Technical Conference - "If we lean on everyone else, we all fall down.[10]"

e. Generation resource diversity

Certainly, over-reliance on any one energy technology creates reliability risk and this risk can be managed by promoting fuel and technology diversity.

Such reliability risks do not discriminate by fuel type. Over-reliance on natural gas may cause fuel supply shortages and rolling blackouts, like in ERCOT during Winter Storm Uri (as explored in the Joint FERC-NERC report in 2021[11]). Likewise, over-reliance on inverter-based resources may lead to unmanageable reliability disturbances, as seen in Spain's recent major blackout (laid out in a June 2025 NERC report[12]).

f. Out-of-state reliance on generation resources

As discussed above (see Question 2), the Agencies should consider whether any reliance on out-of-state generation leads to overall "greener" outcomes. Illinois leads its neighbors in emissions restrictions, and shifting any electric generation out of state may result in greater total emissions.

[6] $38.9 Billion In Proposed Texas Gas Plants Overwhelm Expectations - Forbes
[7] Long lead times are dooming some proposed gas plant projects – Power Engineering
[8] Electricity demand in the Eastern United States surged from heat wave - U.S. Energy Information Administration (EIA)
[9] 20250709-item-09--informational-update-on-summer-operations---post-meeting.pdf – PJM June Weather Event Overview
[10] Meeting the Challenge of Resource Adequacy in RTOs/ISOs | Day 1 of 2 Technical Conference – Timestamp 4:35:10
[11] Final Report on February 2021 Freeze Underscores Winterization Recommendations | Federal Energy Regulatory Commission
[12] Iberian Peninsula Blackout - NERC Report 6.26.25

g. Some other driver not described above

Aside from the required sunset provisions, CEJA sets emissions restrictions for operating facilities (415 ILCS 5/9.15(k-5)). As written, it is ***unclear whether gas plants in Illinois are allowed to operate*** in exceedance of these emissions limitations ***during grid emergencies***. These limitations should be included and modeled for an accurate picture of resource adequacy in Illinois.

Question 4: Are there known or expected developments in federal or state policy that should be integrated into scenario development? Please explain in detail and provide references where possible.

- **Illinois Data Center Investment Program (established by Public Act 101-31):** Any changes to this program may impact data center development, and thus load additions.
- **One Big Beautiful Bill Act (H.R. 1):** The recently signed reconciliation plan will phase out tax credits for renewable technologies, which will have economic impacts for project developers and rate payers.
- **Ongoing Tariffs:** While existing Tariffs increase economic costs of battery storage and construction materials in particular, the uncertainty surrounding future tariffs complicates planning for long-lead items.

Question 5: How should cost implications or other findings beyond potential reliability shortfalls be presented or considered to support constructive policy decisions?

Energy resources are capital-intensive, long-term investments which benefit from and rely on stable regulatory environments. Short-term operational extensions sometimes do more harm than good by increasing the perceived regulatory risk, which in turn increases the cost of capital from financial partners.

MRP believes that Illinois can balance significant emissions reductions with long-term certainty for generation assets and economically-efficient investment decisions. Gas plants in Illinois have no feasible pathway to emission reductions under current legislation, even if these solutions exist elsewhere in the marketplace. For example, due to increased demand for electricity, Carbon Capture & Storage is more financially viable than ever, with the capability to reduce emissions by 95%. Reductions in renewable energy tax credits can be mitigated by co-locating solar and battery storage at gas plants, which saves on transmission infrastructure costs and queue wait times while maintaining a “back-up” generation source for extreme weather events. These innovative solutions and more cannot be explored in Illinois due to the rigidity of current sunset requirements.

Within the recommendations of this report, MRP encourages the Agencies to consider long-term solutions that balance significant emission reduction, grid reliability, and affordability.

Question 6: What blind spots or gaps in the RA Study process do you worry might be overlooked or otherwise not addressed?

> *a. Are the identified blind spots or gaps unique to customer segments, modeling scenarios, market conditions or other targeted parameter?*
>
> *b. How could the identified blind spots or gaps be addressed? (e.g. through additional scenarios, targeted data inputs, utilizing specific modeling, etc.)*

The benefits of decentralized and diversified grids have been championed and studied for decades. However, steps towards this vision, such as co-locating various fuel types at one POI, are often excluded from modeling. MRP

understands that such assets are difficult to generalize, and thus, model, but as a result, significant value is left unstudied, unplanned for, and untapped.

As an example, MRP has a generation asset in California that co-locates a natural gas Combustion Turbine (CT) with battery storage[13]. The battery charges during peak solar production hours, using the associated transmission infrastructure during hours where it historically would go unused. The battery later discharges to soften the "duck curve," providing grid benefits, and if electricity is needed after the battery discharges, the gas can be dispatched. The CT can also be called upon to provide reserves and essential grid services, like using its synchronous condensing capabilities to maintain electric inertia.

MRP encourages the Agencies to consider modeling a scenario where sites of existing gas resources are "optimized" - able to provide low-cost energy ***and*** dispatchable capacity during tight conditions. MRP has found that most modeling assumes one type of supply technology per "point of interconnection." The Agencies have the opportunity to be industry leaders in this resource adequacy study by modeling "optimized" or "hybridized" resources.

Question 7: Have any peer jurisdictions developed scenario(s) through the completion of their own resource adequacy assessments or studies that should also be considered by the Agencies through this Resource Adequacy Study?

> *a. Provide details concerning the scenario(s), which jurisdiction developed the scenario, and provide a link to the supporting detail(s).*
>
> *b. Is the assessment part of a broader resource adequacy assessment, or an more detailed integrated resource planning effort?*
>
> *c. Are there any market conditions or policy considerations that are unique to the jurisdiction and/or the scenarios referenced?*

PJM and MISO periodically study the state of resource adequacy in their respective footprints. These are broadly considered to be the "industry standard" and MRP would encourage their review, consideration, and inclusion.

- Energy Transition in PJM: Resource Retirements, Replacements & Risks (2/24/23)[14]
- 2025 OMS-MISO Survey Results (6/6/25)[15]

TOPIC 2: Analytical approach to analysis and data assumptions.

Question 8: Are there recommendations for specific data sources that could be utilized in this study?

> *a. Are there preferences for certain input assumptions that should be made?*
>
> *b. What prior or concurrent studies could be referenced that might add value or ensure alignment with similar or adjacent work (e.g., queue assumptions, RTO projections)?*

MRP would caution the Agencies against taking a conservative approach to new-build cost assumptions. In particular, the market for new gas generation is hot and costs are increasing rapidly.

[13] Malaga Hybrid Energy Center | Middle River Power
[14] energy-transition-in-pjm-resource-retirements-replacements-and-risks.pdf
[15] 2025 OMS-MISO Survey

In April, Brattle's Cost of New Entry analysis for PJM estimated a capital cost of $1,351/kW for new gas Combustion Turbines and $1,419/kW for new gas Combined Cycle plants[16].

However, developers say these figures miss the market. During Next Era's Q1 earnings call, CEO John Ketchum stated that "the cost to build a gas-fired plant has tripled in the last few years and is poised to increase even further due to tariff exposure," later quoting a price of $2,400/kW[17]. This price point is consistent with MRP's market outlook.

MRP encourages the Agencies to consider the most up-to-date market reports and the industry feedback to them when making cost assumptions.

Question 10: Are there specific assumptions that should be considered concerning generation resources, including buildout (queue, pace, technology availability) or retirements, both in-state and regionally in the RTO markets?

> *a. Which proposed assumptions should be considered as part of the base case and which are best considered as part of a prospective scenario? Provide any available references to RA studies, IRPs, or comparable assessments and reports to support your recommendations.*
>
> *b. Which assumptions are contingent upon specific policy and/or legislative conditions being met or otherwise enacted? Please explain in detail.*

Due to supply chain shortages and interconnection queue delays, it currently takes about five to seven years to build a new green-field generation project. This timeline was frequently quoted by panelists at FERC's Resource Adequacy Technical Conference[18].

PJM's Reliability Resource Initiative (RRI) provides additional insight[19]. RRI was an all-hands call for new capacity as fast as possible, with a short cut through PJM's usual interconnection queue. Even so, the vast majority of new construction selected through RRI will be operational at the soonest in 2030.

This, combined with the high demand for gas turbines, should underscore the serious implications of upcoming thermal retirements in the state. As mentioned previously, temporary extensions to retirement dates are unlikely to retain resources. Electric generators need long-term stability to invest and innovate.

Question 11: As a component of the RA Study, the Agencies will be seeking to obtain utility and RTO load forecast projections and the underlying assumptions behind the load forecasts. In addition to these utility forecast assumptions, what additional assumptions should also be considered, either embedded in a base case or considered in scenarios? Further, what data sources should be drawn upon, supporting any load forecast modifications? (i.e. large load / electrification growth)

a. Provide details on why these additional assumptions should be considered during the modeling process?

MRP encourages the Agencies to consider scenario analysis with different levels of data center load flexibility. Most data centers have little appetite for curtailment, but recent studies suggest that there may be tremendous reliability benefits to even a small amount of data center load flexibility. A February 2025 study by Duke University's Nicholas Institute for Energy, Environment & Sustainability found that "curtailment-enabled headroom" could enable nearly 100 GW of large

[16] Final Recommendations Sixth Review of PJM's RPM VRR Curve Parameters - Brattle 4.11.25
[17] NextEra Energy Q1 2025 Earnings Call Transcript
[18] FERC Resource Adequacy Technical Conference Day 1 Recording
[19] PJM RRI Initiative Summary – 5.6.25, slide 10

load additions on today's grid with minimal impact[20]. This study assumes that new loads would only be curtailed 0.5% of their maximum uptime each year.

b. Are any proposed load forecast assumptions directly impacted and/or predicated upon specific to policy, legislative, or other conditions being met and/or otherwise enacted? Please explain in detail.

A driving source of electric investment risk stems from low visibility on the likelihood of projected load materializing.

While there will certainly be some level of demand growth, the magnitude of this growth can make or break investment outlooks. When developers and grid operators over-shoot load growth projections, there are significant cost implications for rate payers and investors. Some electric market participants remember the burn from the early 2000s "boom-and-bust" of then-burgeoning industrial load[21].

MRP recommends that the Agencies tie load growth assumptions to specific and verifiable assumptions, as much as possible.

Question 12: Are there any additional considerations – data inputs, policy, drivers, or assumptions – that Stakeholders believe the Agencies should consider, not already explain in response to the preceding questions? Please explain in detail.

"Perfect cannot be the enemy of the good."

The law requires that thermal generation, in any form, cannot have a future in Illinois. And yet, the demand for electricity, and the importance of reliable supply, is higher than ever.

MRP encourages the Agencies to consider long-term pathways for clean investment as part of the resultant recommendations from this report. Chicago has become one of the nation's leading data center development hotspots. These data centers will need electric supply, and Illinois is well positioned to provide it sustainably. With a balanced combination of requirements and incentives, existing resources could hybridize, retrofit, repower, and/or capture emissions to provide low to no emission electricity. Strict shutdown requirements in other states have created a "emissions leakage" problem – where emissions decreases on paper are offset by increased emissions in neighboring states.

MRP believes that allowing long-term pathways for "greening" existing resources is the most affordable, most reliable, and fastest way to significantly reduce greenhouse gas emissions.

[20] Rethinking Load Growth: Assessing the Potential for Integration of Large Flexible Loads in US Power Systems | The Nicholas Institute for Energy, Environment & Sustainability

[21] Is There a Capacity Glut, and How Long Will It Last? - ScienceDirect