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Introduction

Thank you to the Commission and Commission Staff for soliciting feedback on the IRP process. We look forward to continued engagement and collaboration as this process moves forward.

IRP Stakeholder Workshop #1: Scenarios Questions

1. **Do the proposed scenarios reflect a reasonable range of the most impactful and most uncertain drivers? If not, what key drivers or assumptions should be added, removed, or modified?**

While the proposed scenarios reflect potential drivers, we'd posit that the three questions that are paramount for scenario design include:

1. What implications do large loads have on resource retirement and addition decisions?
2. Under which load scenarios can CEJA requirements be met with or without extension?
3. How do load drivers independent of large loads, such as electrification, influence resource selection?

The proposed scenarios don't cleanly answer any of those questions because they either combine load assumptions together or they don't look at the same set of load forecasts across all scenario types. In addition, under the current scenario design, it is unclear how scenarios can be compared across the different load forecasts especially based on cost. For example, under the current design, there is no "Low Case" load forecast modeled in the System Evolution Future scenario or the Alternative Decarbonization Paths scenario, and there is no "Low Case" or "Base Case" load forecast for the Advanced Technology Acceleration scenario.

It is also unclear what information may be ascertained from the Advanced Technology Acceleration scenario since this scenario is focused on moving up the selection of long duration storage to 2032 instead of 2037 and the selection of advanced nuclear to 2040 instead of 2045. Since there are CEJA requirements in 2030 and 2035, it is not clear what this scenario would be

testing, since only the LDES could hypothetically help meet the CEJA requirements in this timeframe.

Further, some aspects of the System Evolution Futures could be combined with the Core Policy Planning Future and the Alternative Decarbonization Paths. Since the demand response and VPP resource is going to be a selectable resource in PLEXOS, this resource could be made available across all futures and load forecast combinations rather than tested separately, and indeed it likely makes sense to do that if there is any significant load added. In addition, the higher energy efficiency trajectory could also either be made available to the model as a selectable resource or included as a going-in reduction to the load forecast as a sensitivity to the Core Policy Planning Futures or as a change from the base case for the Alternative Decarbonization Paths. It is not unreasonable to evaluate higher levels of energy efficiency especially since the Alternative Decarbonization Paths include assumptions around net-zero goals and since, as discussed in our previous comments, CRGA will likely result in significantly higher utility EE budgets.

Additionally, we generally recommend that large loads and electrification load be modeled separately (as well as together, if desired) since they do not arise from the same drivers and one does not beget the other. If all possible load combinations were modeled they could then be compared on the basis of cost across the different CEJA or relaxed build date assumptions. This would make the resource implications of different load and/or different CEJA assumptions more clear as well.

Finally, there were several instances during the workshops in which E3 stated that the RPS targets and goals were assumed to be met in every year in core policy scenarios. However, there was no discussion of how RPS budget constraints factored into this assumption.

Under current Illinois policy, the RPS goals and targets will only be met *to the extent the IPA has the budget to do so*. After that budget is exhausted Illinois will not be able to take further action to meet our RPS goals unless the IRP indicates that such action would be cost-effective to take. As such, it is important that the IRP model accurately factor in any RPS budget constraints into its core policy scenario. Otherwise not only do we risk a model that is out of touch with reality, but we also won't be able to use that model to assess whether additional resource deployment through the RPS is prudent.

Thus, we recommend that in core policy scenarios the RPS goals and targets only be programmed as a condition of the model to the extent the IPA's budget model predicts it will have the funding to meet those goals and targets.

Further, to the extent other stakeholders are interested in seeing a relaxation of RPS ratios, this approach might *in effect* allow some relaxation within the core policy scenarios without making a fundamental policy choice to shift these ratios. As it stands, we agree with presenter comments

from the April 7 meeting about the RPS being a relatively fixed policy of the state, at least as it relates to the budget allocated under the law.

2. **Are there additional scenarios that should be considered to better capture plausible future outcomes? If so, which of the current proposed scenarios would you remove?**

We recommend that the high load forecast be broken out, at a minimum, into two separate forecasts so the impact of large load additions and electrification can be isolated. If desired, an additional scenario with both added together could also be run. Under the current scenario design, the high load forecast combines a higher growth rate for large load and high electric vehicle and building electrification. Without knowing what level of load is forecasted for each of these categories, it is challenging to know how resource selection might change, but if they are split out, it will be easy to identify which resources are needed to meet the large load portion of the forecast and which resources are needed to meet the electric vehicle and building electrification portion of the forecast.

3. **What data sources, studies, or inputs should be used to inform key scenario parameters?**

It's not clear what load forecasts will be modeled, but we strongly recommend that one large load scenario include only loads that are fully contracted with a service agreement from their respective LSE and a separate scenario with higher, more speculative loads.

Additionally, the parameters defining electrification in the "High Case" load forecast are unclear. The presentation indicates that this scenario depends on the forthcoming *Future of Gas Pathways* study, which we agree should be incorporated into the IRP process. As the State continues to decarbonize other sectors of the economy, coordinated gas and electric system planning will become increasingly important.

If inputs from that study are not available in time, we recommend using the projections and policy recommendations in the Illinois Comprehensive Climate Action Plan (CCAP) to estimate load growth from vehicle and building electrification for the High Case load forecast, which, as previously noted, should be modeled separately from large loads.

For EV load projections, the CCAP recommends replacing federal incentives for light-duty and medium- duty EVs with state incentive programs. These recommendations provide a reasonable reference point for estimating transportation electrification in the High Case load forecast.

For building electrification in the High Case load forecast, we recommend using the CCAP's Clean Heat Standard as a guide. The Clean Heat Standard calls for a 25 percent reduction in emissions from the natural gas sector by 2025, largely to be achieved through electrification and efficiency measures.

4. **Do these load scenarios capture a reasonable range of the most impact drivers? If not, what specific drivers of load are missing?**

Based on the information provided, it is not clear if "High Flexible, High Load" future will evaluate large load flexibility. We recommend that data center flexibility be tested in the RECAP loss of load model, rather than just in PLEXOS, to evaluate the reliability impact of large load flexibility. This can help determine if the data center load flexibility can result in a reduction in capacity need while maintaining reliability for the system.

5. **For this study, sensitivities are defined as changes to a single input or assumption within a given scenario. Please suggest 1-3 sensitivities that you believe are particularly valuable to test. For each sensitivity include:**
    - **Which input should be varied (resource cost, interconnection timelines, etc.)**
    - **What scenario the sensitivity should be applied to**

The three sensitivities we recommend include:

1. Evaluating higher resource build limits

We appreciate the information that has been provided on how resources will be modeled through 2030. However, it is not clear what type of annual and/or cumulative build limits will be applied to the supply side resources when they are made available for selection in PLEXOS starting in 2030. We recommend that if any of those limits are binding, then a sensitivity should be performed where those build limits are relaxed to determine what the optimal level of resource builds are. This approach should be applied only to the non-gas resources given the supply chain constraints in the turbine market.

2. Limits on out-of-state gas resources

The information presented in Table F-10 from the 2025 Resource Adequacy Study seems to reflect the maximum build limits for out-of-state gas resources. Given supply chain constraints, we recommend that a sensitivity be performed to evaluate the impact of limiting how many out-of-state gas resources are available. This can be instituted by staggering how much out-of-state gas can be selected between 2032 and 2035. The 2025 Resource Adequacy Study also included assumptions around the availability for capacity market purchases. It would be helpful to understand if that is also a resource option for this analysis, and if so, if the model is limited to selecting a combination of capacity market purchases and out-of-state gas resources up to the firm import limits shown in the table below.

Table F-10: Firm Import Limits for Illinois Capacity Zones (MW)

Zone	2030	2035	2040+
MISO LRZ 4 (ZIA)	7,757	11,505	11,723
ComEd (CETL)	5,700	7,283	7,283

3. Reinstating tax credits for solar and wind resources

We recommend evaluating a sensitivity that reinstates the investment and production tax credit ("ITC"/"PTC") options for renewable resources.