IPA Integrated Resource Planning Workshop #1: Scenarios
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Question 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?

Yes. Generally, the proposed scenarios represent a reasonable range of the most impactful and uncertain scenario drivers. However, United recommends additional scenario considerations that are not directly reflected within the proposed scenarios that are described in the Workshop presentation. These additional scenarios are discussed in more detail in questions #2, however, they generally comprise of: 1) a scenario where the Inflation Reduction Act tax credits and Biden-era EPA regulations are reinstated, 2) a scenario where natural gas infrastructure and supply challenges cause increases in the price of natural gas, thus increasing the cost of constructing and utilizing gas plants, and 3) a Behavioral Change Scenario where customer behavior shifts to a focus on Distributed Energy Resources (DER), electrification, broader time-of-use (TOU) rate adoption, and increased energy efficiency (EE) adoption. United also notes the importance of providing more explicit information on the specific assumptions that are being made for each scenario as the Workshop moves forward (i.e. understanding what exactly "higher EE, DR, and VPP potential" means related to some of the scenarios). Specifically, what participation rates are being assumed for the "higher EE, DR, and VPP Potential"?

Question 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? If so, which of the current proposed scenarios would you remove?

Yes. As mentioned in question #1, United suggests considering the following additional scenarios to capture plausible future outcomes:

1. A scenario where the Inflation Reduction Act (IRA) Investment Tax Credits and Production Tax Credits for solar, wind, and storage are reinstated and extended, and Biden-era EPA regulations such as Clean Air Act 111(b) applicable to natural gas plants are reinstated. This is a scenario that could occur depending on future administration changes at the federal-level and has been explicitly considered as a scenario in other utility IRPs, specifically AES and CenterPoint in Indiana.

2. A scenario where natural gas infrastructure and supply challenges occur. This is reflective of a scarcity in natural gas supply which drives up firm gas transportation costs and increases the O&M costs for natural gas generating stations. Furthermore, this scenario should consider a future where no new gas plants are modeled to be available before 2032. This is due to industry reports that global turbine shortages have led to development timelines of 5-6 years for new projects. This is specifically in-line with reports from Power Engineering and S&P Global that support this recommendation, as well as statements from gas turbine manufacturers that indicates that manufacturers are planning to ramp-up production of turbines in the next few years, however wait times and backlogs for these turbines will remain elevated. This is also a scenario that is considered in various utility IRPs, specifically AES and I&M in Indiana.
3. A scenario that models the impacts to the grid and subsequent resource selection if large-scale changes to customer behavior occur as a result of: increased adoption of DERs, increased enrollment in Virtual Power Plant Programs, increased electrification adoption (buildings and transportation), increased TOU rate adoption, and increased EE program adoption. This scenario is aligned with similar scenarios that can be found in the State of Washington's 2021 State Energy Strategy and the 2023 update to the IEA's Net Zero Roadmap. This scenario could be adapted to be a specific sensitivity in the IRP model, however, United believes that this matter is better suited as a stand-alone scenario.

There are no specific scenarios that United would remove from the proposed scenarios provided in the workshop presentation. However, the three scenarios mentioned above ensure that these possible future outcomes are considered in the IRP process.

Question 3

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

United believes that the list of public data sources provided on slide 10 of the presentation represents a nearly complete list of useful data sources without getting into specifics. United has raised this matter in previous IRP Workshop comments, but the IRP process should utilize the most recent National Renewable Energy Laboratory's (NREL) Annual Technology Baseline (ATB) to develop accurate costs of a variety of new capacity resources for the IRP. This data is publicly available and is considered an industry-standard as it is used by vertically-integrated utilities for IRPs in other states, as well as by energy analysis groups for use in capacity expansion modeling. Furthermore, to accurately model the capacity value of new capacity resources, the IRP should utilize the most recent MISO Updated Indicative Resource Class-level Unforced Capacity (UCAP) Direct Loss of Load (DLOL) Results, which were updated by MISO in 2026. Finally, in order to more accurately capture the cost to build solar and wind projects in Illinois and adjacent states, the IRP should utilize results from recent IPA REC procurements. While not publicly available, the use of bid data from recent competitive procurements is considered an industry-standard as it is used by

vertically-integrated utilities for IRPs in other states, specifically AES and CenterPoint in Indiana. These data sources are likely already captured in the data source list provided on slide 10 of the workshop presentation, but United feels it is important to mention these specific data sources. United also notes the importance of providing more explicit information on what specific data sources will be used throughout the IRP process as the Workshop moves forward.

Regarding specific inputs, United seeks clarification and would like to confirm that firm transportation costs for new gas plants are being properly considered under the "Transmission" category. Similar to how interconnection upgrade costs are considered for new electric generation projects, pipeline upgrade costs should also be considered for new gas projects, as touched on in United's response to Question 2.

Question 4

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

Yes. The load scenarios outlined on slide 23 of the workshop presentation generally capture the full range of drivers that will meaningfully impact electric load in Illinois in the future. However, United does recommend that the IRP workshop provide more granular detail on the actual load forecasts in the future of the workshop (i.e. provide actual figures on the extent that differing levels data center load and electrification will impact Illinois' load forecast). Additionally, United requests further clarification on how the state agencies define "data centers in development". Specifically, what do the state agencies consider "in development". Furthermore, United notes the importance of utilizing accurate weather forecasts and modeling that consider impacts related to climate change, as weather will play a role in determining an accurate load forecast.

Question 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

United suggests that the following sensitivity be considered in the IRP process: A sensitivity focused on the possible circumstance where a large load customer either exits service early or does not exhibit the load that is initially planned. The input that would be varied under this circumstance would be the load forecast input and the general resource cost input. This sensitivity could be applied to a number of different scenarios, but would be effective if applied to the high load scenario. United further notes that the additional scenarios that it recommends could be considered separately as sensitivities, however, United feels that these additional scenarios are broad and wide reaching enough to warrant individual scenarios designed around these particular instances. Furthermore, United suggests that the state agencies consider an additional sensitivity

that considers demand response resources that occur outside of the context of a VPP (such as opt-out behavioral demand response or peak time rebate programs). Additionally, United suggests exploring a sensitivity focused on the impacts of increased state building energy codes and appliance standards.

Question 6

Are you interested in being added to our distribution list to be kept up-to-date on news and important information related to the IRP? If so, please provide your contact information in the following section.

Yes