

**INDIANA UTILITY REGULATORY COMMISSION TECHNICAL STAFF'S  
STATEWIDE ENERGY STUDY UNDER HEA 1278 (2019)**

**INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR'S  
FEBRUARY 21, 2020 COMMENTS**

The Indiana Office of Utility Consumer Counselor (“OUCC”) appreciates the efforts of the Indiana Utility Regulatory Commission and its Technical Staff, the State Utility Forecasting Group (“SUFG”), Lawrence Berkley National Laboratory (“LBNL”) and Indiana University (“IU”) in undertaking complex analyses and preparing reports the Commission needed to meet its legislative charge under HEA 1278, which directed the Commission to conduct:

. . . [A] comprehensive study of the statewide impacts, both in the near term and on a long term basis, of:

- (1) transitions in the fuel sources and other resources used to generate electricity by electric utilities; and
- (2) new and emerging technologies for the generation of electricity, including the potential impact of such technologies on local grids or distribution infrastructure;

on electric generation capacity, system reliability, system resilience, and the cost of electric utility service for consumers. In conducting the study required by this subsection, the commission shall consider the likely timelines for the transitions in fuel sources and other resources described in subdivision (1) and for the implementation of new and emerging technologies described in subdivision (2).

The OUCC submits the following comments on: (1) SUFG’s “Scenarios for SUFG Modeling for Report to Energy Policy Task Force”; (2) LBNL’s “Report on the methods, data, and assumptions for the Indiana Utility Regulatory Commission study”; and (3) IU’s “Economic, Fiscal, and Social Impacts of the Transition of Electricity Generation Resources in Indiana, Study Methods, Data, and Assumptions.” These comments also identify topics not covered in the proposed work plans that the OUCC believes need to be addressed.

**1. These three studies do not provide enough information for the Commission to answer all questions posed in HEA 1278.**

The OUCC is concerned the three studies do not appear to address a key issue--the system reliability (and related economic) effects of having increasing levels of intermittent resources on the grid. It is the assessment of the OUCC that this topic needs to be addressed to provide the legislature the information being sought in HEA 1278. The OUCC is aware of available information from the regional transmission system operators (MISO and PJM), as these organizations are studying effects to the system as additional intermittent resources are added. The final report should discuss the effects of expanded intermittent resources, such as declining RTO unforced capacity (“UCAP”) credit and increased need for voltage support. If the percentage credit were reduced, more nameplate capacity would need to be acquired to reach the planned UCAP. This could significantly change the economics in the Integrated Resource Plans (“IRP”) modeling, and should be addressed. Additionally, study and discussion as to reliability effects, if any, of increased natural gas reliance seems like another topic that should be included.

**2. SUFG’s “Scenarios for SUFG Modeling for Report to Energy Policy Task Force”**

*SUFG’s Approach to Retirements.* SUFG’s approach relies on Investor Owned Utilities’ IRPs for reference case retirement dates. The OUCC believes it is important to note the Commission does not approve IRPs and utilities are in control of the decision-making on data used during the IRP process. Further, utility IRPs are not optimized for retirements, which are typically hardwired into the model. This can lead to self-directed results that would color the results of the SUFG modeling.

*Scenario 4 – High Natural Gas Price.* This scenario embeds a specific and narrow assumption—“long-term moratorium on fracking”—resulting in a high natural gas price. This type of restrictive assumption inhibits the inclusion of a broader range of possible future conditions related to *natural gas prices*. While the chosen \$10/mmBtu price appears to be a reasonable representation of a high natural gas price, the OUCC recommends utilizing this high natural gas price as a sensitivity to test the other various scenarios rather than as a standalone scenario. Using a high, or even mid natural gas price futures to test sensitivities, rather than as an independent scenario, would allow for the evaluation of the economic attractiveness of one retirement scenario versus another, as well as effects of natural gas prices on all scenarios.

*Scenario 8 – High Industrial Cogeneration (“Combined Heat and Power” or “CHP”).* This scenario evaluates the state’s optimal resource plan under a condition of expanded CHP implementation by industrial customers. It is not clear as to why the CHP technology was chosen for evaluation and other technologies currently available or under development, such as distributed energy resources and energy efficiency technologies, were excluded. Focusing on one single technology and one single customer class (industrial) is unreasonably narrow. The OUCC is concerned that the complexity of estimating the amount of CHP that may be built in the future is not incorporated into this scenario. In fact, the proposed scenario does not model the future of CHP implementation on the basis of variables that would affect the tendency to invest in CHP (such as

expected electricity prices, expected gas prices, incremental cost of investment needed to build electrical facilities (over and above those needed to produce steam), hurdle rates for investments that are outside of companies' core activities, etc.), and instead assumes a flat industrial load over the time horizon. Since CHP is not actually being modeled as a technology, the proposal is no different than simply evaluating a reference case sensitivity for industrial demand. The OUCC believes that performing sensitivity on expected demand is a good idea; however, there seems to be no good reason to restrict that sensitivity to only industrial demand.

For these reasons, the OUCC recommends eliminating “high industrial cogeneration” as a scenario and evaluating a range of demand sensitivities to the other scenarios. Modeling changes in load as a sensitivity across the other various scenarios, as with natural gas price, would provide useful insights into the economic attractiveness of the other scenarios. For these reasons, the OUCC further recommends different load futures (e.g., high, medium, and low) be used as a sensitivity to test the other scenarios. If, in the alternative, SUFG still intends to model possible technology choices as a scenario, the OUCC recommends modeling broader futures, such as “slow innovation” and “high tech future” scenarios, allowing for a broader range of technologies, which could include CHP as a component.

**3. LBNL’s “Report on the methods, data, and assumptions for the Indiana Utility Regulatory Commission study”**

The OUCC finds this study provides a comprehensive and useful overview of pertinent literature. The OUCC believes feeder studies should also be used to:

1. Identify factors that may affect the capability of a distribution feeder (or circuit) to accommodate the amount of distributed energy resources (“DER”) and level of DER penetration on distribution performance;
2. Address any adverse effects of increasing DER penetration on distribution circuits and ways to safeguard against those effects; and
3. Identify specific transmission and distribution projects, associated costs, and upgrades needed to accommodate the proposed and forecasted location and amount of DER.

The transmission analysis uses locational marginal pricing (“LMP”) differentials to determine value. It is not clear that LMP differentials necessarily capture the long-run value of avoided investment costs. It is important to ensure the feeder analyses, supplied by the utilities, include an estimate of additional investment needed in the distribution system to avoid reliability issues that could result from high concentrations of DER.

**4. IU’s “Economic, Fiscal, and Social Impacts of the Transition of Electricity Generation Resources in Indiana, Study Methods, Data, and Assumptions”**

The OUCC believes IU’s study is a reasonable approach to understanding the economic development effects of the transitions the Commission is studying.

The OUCC looks forward to reviewing the Commission’s July 1, 2020, report and stands ready to provide additional comments on any other issues, as they arise, if the Commission requests additional input from interested parties.

Respectfully Submitted by:

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