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Indiana Utility Regulatory Commission
ATTN: Ryan Heater
101 E. Washington Street, Suite 1500 East
Indianapolis, Indiana 46204

Re: Study to the 21st Century Energy Policy Development Task Force

Dear Mr. Heater:

Citizens Action Coalition appreciates the opportunity to participate in this process. Enclosed are our recommendations for scenarios and sensitivities to be modeled by SUFG as part of the IURC's statewide study. Feel free to reach out to us with any questions or requests for further clarification.

I. Introduction

We participated in the IURC's August 22nd workshop to discuss the comprehensive statewide study that the IURC must deliver to the Governor and the legislature no later than July 1, 2020. During that workshop we heard study participants say that the IURC intends to create several scenarios or portfolios but will not do an "optimized" run nor would the study be similar to an IRP. We are puzzled by the distinction that is being made. As the Regulatory Assistance Project defines the term, an IRP is "an integrated resource plan is a utility plan for meeting forecasted annual peak and energy demand, plus some established reserve margin, through a combination of supply-side and demand-side resources over a specified future period."[1] In that sense, we would expect this study to be very similar to a statewide IRP. In addition, we assume, though it is worth clarifying, that the study group will seek to model portfolios that are consistent with a least cost-least risk criteria.

II. Scenarios

Some of the scenarios we recommend may go without saying since they are prototypical for an IRP, but in the interest of thoroughness we provide them here. Our scenario recommendations are:

1. Reference Case – Should assume all federal environmental regulations now in effect even if the current administration has announced plans to withdraw and replace them. We think this is the prudent assumption for the reference case given how close the next presidential election is. This case should also assume expected case fuel, power plant, and market prices. This doesn't mean static prices, but rather those prices that are consistent with current trends and general expectations of those trends. To make this scenario the most meaningful possible, it would be preferable to allow the model to optimize retirement of existing units and construction of new units to the extent possible.

[1] Wilson, Rachel and Bruce Biewald. "Best Practices in Integrated Resource Planning." A Report by the Regulatory Assistance Project. June 2013. Available at: https://www.raponline.org/wp-content/uploads/2016/05/rapsynapse-wilsonbiewald-bestpracticesinirp-2013-jun-21.pdf

2. Continued Operation – If the information is available, it would be useful to have a scenario that explicitly accounts for the cost of continued operation of coal units and assumes that they operate through the end of their useful lives.
3. Reference Case with CO_2 – If there is a change in administration after the 2020 presidential election, we think it is very likely that a CO_2 policy will be reinstated by the new administration by executive action if not through Congressional action. Therefore, this scenario is similar to the Reference Case recommendation except that it adds a carbon abatement policy to the reference case assumptions.

III. Sensitivity Recommendations

One of the critical, fundamental forecasts the study will use is the load forecast. We appreciate SUFG's unique interest in this topic and its experience performing load forecasts. In preparation for CAC's participation in this study we performed a comparison of actual sales[2] to SUFG's prior load forecasts. Our review revealed a tendency to over-forecast residential and commercial sales but under-forecast industrial sales.

For example, Figure 1 below illustrates the differences between the actual residential electricity sales Indiana and the State Utility Forecasting Group's (SUFG) forecasts conducted since 2007. The graph shows how the forecasts made by SUFG have been higher than the actual sales (the black line) for the residential sector through 2017, the most recent year available. Each colored line in the graph represents a SUFG forecast by its vintage year, e.g., the 2007 line is the forecast issued by SUFG in 2007.

[2] SUFG's biannual electricity projections reports show both historical and forecasted data. We could not match the reported historical data in the SUFG report to that drawn from the Energy Information Administration. SUFG tended to report higher residential and commercial sales and lower industrial and overall sales. We are not sure why this is the case.

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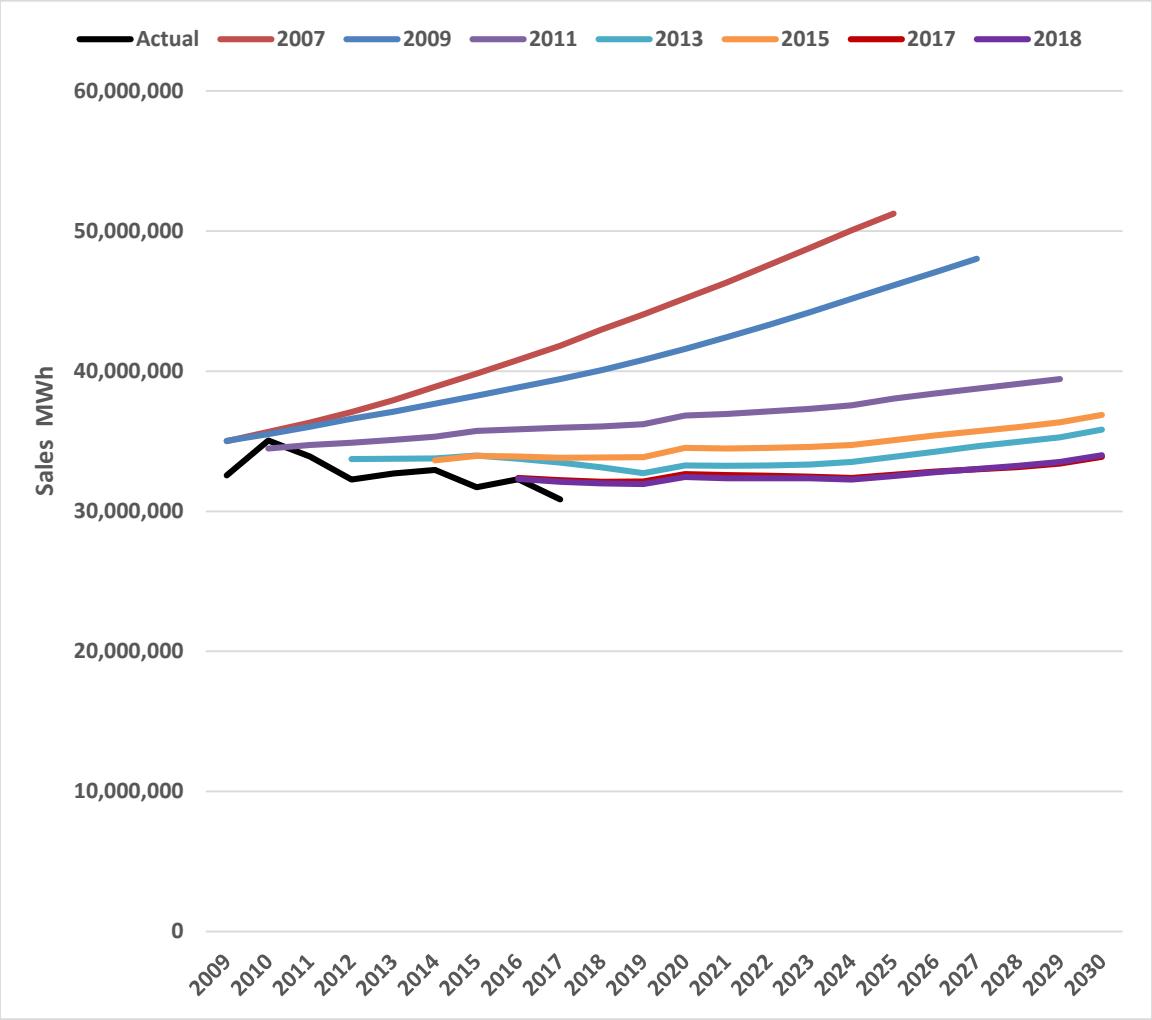
Figure 1. Comparison of Actual Residential Sales to SUFG Forecasts



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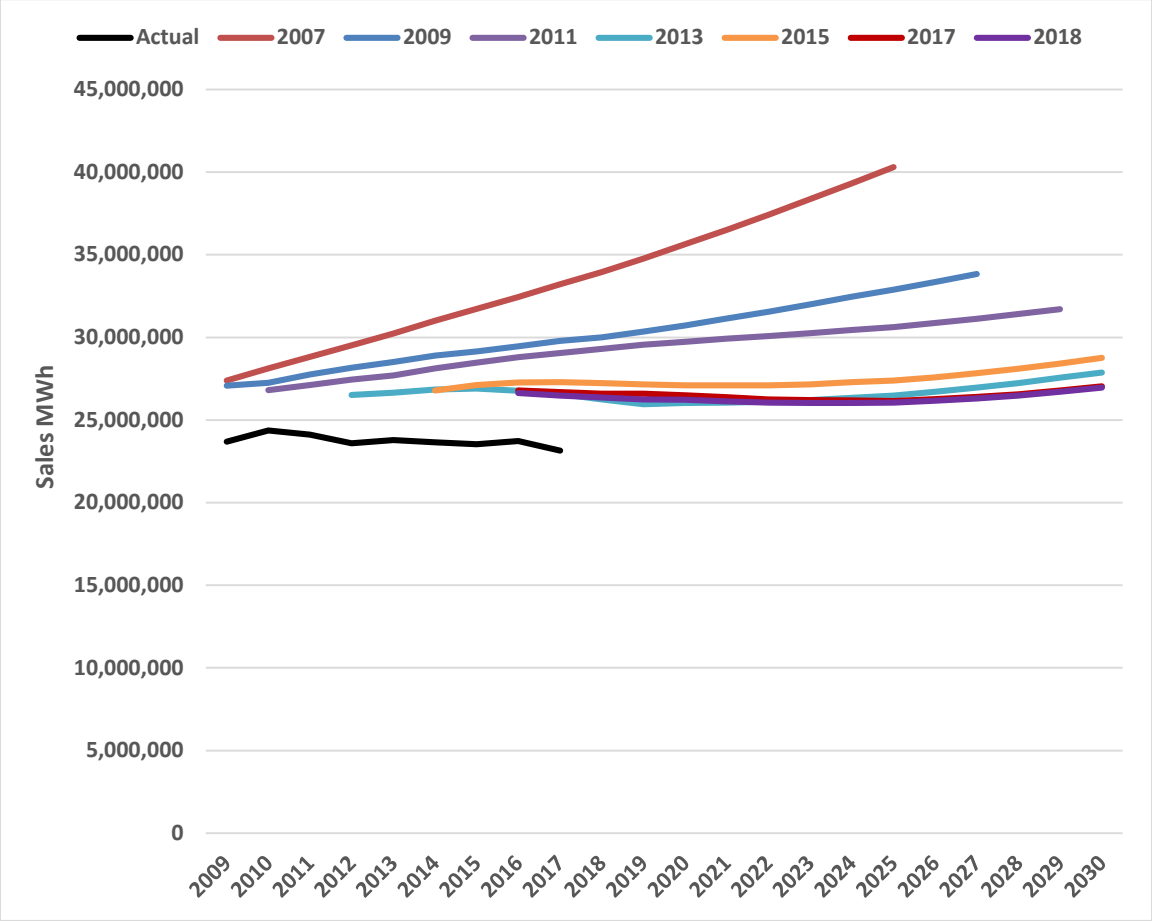
SUFG's forecasts have also been overly optimistic with respect to the commercial sector. Figure 2 below illustrates that SUFG's forecasts have been well above actual sales for the commercial sector.

Figure 2. Comparison of Actual Commercial Sales to SUFG Forecasts



SUFG's forecasts for the industrial sector, except for the 2007 study, have forecasted lower sales compared to actual sale. Figure 3 below highlights this difference between actual sales for the industrial sector and what has been forecasted by SUFG in their different studies. The result has been a consistent projection for lower sales than what the actual sales were between 2009 and 2017.

Figure 3. Comparison of Actual Industrial Sales to SUFG Forecasts

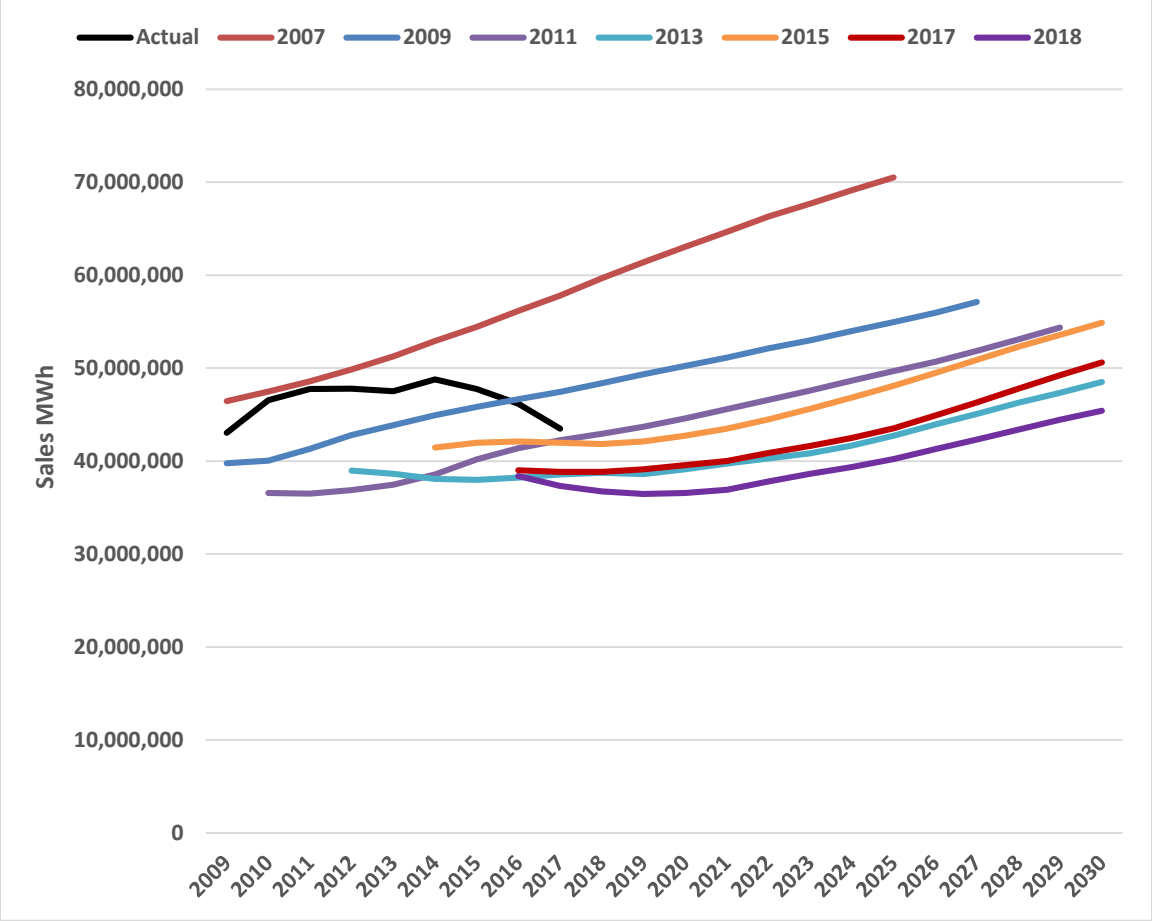
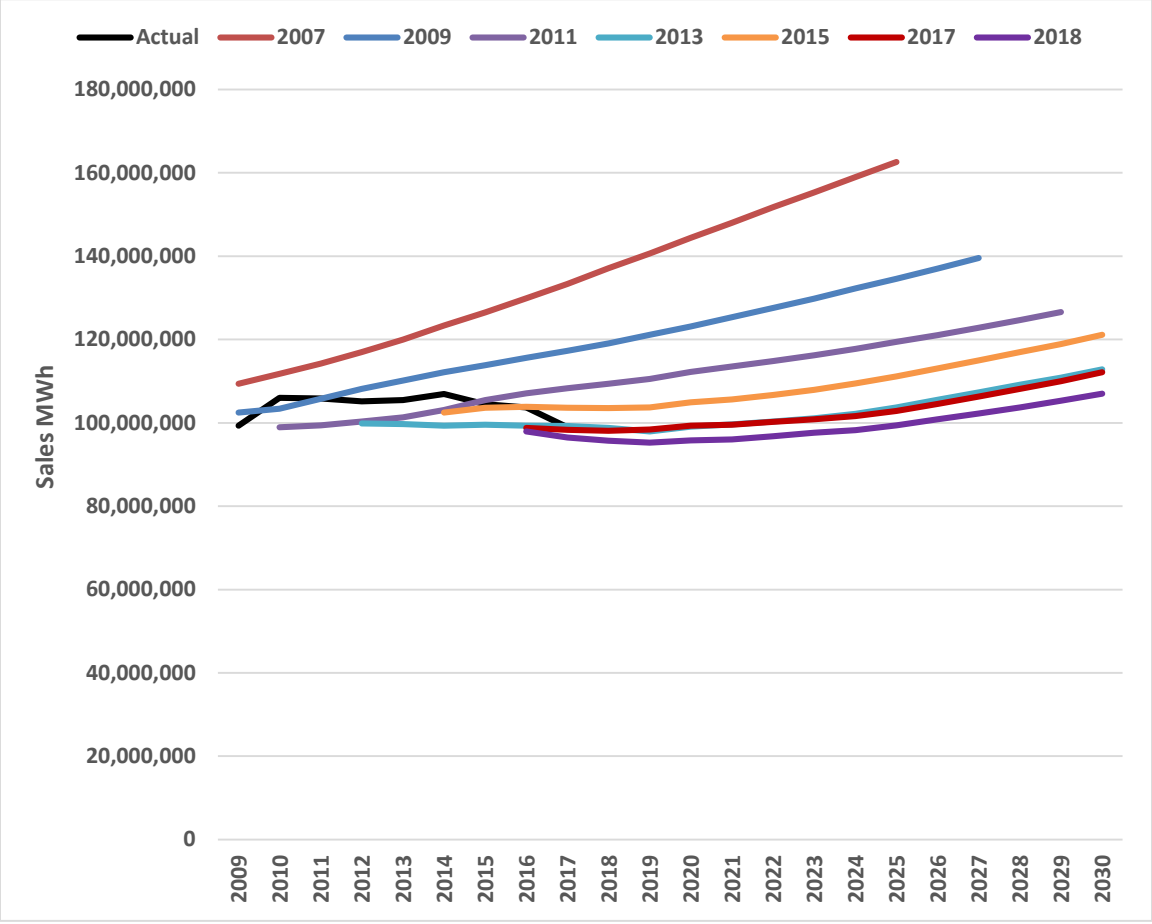


Figure 4 shows the comparison between total sales and SUFG's forecasts of total sales. As actual sales continued to moderate so too did SUFG's load forecast projections. However, each projection is characterized by a tail that trends upward. This is our primary concern - while there is clearly variability in the 10-year historic pattern of sales, the type of asymptotic increase that SUFG normally forecasts is very different than the historic pattern. This has the potential effect of distorting the results of the study because load will increase over the forecast period when the trend suggests it will be flat to declining.

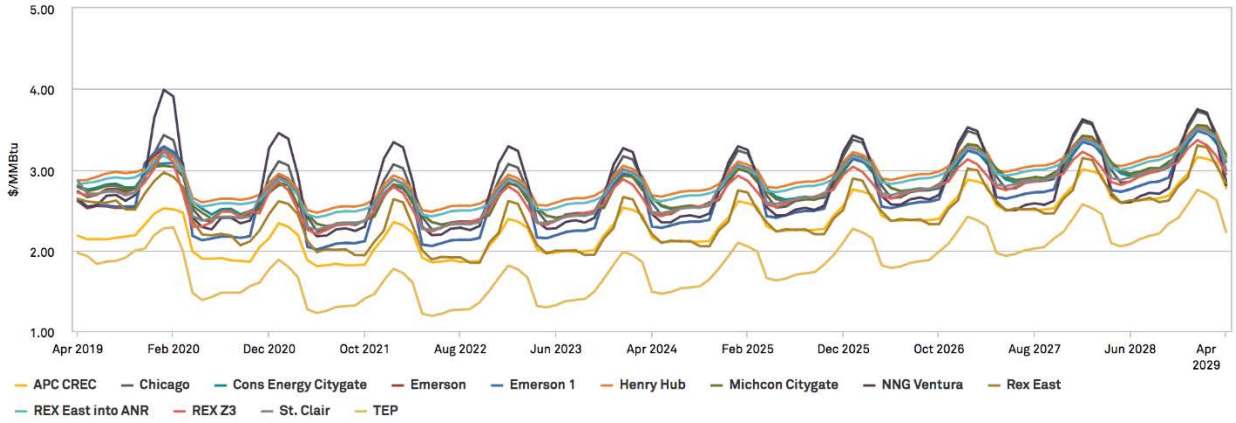
Figure 4. Comparison of Actual Total Sales to SUFG Forecasts



If SUFG intends to run its 2018 forecast (or something similar) as the base case assumption, we would recommend a sensitivity with flat to declining load through the entirety of the study period.

We expect that SUFG is likely to conduct some sensitivities around fuel prices, technology prices, and other fundamentals as well. One area that is at risk of being overlooked is the seasonal variation in natural gas prices. For example, Figure 5 shows futures in the mid-continent north region of the country.

Figure 5. Natural Gas Futures in the Mid-Continent North



Source: S&P Global

As Figure 5 demonstrates, there is significant seasonal variation anticipated even in the futures market. We think this is an important dynamic to capture and would not recommend the use of forecasts with only annual values for this study.

IV. Methodology and Input Recommendations

As the IURC study group knows well the outcome of the study will be governed by the input assumptions perhaps even more so than the scenarios selected. While the Indiana utilities may be the best source for information specific to their existing units, we would strongly advise the study group *not* use generic new resource information from the Indiana utilities. This is for several reasons, first, we think the study group will find a wide variety of difference in generic cost assumptions that will make it difficult to put assumptions in apples to apples terms and that will be at odds with widely used datasets and actual cost data. To that end, there is a highly quality generic dataset in the form of the National Renewable Energy Laboratory's Annual Technology Baseline (ATB)[3] and in the form of the bid responses to NIPSCO's all-source RFP that is readily accessible to the study group.

With respect to the energy efficiency, we think the study group will have an even more difficult time putting EE assumptions derived from the utilities in apples to apples terms. The utilities use different potential study vendors with different methodologies, their assumptions may be net or gross, potential may be limited by assumptions around total spending or program design being consistent with previous years, some use a half-year convention to model potential while others don't, and some adjust savings so that they are reduced for savings believed to be captured in the load forecast while others don't. Even comparing gross savings *achieved* by the utilities is a difficult task because of non-standard reporting of those savings. Rather than putting a lot of work, which may not yield the desired result, into trying to put the utilities' EE assumptions into common terms, we think it will be more straightforward to use the decrement approach we've recommended in IRPs before. That is, to run sensitivities around the Reference Case scenarios that assume zero-cost reductions in load consistent

[3] A caveat to the ATB is that the low, rather than Base case, forecast of solar prices seems to be tracking most closely with actual data.

with the shape of load. The decrement approach assumes that when more energy is consumed, more efficiency opportunities are available, i.e., load is reduced by the same percentage in each time interval modeled. The recommended decrement levels are 1%, 1.5%, and 2% incremental energy efficiency. And because no cost is assumed, the approach gives insight into the value of the energy efficiency. We think this is particularly desirable from a policymaking perspective since the Legislature is, of course, a policymaking body.

The modeling of demand response benefits from the Advanced Energy Economy study of the entire state published in 2018.[4] The potential for curtailing C&I demand given in this study could be modeled at prices consistent with NIPSCO's tariffs to give a best in class estimate of the cost and value of this potential.

Finally, there is a trade-off between using specific information and making the study as publicly accessible as possible. Certainly where it is possible to use information derived from the utilities about their owned and contracted units, that would be preferable, except where using this information would make the study confidential. As a document intended to aid the public and policymakers, using data that would make the study confidential seems counter to this intention. If certain information is not available publicly elsewhere, e.g., the cost of retrofitting controls on existing units, we would encourage the utilities and the study group to seek to report that information in some aggregated form so that substantially all of the data used can be published in a public form.

We welcome any inquiries from the IURC study group about these recommendations and are eager to provide assistance however we can. Please feel free to reach out to Kerwin Olson at kolson@citact.org, or 317-735-7727; or Jennifer Washburn at jwashburn@citact.org, or 317-735-7764.

[4] https://info.aee.net/2018-peak-demand-reduction-for-indiana