

Navigant Consulting Response to EUC (i.e., Commissioner Biedrzycki)
Comments/Questions (bulleted/italicized below)
01-25-16

“Weaknesses in the Analysis”

- *No energy efficiency scenario is reviewed (p.ii). The energy efficiency analysis included in the study used cost data from the 2012 Austin Energy DSM potential Study (p. 3-18). My recollection is that this study is a limited analysis based on the assumption that savings will increase as spending on DSM programs increases. The study makes no attempt to evaluate potential based on available and future technology and current end use energy technologies. Energy efficiency is the most important resource to include in the analysis. In addition to the utility it benefits consumers, the environment and the local economy.*

Energy efficiency is included in Case 5 which is a mix of renewables, DR, and EE but there is no standalone EE scenario. In our report, we state that EE and DR resources are often highly valuable if they can be procured cost-effectively. Austin Energy’s DSM potential study (prepared by the consultancy KEMA) was used to estimate program costs for the EE because it is the most up-to-date resource on how much EE can be procured by AE and at what cost. It was not within the scope of the Navigant study to evaluate EE potential.

- *The wind cost analysis assumes the federal production tax credit expires at the end of 2017 and that Austin Energy enters into new purchase power agreements for new wind. (p. 3-14) The most recent federal budget deal extends the credits for five years.*

The federal budget deal was inked at the end of December, 2015, ~6-weeks after the Navigant study was completed. In building our cost curve forecasts for wind and solar in the September, 2015 time-frame, a potential extension of the PTC-ITC was part of the conversation. The ITC-PTC extension may smooth or elongate the forward cost curve (we will see over time); however, we don’t believe the extension itself would materially impact our analysis results.

- *Storage is excluded from the portfolios because “this analysis methodology is not well-suited to valuing storage” (p. 3-20). Storage is a key technology for optimizing the costs of renewable generating technologies and should not be excluded from the review.*

Navigant’s response is in Section 3.1.5.2 of the report. In particular, “This analysis focuses on energy values, risk, and costs in particular in the day-ahead ERCOT market; we believe it would undervalue any storage being considered.” In our findings and recommendations section of the report, we recommend that AE should consider other quick-starting generating technologies that were not in this scope of work to address evolving ERCOT market.

“Questions”

- *Growth of shale gas is one of the specific drivers of Navigant’s gas price assumption (p. 2-8). What role is shale gas expected to play in providing fuel for the proposed new plant?*

Austin Energy does not source a specific type of natural gas production, North America has an integrated market for natural gas and shale gas production is one of the primary drivers of market supply and prices. What this means is that regardless of the specific production method for the molecules of gas being used in Austin, shale gas supply in the North American market plays a large role in the market dynamics that drive the economics of power generation, including ERCOT and the gas plant.

- *The report places high value on the gas plant being built locally because it would mitigate the risk of high costs due to transmission constraints that limit Austin Energy’s capability to import power into the*

grid. See p. viii, p. 4-5, and p. 4-10. Physical improvements to the transmission system can eliminate constraints and decrease costs. (This was the point of the nodal market – to provide a price incentive to market participants to fix the constraints in the delivery system.) There is no mention or discussion that I could find about plans or alternatives for improving the transmission system. How were future changes to the transmission system taken into account in the analysis? Are there upgrades that can be made? Are upgrades to the transmission system a better investment?

Navigant's study included the transmission upgrades that are incorporated by ERCOT in its planning. This scope of our study did include an assessment of potential improvements in AE import capability or other transmission upgrades as an alternative to building the gas plant. A full transmission study would be necessary in order to compare the cost of transmission upgrades with the investment in local generation.

- *The presentation of the water usage results is confusing. See p. xii, p. 3-21 and p. 3-22. P 3-22 assumes 115.9 acre feet (ACFT) of water usage for solar (for the purpose of cleaning the panels). Table 26 shows 6,475 ACFT of water usage for the gas combined cycle plant. P 3-23 estimates no water resources necessary for wind. Yet, the water usage results for the various scenarios shown on p 4-19 indicate very little difference. Based on the water use assumptions the scenarios without a gas plant should use way less water. Are the numbers in Table 38 accurate? If so, why is there so little variation in water use when the water use for renewables is a fraction of that for the gas plant?*

The table reports the total water usage for AE including water usage for other thermal plants such as nuclear or coal (before it retires). The water usage in cases C1 and C2 is 15% - 20% higher than in cases without the gas plant so it isn't a small change. However, the variance is not higher because of the summing of water usage over the entire forecast period including early years in which there is much more thermal generation that is unretired. The change per year in the later years would have a higher variance since the gas plant is about half of the total thermal generation in those years.

- *How is the increase in water use for steam electric power from 2020 to 2070 taken into account in the analysis? See Table 25.*

The water use presented in Table 25 is driven by a forecast from the Texas Water Development Board. It assumes an increase in the Travis County steam electric power capacity that is not necessarily reflected in the capacity assumptions of this study. The change in water usage is driven by total thermal generation, not by any change in the rate of water usage by MWh generation. Given this, Table 25 should be interpreted as a forecast of water usage if AE supplied all incremental power with thermal generation rather than following its current plan.

- *The analysis concludes (P 5-1) "the Gas Plant portfolios are the lowest cost portfolios in two of the four scenarios and not catastrophic in any scenario." What definition of catastrophic was applied in this review? What portfolio(s) in the analysis produced catastrophic results?*

For this study, catastrophic is definitely a qualitative descriptor and was thought of as results that cause significant increases in rates or AE making a significantly unprofitable investment. For this analysis, the only portfolios that would be considered to have catastrophic results are the All Market portfolio in every scenario and the Alternative Mix which has a significantly negative result in at least the Low Gas scenario.