

**VECTREN SOUTH'S COMMENTS
ON THE DIRECTOR'S DRAFT REPORT
ON 2016 INTEGRATED RESOURCE PLAN**

SUBMITTED SEPTEMBER 1, 2017

Southern Indiana Gas and Electric Company d/b/a Vectren Energy Delivery of Indiana, Inc. ("Vectren South") hereby submits these comments to the Draft Director's Report for the 2016 Integrated Resource Plans ("Draft Report").

I) Executive Summary

Vectren South appreciates the thought and care that was obviously invested in the Draft Report and shares the Director of the Research, Policy and Planning Division's ("Director") objective of continuing to refine the integrated resource planning ("IRP") process. The Draft Report identifies opportunities for advancing IRPs that Vectren South will carefully evaluate incorporating into future IRPs, including utilizing an updated market potential study ("MPS") to guide energy efficiency ("EE") modeling in the 2019 IRP, incorporation of a cumulative probability chart, and evaluation of the use of more than one standard deviation above or below the mean in the screening analysis. Vectren South is also submitting these additional comments both to (1) respond to several questions raised in the Draft Report and (2) comment on observations in the Draft Report on which additional explanation may assist the Director in better understanding Vectren South's approach. To the extent that these comments address certain issues or impressions set forth in the Draft Report, Vectren South respectfully requests that the Director consider revising the Final Report to reflect such outcomes.

II) Scenario and Risk Assessment

Scenario and risk assessment are intended to help evaluate how different resource portfolios perform over a variety of potential future events. Based on past discussions with

Staff, Vectren South significantly enhanced its analysis in this regard, and appreciates the Draft Report's recognition of these efforts. The Draft Report raises some specific questions and issues regarding Vectren South's approach which are addressed below.

A) Vectren South Used Strategist To Model Resource Options in a Holistic Manner.

Vectren South utilized the Strategist model to evaluate resources in its IRP. Strategist has been used for many years by utilities, consultants, and state public utility commissions to evaluate a variety of long-term resource planning issues. The software's longevity and market penetration are the result of the confidence end users have in its capabilities. The software includes significant detail on system load and generation characteristics as well as detailed modeling capability for capital projects. Model results can be analyzed down to unit-level performance for each month over the 20-year time horizon. This level of granularity allows the user to build a model that closely mimics the actual system and allows for robust quality checks on the model output. It is used to estimate the costs of various resource expansion plans, to evaluate specific capacity alternatives and measure the potential risks of new environmental legislation and other policy scenarios. The model proceeds one year at a time, simulating the hourly system dispatch, and tracking generation, system costs, and emissions. At the end of the model run, Strategist identifies the least cost resource plan as well as any sub-optimal plans evaluated during the simulation.¹

The Draft Report (p. 34) raises concern about the capability of Strategist "to handle the broad array of resource options in a holistic manner" and asks whether the "model was capable of simultaneously considering DSM, dynamic market conditions for buying and selling opportunities, renewable energy resources, possible new generation resources, and changes to the existing resource mix." Draft Report, p. 34. Strategist is able to evaluate more than a

¹ Vectren South appreciates the careful thought Xcel Energy invested in describing the Strategist model and which were borrowed here for our comments. See: <https://www.xcelenergy.com/staticfiles/xe/PDF/Regulatory/13-App-J-Strategist-Model-Description-and-Methodology-January-2015.pdf>.

handful of resources in a holistic manner. The fundamental challenge is that no single capacity expansion model that Vectren South is familiar with can simultaneously evaluate a large number of resources while also considering optimal retirement dates of existing resources, nor does it believe that other expansion models would be less limiting in their capabilities to conduct several multiple optimizations. Vectren South has significantly increased the complexity of its modeling to optimize unit retirement and identify the timing if such retirements are appropriate. Answering the broad array of questions Vectren South is asking for future planning purposes requires multiple evaluations building up to the final result. While this creates many modeling results, this iterative approach still produces the low cost answer for Vectren South's customers.

The Draft Report (p. 35) asks whether Vectren South has conducted a retrospective analysis to see if the EE analysis may have been limited by an inability to optimize DSM and other resources simultaneously. No such analysis has been done because Vectren South does not believe that DSM was constrained in the 2016 IRP. Within the optimization analysis, some scenarios selected zero energy efficiency; some selected 1% of eligible sales; and one selected 2% of eligible sales. Additionally, the stakeholder portfolios included 2% of eligible sales. Finally, the preferred level of energy efficiency includes 1% of eligible sales in years 2018-2020 and tapers EE down over time to 0.5% of eligible sales in the out years to cover projected load growth. All of these portfolios were fully considered in the risk analysis.

B) Vectren South's Modeling Approach To Warrick Unit 4 Was Reasonable.

Warrick Unit 4 is a 300 megawatt ("MW") coal-fired generator that is jointly owned by Vectren South and Alcoa Generating Company ("Alcoa"). While the Draft Report finds that Vectren South appropriately considered the implications of Alcoa's 2016 corporate reorganization and closure of its Warrick smelter, the Draft Report notes that "it would seem reasonable for Vectren to have run at least one scenario that retained the Warrick Unit 4." Draft Report, p. 31. While Warrick Unit 4 can be included as a resource in the Strategist model,

Strategist (and other economic modeling tools) is not designed to evaluate the ramifications of changes in the unique contractual relationship between Vectren South and Alcoa.

Warrick Unit 4 is located on property owned by Alcoa and has been operated for the past 15 years by Alcoa in conjunction with three other smaller coal fired power plants to meet the needs of Alcoa's operations. As explained in more detail in Vectren South's Response to Stakeholder Comments on its 2016 IRP dated June 9, 2017 (pp. 8-10), Alcoa's smelter operations ceased in March 2016, leaving only operation of a rolling mill. Alcoa continues to operate Warrick Units 1-4, which far exceed the current on-site load. While Alcoa has recently announced plans to restart a portion of the smelter facility, that information was not available at the time the IRP was being prepared. Even this announcement does not ensure Warrick Unit 4 will operate beyond 2024.

Both Alcoa and Vectren South have contractual rights to terminate joint ownership of Warrick Unit 4. In the event the operating agreement is terminated by Alcoa, a number of outcomes are possible. First, Alcoa could decide not to continue operating Warrick Unit 4 at its premises and exercise its rights under the agreement to terminate operations of Warrick Unit 4 upon nineteen months' notice. Alcoa might seek to sell its half interest to Vectren South or some other entity. If Vectren South or another entity bought the facility and ceased using it for industrial purposes, environmental regulations applicable to the facility would almost certainly change and require consideration of additional investments. Also, the common facilities owned by Alcoa and required to operate Warrick 4 may no longer be available if Alcoa ceases operations at the site. From a modeling standpoint, it is difficult to decide what future state would be modeled and what costs need to be factored in to such a model. In past years, Vectren South has modeled the status quo, but given the uncertainty that accompanies Alcoa's restructuring and the volatility in the global aluminum market, the status quo is no longer a viable presumption.

The modeling Vectren South did perform must also be considered. The base modeling performed by Vectren South concluded that the most economic option under reasonably expected future states was to retire Vectren South's coal-fired generation and replace it with natural gas. As explained in its IRP, Vectren South concluded that risk was better managed by transitioning to a more diverse fleet, including maintaining some coal-fired generation. When evaluating its existing units, Culley Unit 3 was identified as the preferred choice to retain because of its greater efficiency, superior historic forced outage rate and lower operations and maintenance costs. These factors are more fully explained in Vectren South's Response to Stakeholder Comments on its IRP submitted on June 9, 2017 (pp. 9-10). And, as a wholly owned unit, it is a more reliable resource choice compared to longer term reliance on the Alcoa partnership.

Vectren South now has more short term clarity about Warrick Unit 4, as agreement has been reached with Alcoa to tentatively operate it through the end of 2023. Continuing Vectren South's ownership of Warrick Unit 4 through 2023 does not significantly change Vectren South's base case scenario. The assumption that Vectren South would exit joint operations in 2020 drove a capacity deficit in the preferred plan, which required a capacity purchase to cover the deficit. By continuing to run the plant through the end of 2023, Vectren South no longer expects a capacity need prior to retiring the Brown plant, Culley 2 and its half interest in Warrick 4. This coordinated retirement timing drove Vectren South to consider larger combined cycle gas units that are more efficient than smaller models. As discussed in the recently issued DOE Staff Report, smaller coal plants across the country are retiring because of their unfavorable economics and operational difficulty caused by ramping up and down frequently in response to market price signals. The same factors are impacting Warrick 4.

C. Portfolio Diversity.

Vectren South worked to greatly expand the diversity of its scenarios and the portfolios that were evaluated. The opportunity to discuss this approach with the Director and his staff in advance was greatly appreciated. The result is an IRP that is far more robust and detailed. Vectren South's approach is consistent with good industry practice. The Draft Report seems to urge all utilities to do more to model low probability, highly consequence scenarios, such as the Northwest Power and Conservation Council's analysis of 800 futures determined through stochastics. *Draft Report*, p. 48. Vectren South evaluated 200 possible futures within our stochastic modeling, which represented 2,000 possible futures, exceeding the range of possibilities evaluated by the Council.

Vectren South worked with stakeholders to understand a wide variety of uncertainties and incorporate them into seven possible futures. Key uncertainties were varied widely within each possible future. The fact that optimization modeling produced similar results given the wide range of possible futures strengthens the basis for selecting the preferred portfolio. In other words, the fact that the preferred portfolio responds well to a number of potential futures is one of its strengths.

The Draft Report (p. 32) notes that "[t]he differences in the scenarios were not sufficient to cause significant changes in the resulting portfolios and didn't provide additional insights that were valuable to Vectren South's decision-making processes." This statement can be interpreted as a position that the purpose of scenario development is to identify future scenarios, regardless of how probable, for the purpose of driving different portfolios or that the sufficiency of the scenarios can only be confirmed if the result is different portfolios. Vectren South does not agree that this is the purpose of resource planning. In Vectren South's view, the purpose of scenarios is to identify reasonably possible future states to help identify low cost portfolio options to aid in portfolio development and for inclusion in the risk analysis. In this

case similar portfolios were identified across all reasonably possible futures states. Assuredly that will not always be the case, but the decision becomes clearer when it does occur.

Moreover, there is no reason to believe more extreme futures would produce different results. The forecasts for coal, gas, CO₂, and other inputs were logically consistent. For example, it is hard to conceive of a future where gas prices rise to an unprecedented level and coal prices do not rise. In the long run, competitive markets correct for temporary distortions. It is certainly feasible to raise natural gas prices to a point where the Strategist screening analysis selects a least cost portfolio based on changes to one variable. However, Vectren South believes that sound planning bases decisions on circumstances that have some material degree of probability. Determining how lower probability scenarios impact resource alternatives may provide some useful data, but is unlikely to change outcomes. A Black Swan or other unlikely scenarios could be constructed that could have resulted in a different least cost screening assessment. The probabilities of these Black Swan events are so low that it would not have materially changed the risk analysis and the ultimate recommended portfolio. Vectren South is confident that the scenarios used to identify portfolios reflect reasonable boundary conditions and the full risk assessment in evaluating portfolios was (200 iterations representative of the full distribution of prices) robust.

Regardless, while not referenced in the IRP, Vectren South did model a dramatic reduction in coal prices which demonstrated that if gas stayed at current pricing, a 50% reduction in coal prices would be required for the IRP to select coal over gas. This shows that any reasonable commodity price forecast will favor gas.

While discussing the similarity of portfolios, the Draft Report expresses some concern that only one standard deviation for fuel prices beyond five years was utilized. *Draft Report*, p. 29. Only the screening analysis used one standard deviation above or below the mean. The

risk analysis utilized the full distribution of natural gas prices in the 200 iterations. Vectren South will continue to evaluate using more than one standard deviation for the screening analysis in future IRPs, although it does not believe this would have materially changed the portfolios.

C) The Benefits of Flexibility Must Be Balanced Against Resource Decision Delays that May Eliminate Certain Resource Options.

Vectren South approaches its scenario and risk assessment in a manner intended to maintain flexibility and balance risk. Generally, Vectren South shares the view of the Director in this regard. Draft Report, p. 5. However, Vectren South suggests the Director consider the potential risk that could be created by waiting until the last possible moment to make decisions. Such an approach presents its own challenges. Waiting until the last possible moment to make decisions may place too much emphasis on the present and therefore increase risk because there is no time left to evaluate how trends will work out in the longer run. Options may also be limited because of the time required to obtain replacement capacity or approval to build new facilities. Adequate time is necessary for proper evaluation and planning in order to manage a large project to properly balance cost minimization with reliability and safety.

III) Metrics For Preferred Plan Development

Vectren South's scorecard was the first of its kind in a Vectren South IRP. Balanced scorecards are designed to find the portfolio that provides the best balance among competing objectives. It is not an exact science. Judgment is a part of any study of this type. The scorecard is a display of how Vectren South balances these competing objectives. Vectren South does not dispute that there is more than one possible interpretation of data, and it will continue to evaluate the best way to present this information in the future. Vectren South will consider the suggestions in the Draft Report, but controversy over weighing of the interests will

likely always exist given the need to exercise expertise and judgment when engaging in the scoring. Many of the concerns and criticisms of the scorecard are addressed below.

A) Vectren South's Scorecard Isn't a Black Box.

The Draft Report appears to adopt the CAC's characterization of Vectren South's scorecard assessment as a "black box." *Draft Report*, p. 40. However, the CAC's disagreement with Vectren South's scorecard assessment is not the same thing as the scorecard having "mysterious or unknown internal functions or mechanisms." Merriam-Webster, at <https://www.merriam-webster.com/dictionary/black%20box> (last visited Aug. 23, 2017). The CAC was able to deconstruct the model and provide its own input, belying its own characterization. The CAC may disagree with the weighting and judgement that was applied in the scorecard, but that does not render the scorecard mysterious or unknown. Given the considerations driving the scoring of various factors is transparent; the term black box simply doesn't apply.

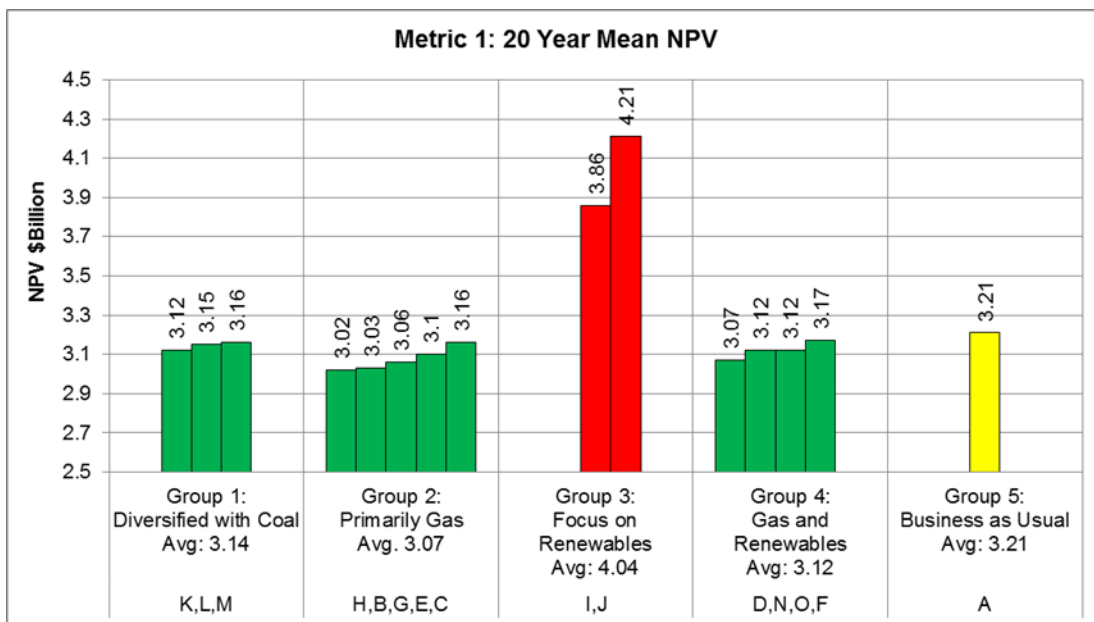
Vectren South also requests that the Director reconsider reference to other CAC criticisms of the scorecard because they are flawed. The CAC asserts (and the Draft Report accepts) that a 0.33 difference on a scale of 1 to 5 is trivial and insignificant. In reality, that difference represents an 8.25% difference in the portfolios. Measured as a net present value, an 8.25% difference can be worth about \$245 million. Such distinctions cannot be dismissed as immaterial.

Moreover, the CAC distorted the figures in its recommendation. It rounded one ranking from 3.33 to 3 and another portfolio from 3.5 to 4. Hence it took a difference of 0.17 (the difference between 3.33 and 3.5 - a 4.25% difference) and converted it to a difference of 1.0 (a 25% difference). The reason that they reach their conclusion (that small differences can change the rankings) is because they actually distort the values by a significant margin.

The Director raises concerns about differences between portfolios that are alleged to be very similar. *Draft Report*, p. 35. In reality, there are four different classes of portfolios:

- Diversified with Coal
- Primarily Gas
- Gas and Renewables
- More Renewables (Stakeholder portfolios)

When comparing these four classes, there are distinct differences in costs, stability and diversity. This is demonstrated in part in the graph below:



It is clear that the preferred portfolio (L), which falls in Group 1: Diversified with Coal, is superior in terms of 20 Year Mean NPV to the Group 3: Focus on Renewable portfolios. By considering the graph it is clear that while Portfolio L may have been ninth in a ranking from lowest to highest, it belongs in the group with the other green portfolios because they are all lumped closely together. When comparing portfolios within a group, such as the Diversified with Coal group, the NPV differences are small because the portfolios within that category are similar. Where distinctions are small within groups of portfolios, relative judgments were made to select the “preferred portfolio.”

Ranking order matters less when results are bunched together. While the preferred portfolio (Portfolio L) may be ranked ninth in terms of the 20 Year Mean NPV, it was within 4% of the lowest cost portfolio (Portfolio H). The portfolios that received a red light were more than 20% higher than the lowest cost portfolio, while the Business as Usual case was more than 6% higher. While the appropriate break point can be debated, this does not render Vectren South's approach a black box. Rather, Vectren South is simply depicting its analysis. Nor are the groupings based on proximity between the low and the high more effective than just selecting colors based on order.

The Draft Report raises a specific question about Vectren South's scorecard. Regarding the weighing of risk for a resource being remote from Vectren South's service territory, the Draft Report (p. 40) asks:

Is it merely any resource that is not directly interconnected to the Vectren transmission system? Are there different degrees of "remoteness"? If yes, on what are these degrees based?

Remoteness for purposes of the scoring was based on Indiana resources within MISO zone 6, but outside of Vectren South's territory. At the time of the IRP analysis, existing wind resources were located in Northern Indiana, well outside of Vectren South's service territory and were therefore considered remote. Including remote resources as a factor in the risk analysis is simply an acknowledgment that there are sometimes constraints with delivering energy to Vectren South's system even within MISO Zone 6. Vectren South's experience with wind resources located in Zone 6 demonstrates such constraints exist. For the purposes of Vectren South's scorecard, we did not consider "...degrees of remoteness."

B) Questions Raised By The Director Regarding Metrics For the Preferred Plan.

The Draft Report raises two specific questions regarding Vectren South's metrics for preferred plan development. First, the Director asks how the thresholds developed for exposure

to the MISO capacity and energy markets were developed. *Draft Report*, p. 40. There is no threshold for considering what a reasonable maximum exposure to these markets would be in the analysis. There is only limited experience in these markets to draw on, not enough to determine what an appropriate level of exposure is. These markets are not very liquid and hence are quite volatile. Instead, Vectren South measured how much was purchased in the market, concluding that greater levels of purchases result in greater levels of exposure to a volatile market. Hence, exposure levels were grouped from lowest to highest. While the determination of what constitutes good and bad is subjective, on a relative basis between portfolios, it is an accurate assessment.

Second, the Director asks why Vectren South believes that higher net sales are a protection against unexpected change. *Draft Report*, p. 40. The “higher net sales” Vectren South has in mind is the ability to make greater wholesale energy or capacity sales. A utility that lacks sufficient generation resources to serve its load faces significant market risk that can lead to fluctuating prices. The utility also is better able to serve new load in its service territory. On the other hand, a utility that has a reasonable reserve of generation beyond its capacity is able to offer this into the market which, in Vectren South’s case, benefits customers and protects it against market risks resulting from changing prices. The utility and its customers are at risk of increases in the cost of purchasing electricity if the market of available energy or capacity becomes scarcer.

IV) Energy Efficiency

A) Vectren South’s Approach to Modeling EE Was Reasonable.

Vectren South concluded that modeling EE penetration over the full planning period is more realistic and eliminates undue complexity. Under this approach, a selected EE resource was assumed to be available for the full planning period and all costs associated with

maintaining that level of EE are included. For example if block 1 was selected as a resource in 2018, it would be retained for the full 20 years. That is, the decision in 2018 is based upon a review and optimization of each incremental level of EE over the study period and is compared to other resources to identify the least cost portfolio. A year by year, block by block review would dramatically increase the number of resources needed to be considered within modeling. Regardless, in this IRP, Vectren South allowed the model to select EE without limitation.

The Draft Report observes that the Director is not clear whether Vectren South has addressed the CAC's concerns that connecting the initial years' EE savings to later years would serve to bias the model against selection of EE. *Draft Report*, p. 37. In response to the CAC's challenge that EE was constrained because the model must consider costs for the full twenty years, Vectren South conducted a sensitivity analysis under base scenario assumptions where only costs and savings were considered for 2018-2020 at various levels. Specifically, the 3 year sensitivity considered the 10 year² program benefits and levelized costs during the same time period, entirely within the 20 year period. The 2018-2020 resource, based on 1% of eligible sales, was still not selected as the least cost plan; however, the NPV difference between no EE and running the program for 3 years was very close to zero. This sensitivity analysis confirmed that the level of EE proposed for Vectren South's pending three-year plan was not restricted by requiring that block of EE be retained for the entire 20 year period.

Vectren South will continue to evaluate EE in future IRPs, ensuring that every three years the appropriate level of EE will be evaluated.

B) The CAC's Allegations About Dr. Stevie's Analysis Are Wrong.

Vectren South engaged Dr. Richard Stevie, with Integral Analytics, to advise it in modeling EE over the twenty year planning horizon. An important question in modeling any

² 10 years is associated with the assumed measure life and the basis for the levelized cost.

resource is the level of investment required to secure the resource. EE is no different—Vectren South must incur EE program costs to operate the programs and marketing costs to drive program participation. In fact, a primary purpose of utility-sponsored EE programs is to encourage wider adoption of EE measures by electric customers. Vectren South's experience is that more marketing expenses must be incurred on a dollar per energy-saved basis to drive increased participation over time because greater effort is required to reach customers that were not aware of or not persuaded by the initial marketing efforts.

Dr. Stevie conducted statistical analysis on data available from the Energy Information Administration ("EIA") and concluded there is a statistical basis to conclude that achieving increased percentages of EE results in increased costs in any particular year. The CAC's experts sought to reproduce Dr. Stevie's analysis, which consisted of two econometric analyses. They were able to reproduce one model, and their reproduction confirmed a statistical basis for Dr. Stevie's conclusions. They could not reproduce Dr. Stevie's second model because they asserted he had used incorrect data. When they sought to correct this second model with what they claimed was corrected data, their results contradicted his conclusions from his first model. On this basis, they alleged his model was inconclusive.

The Draft Report references the CAC's comments and notes concern about the need to correct for "adjustments" for admitted "serious data limitations" and concludes that "[d]rawing strong policy recommendations in such circumstances is probably not warranted." Draft Report, p. 37. Vectren South is concerned that the director has accepted the CAC's criticisms at face value without digging into whether the criticisms have a basis. As more fully explained by Dr. Stevie in testimony filed with the Commission in Cause No. 44927, the CAC's criticisms are in error. The CAC used incorrect data when trying to reproduce Dr. Stevie's results—they collected the wrong data on retail sales in jurisdictions with retail electric competition because

they did not fully understand the EIA data. *Petitioner's Exhibit No. 12*, pp. 7-8, Cause No. 44927 (filed August 16, 2017). This major error invalidates their analytical analysis and any conclusions drawn from it. Regarding the model they could not reproduce, the CAC utilized the wrong econometric technique, which obviously produced different results. *Id.* at 7.

Before concluding that reliance on Dr. Stevie's modeling was "not warranted", Vectren South would encourage the Director to evaluate Dr. Stevie's response filed in testimony. Vectren South suggests that after reviewing the response, the Director may conclude that reaching such a strong conclusion about Dr. Stevie's analysis based only upon the CAC's criticisms is unwarranted. Notably, these very issues are currently being litigated in front of the Commission related to Vectren South's 2018-2020 EE Plan, Cause No. 44927. There the CAC has presented similar testimony challenging the IRP modeling which support the proposed EE Plan. Vectren South respectfully suggests that the Draft Report not weigh in on these disputes between the parties, and instead allow the Commission, based on record evidence, to render a decision on these issues in that proceeding.

Vectren South is in the process of conducting a new market potential study ("MPS") for its service territory to aide in future analysis. While Vectren South does not believe that the CAC's criticisms have rendered reliance on Dr. Stevie's analysis "unwarranted", it agrees with the Draft Report that the MPS will provide useful information on marketing costs for its customers. Future IRPs will focus on demonstrating that outside research is consistent with Dr. Stevie's conclusions.

V) Stakeholder Input

The Director recognized efforts of all utilities to improve the stakeholder process. As a recommendation, the Director stated the following in his Draft report (p. 3):

By going from a two year to three year IRP cycle, utilities can increase stakeholder input by: 1) establishing objective metrics to evaluate their IRP; 2) defining the assumptions (e.g., fuel prices, costs of renewable resources, costs of other resources); 3) constructing scenarios to provide a robust assessment of potential futures; and 4) reviewing the resulting resource portfolios.

Over the last two IRP cycles, Vectren South has carefully listened to stakeholders and incorporated their input into the IRP analysis. Vectren South agrees with the Director that moving to a three year cycle allows more time to obtain stakeholder input to aid in the IRP analysis. Vectren South will continue to improve the stakeholder process by beginning stakeholder meetings earlier and will evaluate additional opportunities to gather and utilize stakeholder feedback to enhance the IRP analysis.

VI) Criteria For Determining When to Update an IRP

The Draft Report asks generically under what conditions a utility should update its IRP in response to significant events or changes in assumptions to important drivers. The routine (every three year) update of IRPs is designed explicitly to address this situation. Requiring utilities to routinely update their IRPs ensures that planning is regularly updated to capture significant changes. Thus, there may be no need to specifically update an IRP between periods unless the utility planned on significant capital investment prior to the period of its next IRP.

An update should be pursued if a significant capital investment or the retirement of a resource is planned between the three year planning periods and significant events or significant changes in assumptions to important drivers has occurred. For example, if a utility's 2018 IRP called for investment in wind resources to meet future capacity and either a change in the tax law rendered wind significantly more expensive or a large customer ceased electric service, the utility would need to update the IRP to confirm that the resource is still necessary and remains a cost effective resource. As a practical matter, some form of an update to the IRP modeling would likely be required before requesting a certificate of public convenience and

necessity or obtaining other associated relief. Indeed, updates to IRPs have already been provided in the context of CPCN proceedings to support the relief being sought. See e.g. *Indianapolis Power & Light Co.*, Cause No. 44439, pp. 9-10 (IURC May 14, 2014) (summarizing the updates made to the utility's IRP to support construction of a combined cycle gas turbine).

VII) Conclusion

Vectren South appreciates the opportunity to offer comments on the Draft Report. The foregoing comments are intended to answer the questions and concerns of the Director. While Vectren South continues to believe its 2016 IRP is reasonable, it will continue to consider approaches in the future that address these comments and concerns.