

April 16, 2015

**COMMENTS OF CITIZENS ACTION COALITION OF INDIANA, INC.,
EARTHJUSTICE, INDIANA DISTRIBUTED ENERGY ALLIANCE,
SIERRA CLUB – HOOSIER CHAPTER, AND VALLEY WATCH**

INTRODUCTION

Pursuant to the Indiana Utility Regulatory Commission's ("IURC" or "Commission") Electric Utility Integrated Resource Planning Rule, 170 IAC 4-7,¹ Citizens Action Coalition of Indiana, Inc. ("CAC"), Earthjustice, Indiana Distributed Energy Alliance, Sierra Club – Hoosier Chapter, and Valley Watch (collectively, "Commenters") hereby submit the following comments in response to the Draft Report of the Commission's Electricity Division Director Regarding 2014 Integrated Resource Plans ("Draft Report"), which Dr. Borum issued on March 3, 2015. Commenters submitted extensive comments on the 2014 IRPs of Indianapolis Power & Light ("IPL"), Northern Indiana Public Service Company ("NIPSCO"), and Vectren on January 30, 2015,² and focus here on the Commission Staff's invitation for stakeholder feedback concerning two key resource planning issues, risk analyses and avoided cost calculations.

The Commenters agree with the Draft Report that "robust risk analysis" are of considerable importance to the integrated resource planning process. We also echo the Draft Report that such risk analysis must examine a broad range of scenarios and sensitivities, that long-term resource decisions should not be "baked-in" to the IRP process, that meaningful opportunities for stakeholder involvement are critical, and that the designation of information as confidential should be limited and, where such designation is appropriate, proxy information should be provided. Finally, Commenters agree that the process for calculating avoided costs is critical, particularly in light of the potential for substantial increases in distributed energy resources, such as energy efficiency and distributed solar.

The Commenters also, however, respectfully recommend that the Staff revise the draft report to address some key issues regarding risk analyses, including:

- Remove the suggestion that forecasts of environmental compliance costs be treated differently from forecasts of all other variables;
- Recommend that forecasts of environmental compliance costs be included in the base case if they are "expected," which is the same standard Staff proposes for other variables;
- Clarify that while the forecasted costs for compliance with the Clean Power Plan could not have been included in the 2014 IRPs, forecasted costs to comply with carbon regulations could and should have been included in the base case;

¹ All references to the Commission's IRP Rule, 170 IAC 4-7, refer to the revised draft of the Proposed IRP Rule, which the Commission circulated on October 4, 2012 in the IRP rulemaking, RM# 11-07.

² Comments were submitted by CAC, Earthjustice, Indiana Distributed Energy Alliance, and the Sierra Club–Hoosier Chapter. Separate comments were submitted by Valley Watch.

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- Specify when forecasted environmental compliance costs are “expected” and should therefore be included in the base case;
- Remove references to alternative scenarios and sensitivities as automatically being merely “illustrative” and “low probability”;
- Recommend that utilities analyze the optimal mix of existing and new resources rather than assume that existing resources will continue to operate;
- Identify examples of probabilistic analyses that Staff have in mind when they recommend the use of probabilistic methods;
- Recommend that avoided cost analyses look beyond short-term marginal costs and include a comprehensive evaluation of the full suite of avoided costs and risk mitigation.

Commenters believe that the recommended changes provided will help ensure that Indiana’s IRP process leads to the identification of least cost/least risk resource plans that are in the best interests of the state’s ratepayers. Commenters also suggest a rulemaking in order to ensure “reasonably consistent definitions of important concepts.” Draft Report at 3. As demonstrated below, consistency is lacking among the Indiana utilities’ IRPs. The rulemaking process is designed to ensure the public is informed, can comment on the proposed rules and provide additional data to the Commission, can access the rulemaking record and analyze the data and analysis behind a proposed rule, can provide the Commission the opportunity to analyze and respond to the public’s comments, and can create a record of the Commission’s analysis and the process to better inform the utilities’ and stakeholders’ future use of the definitions. If Staff, however, decide to instead opt for a series of technical conferences or a less formal process than a rulemaking, Commenters respectfully request that any technical conference be publicly noticed, transcribed, and used to inform the rulemaking process required by Senate Bill 412. We would also request the opportunity to file briefs.

COMMENTS

I. Risk Analysis

A. Definition of the Base Case

In the Draft Report, the Staff propose the following guidelines for how to construct the base case:

The Base Case would be regarded as the status quo case that includes only known events and expected trends (e.g., forecasts of fuel prices, economic forecasts, estimated future capital costs, most expected load forecast). The Base Case should describe what the utility (with input from stakeholders) would expect the world to look like in 20 years if the status quo would continue without any unduly speculative and significant changes to resources or laws / policies affecting resources that aren’t known and measurable. That is, the Base Case should not

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include a preferred portfolio of resources beyond those with a very high probability of being implemented in a relatively short time period. The narrative for the base case should also discuss the anticipated uncertainties that would be addressed in scenarios and sensitivities. A Base Case should probably not include federal or state legislative or regulatory changes that are not certain or, subject to the utility and stakeholders' opinions, have a very high probability. At the time of the 2013 and 2014 IRPs, for example, it might have been reasonable for the Base Case not [to] include the Clean Power Plan rules for carbon dioxide however it would be reasonable to expect utilities to construct a scenario and sensitivities that would attempt to bracket the potential risks of the Clean Power Plan rule.

Draft Report at 3-4 (Mar. 2015). Commenters have a number of concerns and recommended changes regarding the identification and analysis of the base case.

1. *Commenters Are Concerned that Staff's Definition of the Base Case Would Treat Environmental Compliance Costs Differently From Other Inputs.*

We are concerned that Staff's proposed definition of the base case may be interpreted as treating environmental regulations differently than all other inputs. Staff begins its proposed definition of the base case to include "known events and expected trends (e.g., forecasts of fuel prices, economic forecasts, estimated future capital costs, most expected load forecast)." Draft Report at 3-4. If Staff had ended the definition of the base case at this point, utilities would be on notice that expected trends in environmental regulations should be included in the base case. Put simply, the same criteria would apply to all trends: whether they are "known" or "expected."

However, Staff went on to state that for environmental regulations, "[a] Base Case should probably not include federal or state legislative or regulatory changes that are not certain or, subject to the utility and stakeholders' opinions, have a very high probability." *Id.* at 4. We respectfully disagree that environmental compliance costs should be singled out for different analytic treatment from forecasts of other inputs.

All forecasts are predictions about an uncertain future—predictions which may turn out to be wrong. To take one example, very few, if any, utilities predicted the last recession and the dramatic decline in load that accompanied it. Similarly, very few, if any, utilities predicted the dramatic drop in natural gas prices caused by the shale gas boom. Forecasts of fuel prices, load, and other variables can, and often do, deviate significantly from the eventual reality.

We are not aware of any empirical studies suggesting that variables such as fuel prices or load can be predicted with greater accuracy than environmental compliance costs. Thus, we do not believe that there is an adequate basis for subjecting environmental compliance costs to a separate, and different, treatment than other variables in a base case analysis.

Furthermore, we are concerned with Staff's interpretation of what it means for environmental regulation to have "a very high probability" of occurring. This standard is significantly more stringent than the standard for other inputs, for which the standard is merely that the trend be "expected." We suggest that forecasts of environmental compliance costs be

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treated on par with all other forecasts: if the trend is known or expected, it should be included in the base case.

2. *Carbon Regulations Were Expected Prior to the Development of the 2014 IRPs and Should Have Been Included in the Base Case.*

We respectfully disagree that the 2013 and 2014 IRPs could reasonably have omitted carbon costs from the base case. Staff correctly point out that the Clean Power Plan had not yet been proposed at the time the 2013 and 2014 IRPs were developed, and thus it would have been impossible for those IRPs to reflect the specifics of the Clean Power Plan. However, in June 2013, President Barack Obama directed the EPA to issue proposed carbon regulations for existing sources by June 2014 and final regulations by June 2015. *See* Presidential Memorandum – Power Sector Carbon Pollution Standards (June 25, 2013), *available at* <http://www.whitehouse.gov/the-press-office/2013/06/25/presidential-memorandum-power-sector-carbon-pollution-standards>. The President’s announcement affirmed a process to use the Clean Air Act to regulate existing plants’ carbon emissions that began in 2007 when the Supreme Court ruled that greenhouse gases are air pollutants within the meaning of the Clean Air Act.

Electric utilities were well aware of the President’s directive, and given that the President himself set dates for issuance of the proposed and final rules for regulating carbon from existing power plants, it was widely expected that EPA would issue a proposed rule in 2014 and a final rule in 2015. EPA has already issued the proposed Clean Power Plan, 79 Fed. Reg. 34,829 (June 18, 2014), and is slated to finalize the rule this year.

At a minimum, by September 2013, utilities should have expected EPA to issue carbon regulations for existing power plants in the near future. It is true that, in the absence of a proposed rule, compliance cost estimates would be less precise than those developed after the issuance of the proposal. However, even before the proposed Clean Power Plan was issued, numerous companies had estimated the costs to comply with potential carbon regulations. *See e.g.*, Synapse Energy Economics, 2013 Carbon Dioxide Price Forecast (Nov. 1, 2013). Indeed, IPL, NIPSCO, and Vectren each included a carbon price in at least some scenarios in their 2014 IRPs, demonstrating that it was feasible for utilities to do so prior to EPA’s issuance of the Clean Power Plan.

In fact, IPL even had time to incorporate estimated “shadow prices” for compliance with the Clean Power Plan proposal into this year’s IRP modeling, albeit in a manner that—as described in the analysis by Synapse Energy Economics that was submitted January 30, 2015 on behalf of Sierra Club—deficiently applied those shadow prices as an after-the-fact fixed cost rather than as a variable cost that would have impacted how frequently the IRP model would have dispatched IPL’s coal units. The fact that IPL was voluntarily able to incorporate specific estimates of Clean Power Plan compliance costs into its IRP so soon after the rule was proposed only underscores that utilities are more than capable of anticipating the costs of carbon regulations and planning accordingly when they choose to do so.

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3. *Commenters Recommend that Staff Clarify When Environmental Compliance Costs Are “Expected” and Thus Should Be Included in the Base Case.*

We suggest that instead of using a different standard for inclusion of environmental compliance costs in the base case, Staff should define what it means for an environmental regulation to be “expected.” We propose the following definition:

Environmental compliance costs are “expected” if, at the time an IRP is developed, the anticipated compliance period falls within the time period analyzed in the IRP, and any of the following conditions is true:

- (1) a state or federal agency has issued a proposed rule or notice of proposed rulemaking; or
- (2) a state or federal agency has announced or a court has established a deadline for issuance of a final rule; or
- (3) the utility has evaluated compliance options and costs for a potential future environmental standard as part of its internal planning processes.

Utilities should use their judgment to include any additional environmental compliance costs that do not meet this definition but are nonetheless expected. For example, even though the Clean Power Plan had not yet been proposed when the 2014 IRPs were developed, some form of carbon regulation was expected. All environmental compliance costs that have a reasonable possibility of being incurred during the IRP’s analysis period should be included in the base case.

Indiana utilities have varied widely in how they incorporate environmental compliance costs into their IRPs. For example, in the 2014 IRPs, IPL, NIPSCO, and Vectren used forecasts of the compliance costs for rules that had been proposed but not yet finalized, such as the CCR and ELG rules. *See* Comments of CAC et al. on the 2014 IRPs at 31. However, the three utilities differed significantly in how they used these forecasts, ranging from NIPSCO, which included the forecasted costs in the base case, to Vectren, which included the costs only in a single sensitivity, the High Regulation case. *See id.* Adopting our proposed definition would promote uniformity among all the utilities in Indiana with respect to inclusion of environmental compliance costs in the base case. This would provide for greater clarity and certainty in resource planning for the utilities and allow for the Commission and other interested stakeholders to conduct a more transparent and meaningful review of the resulting IRPs by allowing for more direct “apples to apples” comparisons among the assumptions made by each utility.

Electric utilities and their trade associations routinely estimate the costs to comply with proposed rules and include those estimates in their comments to the agency on the proposed rule. Presumably these cost estimates are also shared internally with company management. Thus, in general, under our proposed definition, including these costs in an IRP should not require utilities to create new compliance costs forecasts.

B. Definition of Scenario and Sensitivity

1. *IRP Modeling Should Evaluate a Range of Resource Scenarios and How They Would Perform and Change Under Various Sensitivities.*

While it is important to properly define and evaluate a Base Case for an IRP process, the even more critical step is to evaluate a range of scenarios (i.e., different possible futures) and sensitivities (i.e., different assumptions regarding factors such as carbon, natural gas, and market energy prices, etc.) so that a least cost/least risk resource plan can be identified. The initial step in such process is, as the Staff rightly note, to ensure that utilities are not simply hardwiring or “baking-in” long term resource options into their IRP modeling. See Draft Report at 5, 7, 11, and 18. Instead, utilities should set up their modeling so that they are evaluating their existing resources and a wide range of new supply- and demand-side resources in order to find the optimal mix of resources for the future. Such evaluation should treat energy efficiency and renewables as resources that are considered on equal footing with other resource options, and the model should be allowed to select the retirement of existing resources.

In order to identify a least cost/least risk resource plan, at least two sets of modeling should occur. First, the utility should evaluate how a resource plan would change if future conditions were to change in a scenario analysis. Under that analysis, the utility would let the model select a different resource mix based on different futures, rather than holding the resource plan constant in the modeling. Such analysis would help identify lower cost resource options under a range of potential future conditions.

Second, the utility should test the impact to ratepayers of the Base Case and other potential resource plans under a range of sensitivities by holding the scenarios constant in each modeling run and seeing how the net present value of each plan changes under various sensitivities. So, for example, such modeling would calculate the net present value of the Base Case under the base natural gas price forecast, and then calculate the net present of the Base Case if the natural gas price were X percent higher or lower. Such analysis assesses how vulnerable a particular resource plan is to changes in expected future conditions and, therefore, provides a sense of how much risk ratepayers are exposed to under the resource plan. When combined with the results of the first set of modeling described in the preceding paragraph, such analyses can help the utility and stakeholders identify the resource portfolio that would provide the least cost and least risk to ratepayers over the planning period.

2. *Staff Should Eliminate the Presumption that All Alternative Scenarios, and Sensitivities, are Merely “Illustrative” and Have a Low Probability of Occurring.*

Throughout the Draft Report, Staff describe alternative scenarios and sensitivities as being “illustrative,” and reiterate that they will not be used against utilities. See, e.g., Draft Report at 3. It would be helpful for Staff to clarify what they mean when they say that the results of alternative scenarios and sensitivities “won’t be used against them.” *Id.* Do Staff mean that the results will be given no weight by Staff in reviewing the IRP? Do Staff mean that the results will be given no weight in any future proceedings? We believe that Staff should consider alternative scenarios and sensitivities as part of its evaluation of the robustness of a utility’s

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modeling when evaluating a utility's IRP filing under the Commission's rules. We also believe that the results of this modeling absolutely should be considered by the Commission in future proceedings to the extent that it is relevant. Indeed, the whole point of the IRP process is to develop a broad range of information that is relevant and useful to the utility's future decision making.

Additionally, it would be helpful for Staff to explain what they mean when they say that alternative scenarios and sensitivities are merely illustrative. Do Staff mean that they automatically view all alternative scenarios and sensitivities as so unlikely to occur that the results do not need to be given weight by utilities in their long-term planning?

We are concerned with the potential results from combining Staff's proposed definition of base case and the definitions of scenarios and sensitivities. As we explained previously, Staff propose a definition of the base case that would exclude environmental compliance costs unless they have a "very highly probability." Draft Report at 4. According to Staff's view, that would justify excluding carbon costs from the base case in the 2014 IRP. *Id.* Simultaneously, the Draft Report could be interpreted as severely discounting alternative scenarios and sensitivities in which forecasts not included in the base case would appear. Thus, under Staff's approach, as we understand it, the 2014 IRPs could reasonably have excluded carbon costs from the base case while at the same time including those costs in alternative scenarios that are deemed merely "illustrative" or "hypothetical" and accorded so low a probability of occurring that neither utilities nor Staff give much, if any, weight to them. The utilities would then have significantly underestimated the probability of carbon regulations, which were proposed in 2014 and are slated to be finalized this year. And as Staff are aware, carbon regulations present significant risks for Indiana utilities, which rely heavily on carbon-intensive resources.

We respectfully submit that addressing this problem requires, in part, a revision of the proposed definition of the base case. As explained above, the proposed definition of the base case should ensure that forecasts of environmental compliance costs are included in the base case according to the same criteria as forecasts of other inputs: whether the price/event is "expected." By ensuring that the trends anticipated to be most likely to occur are included in the base case, the Commission can mitigate the consequences of utilities downplaying the sensitivity results.

At the same time, Staff should change the proposed treatment of alternative scenarios and sensitivities. Specifically, Staff should delete references suggesting that all alternative scenarios and sensitivities are automatically deemed to be merely "illustrative" and "low probability." Instead, utilities should evaluate a full range of potential scenarios and sensitivities along the lines of what is set forth in Section I.B.1 above. This evaluation should be transparent, should be explained to the public, and should be based on a specific analysis of the scenarios and sensitivities at issue.

3. *Staff Should Ensure That Modeling Considers the Retirement of Existing Units.*

It is our understanding that some utilities have contended that the only way to evaluate retirement of an existing resource is to "hard-wire" retirement of the resource on a certain date (while allowing the model to optimize the remainder of the portfolio), and then compare the

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results to a model run in which all the inputs and constraints are identical except that the resource is not retired. For example, when Vectren sought to examine the impacts of retiring Culley Unit 2, Vectren “hard-wired” retirement of Culley Unit 2 in 2020 and then allowed the model to optimize the rest of the portfolio. Vectren then compared the results to results under the same conditions, but without retiring Culley Unit 2 in 2020. Apparently, such an approach was taken because the model could only choose not to run a resource—which is different from retiring a resource. Retirement shuts a unit down and thereby avoids future capital and fixed costs. Merely not running a unit, or running it at low capacity factors, still requires incurring future capital and fixed costs to keep the unit available.

We recommend that Staff identify in the final report any methods they are aware of for considering retirement of existing resources that does not require the utility to constrain the model to retire the unit on a certain date. We would welcome any suggestions for how utilities could better incorporate retirement of existing resources into their review of a wide range of resources. However, if the only way to consider retirement of existing assets is to force the model to retire a unit on a date certain, and compare the results to an identical model run in which the unit is not retired, we respectfully request that Staff clarify that such an approach is not only acceptable but is an integral part of considering a wide range of existing and new resources. An IRP should be more than an exercise in finding the optimal future expansion plan and, instead, should focus on identifying the optimal resource plan using both existing and new supply- and demand-side resources. Only by ensuring that retirement of existing generating resources is an option in the modeling can such result be achieved.

C. Probabilistic Risk Analysis

In the draft report, Staff recommend that utilities consider using probabilistic analyses in their IRPs. Draft Report at 5, 7-8, 12-13. We respectfully submit that it would be helpful for Staff to clarify this recommendation by providing examples of particular modeling programs they have in mind, as well as any IRPs that use the kind of analysis to which Staff are referring.

While it may be beneficial to the Commission and parties for utilities to be clear and transparent about their views about the probability that different possible futures will occur, this is not an adequate substitute for requiring utilities to conduct a robust modeling exercise that evaluates those possible futures on equal footing as separate sensitivities. When a utility attempts to model multiple possible futures within a single scenario that weights them based on the utility’s view as to their probability, it can be difficult for outside parties to tease out the extent to which the utility’s subjective views as to the probability of different futures are dictating the results of the modeling. Instead, by modeling both the performance and changes to a range of scenarios under a range of sensitivities, a full and transparent identification of a least cost/least risk resource plan can occur.

II. Avoided Costs

In the Draft Report, Staff observe that “avoided costs are increasingly no longer a trivial matter,” Draft Report at 6, and that lower costs and improved technologies for distributed energy resources —specifically customer-owned generation, demand response, and energy efficiency—should be considered in evaluating non-utility owned resource options. *Id.* In light

of the disparity in avoided cost information presented in the IRPs, Staff invited comments on the process for calculating avoided costs and the integration of those calculations into the IRPs. *Id.*

As discussed below, Commenters recommend a full avoided cost approach that considers the long-term value of distributed energy resources (as opposed to short-run marginal costs only) and all of the avoided costs benefits that they provide, including risk mitigation.

A. Long-Term Perspective

Evaluating avoided cost benefits solely based on short term marginal costs provides an incomplete picture of the value that a given resource provides. Rather than looking only at the avoided energy benefits that energy efficiency or rooftop solar provides today, for example, utilities should calculate the benefits over the useful life of the resource (the measure life, in the case of efficiency). Although capital and certain O&M costs are often designated as fixed, such costs vary over time and can be avoidable. That is, energy efficiency and distributed solar do not just avoid the need to produce a kWh of energy today; these resources also can help reduce the need for future capital investments. These long-term benefits must be considered.

B. Avoided Cost Components

To properly evaluate the avoided cost benefits that different technologies provide, the full suite of avoided cost categories must be considered. There have been numerous studies in recent years on the costs and benefits of distributed energy resources.³ While not exhaustive, some of the categories that should be considered include:⁴

- Avoided Energy Costs
- Avoided Generation Capacity Costs
- Avoided Transmission and Distribution Capacity Costs
- Avoided Emissions/Environmental Costs
- Avoided Ancillary Service Costs and Other Grid Support Services
- Avoided System losses

Many of these cost categories are reflected in the IRP rule, but the rule also provides that an avoided cost “shall include, *but is not limited to*” the listed categories. 170 IAC 4-7-4(b)(12) (emphasis added); *see also* 170 IAC 4-7-1(1)(c) (defining “avoided cost as “the amount of fuel, operation, maintenance, purchased power, labor, capital, taxes, *and other cost* not incurred by a utility if an alternative supply or demand-side resource is included in the utility’s integrated resource plan) (emphasis added).

³ For a review of 16 distributed solar benefit/cost studies completed by utilities, national laboratories, and other organizations between 2005 and 2013, *see* “A Review of Solar PV Benefit & Cost Studies, 2nd edition,” Electricity Innovation Lab (e-Lab) Rocky Mountain Institute, p. 16 (Sept.2013), available at <http://www.rmi.org/elab>.

⁴ *See, e.g.*, Jason B. Keyes and Karl R. Rábago, A Regulator’s Guidebook: Calculating the Benefits and Costs of Distributed Solar Generation, Interstate Renewable Energy Council, Inc., pp. 20-42 (Oct. 2013), http://www.irecusa.org/wp-content/uploads/2013/10/IREC_Rabago_Regulators-Guidebook-to-Assessing-Benefitsand-Costs-of-DSG.pdf.

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C. Accounting for Risk

Another important factor is risk. A resource that depends on long-term fuel availability, for example, carries the risk of fuel price volatility. Security is an additional category of risk, which can be mitigated when grid reliability and resiliency are enhanced.⁵ The risk mitigation benefits that resources like energy efficiency and renewable energy provide should be considered in resource planning.⁶

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Respectfully submitted,

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⁵ *Id.* at 16.

⁶ For more information on the importance of accounting for risk in overseeing utility investment, see Ron Binz et al., *Practicing Risk Aware Regulation: 2014 Update*, Ceres, (Nov. 2014), available at https://www.ceres.org/resources/reports/practicing-risk-aware-electricity-regulation-2014-update/atresource_view.

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CERTIFICATE OF SERVICE

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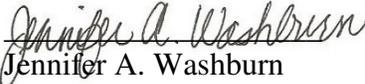
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