

**STATE OF INDIANA**  
**INDIANA UTILITY REGULATORY COMMISSION**

**COMMENTS OF THE HOOSIER ENVIRONMENTAL COUNCIL, INC.**  
**REGARDING THE 2013 INTEGRATED RESOURCE PLAN**  
**OF DUKE ENERGY INDIANA**

**January 30, 2014**

The Hoosier Environmental Council (“HEC”), by counsel, offers the following comments regarding the 2013 Integrated Resource Plan (“IRP”) of Duke Energy Indiana (“Duke”).

HEC was an active participant in the Duke IPR process, attempting to offer constructive input and evaluation throughout the six-month planning period. To that end, HEC appreciates the steps taken by Duke to invite such input, and, to a much lesser extent, actually consider it in the final IRP. This process is collaborative, in the sense that other parties are allowed to participate, but Duke controls the agenda and the direction of inquiry. At best, outside parties are in an advisory role with very little ability to compel certain assumptions and analyses. HEC appreciates that it also is Duke that must implement the IRP and justify its provisions in the event that generation (or other actions) are taken in the future. Still, it would be incorrect to suggest that the resulting plan filed with the Commission on Nov. 1, 2013 represents a consensus or even a compromise. The considered input of HEC and perhaps others, while heard, was not incorporated.

Against that backdrop, HEC’s comments will not address the assumptions and inputs of Duke (and how they might be different) on an item-by-item basis. The IRP is largely an advisory document unless and until it becomes relevant in another docket where Duke is seeking specific relief. Rather, our concerns go to two systemic issues that make this process misinformed and inadequate from the start. Because of these impediments, any result from the IRP process, as currently constructed, is imperfect and does not produce a just and reasonable result for Duke, its customers, or this Commission.

For the IRP process to be meaningful going forward, HEC urges the Commission to implement two systemic changes. First, all resources available to a utility must be fully

investigated and considered, Specifically, this includes Combined Heat and Power (“CHP”), also called cogeneration, a resource that was not considered here. Second, with the advent of robust distributed generation, the IRP process must be revised to affirmatively reflect comprehensive system benefits, including those primarily evidenced on the Transmission and Distribution (“T&D”) system.

**1. All resources available to a utility—including Combined Heat and Power—must be fully and fairly considered in an IRP plan.**

The Commission’s IRP rules are explicit about what must be considered in an IRP. A utility must consider a mix of resources consistent with the plan’s objectives.<sup>1</sup> In developing the plan, the utility must cover at least a 20-year planning horizon and specifically evaluate a number of potential resources on both the supply and demand sides. Included in this is a directive to provide:

***(4) A discussion of customer self-generation within the service territory and the potential effects on generation, transmission, and distribution planning and load forecasting.***<sup>2</sup>

Customer self-generation includes CHP, a process (or really set of processes) by which waste heat and waste energy are recovered and used to produce additional electricity.<sup>3</sup> Since this process recycles waste that is otherwise lost, CHP has the potential to positively affect both energy and economic efficiency.<sup>4</sup> While the concept is not necessarily new, the economics are

---

<sup>1</sup> 170 IAC 4-7-8.

<sup>2</sup> 170 IAC 4-7-4 (4).

<sup>3</sup> For a more complete discussion, see <http://www.epa.gov/chp/>

<sup>4</sup> One U.S. Department of Energy report estimates that increasing the percentage of electricity generated by combined heat and power in the US from 85 GW of capacity (9%) to 241 GW (20%) by 2030 would attract \$234 billion in private investment, produce 5.3 quads of annual fuel savings, create nearly 1 million new jobs and cut CO2 emissions equivalent to taking 154 million cars off the road.

Oak Ridge National Laboratory for US Dept of Energy, Combined Heat and Power:Effective Energy Solutions for a Sustainable Future, December 2008, DE-AC05-00OR227.

turning more favorable, especially as coal-fired baseload generation is retired in anticipation of stricter environmental rules. Conservative estimates suggest there is more than 600 MW of easily attainable CHP capacity.<sup>5</sup> That is more than the imminent plant retirements for I&M (Tanners Creek 1-3; 495 MW) or IPL (Eagle Valley 1-6 and Harding Street 3-4; 408 MW),<sup>6</sup> and 21 percent of all coal capacity lost in planned retirements.<sup>7</sup> Other estimates suggest the potential CHP capacity may be orders of magnitude greater, as much as 3.7 GW.<sup>8,9,10</sup>

Capturing and producing CHP requires additional equipment. Depending on the location, potential capacity and fuel costs (natural gas is typically used as an input, but biomass and other fuels can be used), the levelized 2016 cost of CHP 8.3 cents/kWh.<sup>11</sup> That compares with 9.8 cents for non-renewables and 18.9 cents for renewables.<sup>12</sup>

There are other benefits. Since CHP recycles energy, it reduces emissions<sup>13</sup> by producing power in a more economically efficient manner. As well, it increases reliability and diversity of our energy infrastructure,<sup>14</sup> which positively impacts energy and economic

---

<sup>5</sup> Conservative estimates suggest there is more than 600 MW of easily attainable CHP capacity. That is more than the imminent plant retirements for I&M (Tanners Creek 1-3; 495 MW) or IPL (Eagle Valley 1-6 and Harding Street 3-4; 408 MW), and 21 percent of all coal capacity lost in planned retirements. Other estimates suggest the potential CHP capacity may be orders of magnitude greater, as much as 3.7 GW.

<sup>6</sup> [http://www.in.gov/iurc/files/2013\\_IURC\\_Annual\\_Report\\_to\\_the\\_Regulatory\\_Flexibility\\_Committee\(1\).pdf](http://www.in.gov/iurc/files/2013_IURC_Annual_Report_to_the_Regulatory_Flexibility_Committee(1).pdf)

<sup>7</sup> Chittum, Anna. 2012. "Coal Retirements and the CHP Investment Opportunity". ACEEE Research Report IE 123. Washington, D.C. American Council for an Energy-Efficient Economy.

<sup>8</sup> [http://www.midwestchptap.org/Archive/pdfs/IN\\_Baseline\\_Final\\_10242005.pdf](http://www.midwestchptap.org/Archive/pdfs/IN_Baseline_Final_10242005.pdf)

<sup>9</sup> The potential, according to one analysis, is that CHP could replace all projected domestic coal plant retirements. <http://www.aceee.org/research-report/ie123>

<sup>10</sup> <http://www.betterenergy.org/sites/gpsid.net/files/Indiana.pdf>

<sup>11</sup> FVB Energy Inc. analysis consistent with the methodology used in U.S. Energy Information Administration's Levelized Cost of New Generation Resources in the Annual Energy Outlook 2011, December 2010, DOE-IEA-0383 (2010). Data from project files of FVB Energy and JA Coleman LLC.

<sup>12</sup> U.S. Energy Information Administration, Levelized Cost of New Generation Resources in the Annual Energy Outlook 2011, December 2010, DOE-IEA-0383 (2010).

<sup>13</sup> [http://www.climate.org/PDF/CHP\\_in-coal-regions\\_11\\_2\\_06\\_1.pdf](http://www.climate.org/PDF/CHP_in-coal-regions_11_2_06_1.pdf)

<sup>14</sup> <http://www.naseo.org/data/sites/1/documents/publications/CHP-for-State-Energy-Officials.pdf>

security.<sup>15</sup> For instance, during Superstorm Sandy, CHP facilities remained in operation powering hospitals and other institutions, even though much of the power grid was shut down.<sup>16</sup> As well, since it is scalable, investments can be managed more efficiently. A bonus? This is “homegrown” energy, which produces local jobs and stimulates the local economy.<sup>17</sup>

Indeed, Duke is required to consider CHP (or cogeneration) as part of its IRP process.

The Company is required, by its plan, to:

***Demonstrate that the utility's resource plan utilizes, to the extent practical, all economical load management, conservation, nonconventional technology relying on renewable resources, cogeneration, and energy efficiency improvements as sources of new supply.***<sup>18</sup>

Despite this clear directive, Duke indicated during the IRP meetings that it did not even have an inventory of CHP potential in its service territory. Duke did not respond to a verbal HEC request for provide such information. It did not follow up with HEC regarding its intent to do so despite the clear language of the rule. There is no clear consideration of CHP given in the plan submitted to this Commission. It follows that Duke did not meaningfully consider CHP as part of its IRP proposal here. By failing to do so, this plan cannot be considered an “integrated” evaluation of resource options available to Duke over the planning horizon. Quite the opposite, Duke has “segregated” some resources by exclusion from the process altogether.<sup>19</sup> In the case of CHP, this is unacceptable and prevents consideration of what may well be less costly and more efficient alternatives than those produced as a result of the Duke analysis.

---

<sup>15</sup> Oak Ridge National Laboratory for US Dept of Energy, Combined Heat and Power:Effective Energy Solutions for a Sustainable Future, December 2008, DE-AC05-00OR227.

<sup>16</sup> <http://aceee.org/blog/2012/12/how-chp-stepped-when-power-went-out-d>

<sup>17</sup> <http://www.midwestchptap.org/cleanenergy/chp/>

<sup>18</sup> 170 IAC 4-7-8(4).

<sup>19</sup> Other consumer parties raised issues directly questioning the limited number of sensitivities considered by Duke’s modeling. HEC agrees with these concerns generally.

CHP is not an unknown in Indiana. There is 2200 MW of installed CHP capacity in the state, most in institutional or small industrial settings.<sup>20 21</sup> Installations have resulted in decreased load demand by as much as 50 percent.<sup>22</sup> These developments have generally occurred outside of utility planning processes in Indiana, such as the SABIC project in Vectren's service territory.<sup>23</sup> The resulting benefit to Indiana of these projects is significant in economic and environmental terms.<sup>24</sup>

The reason that Indiana utilities have not developed and encouraged a robust market for cogeneration (unlike a number of other states) is complex, but essentially comes down to one reason. Under antiquated provisions of the Public Utility Regulatory Policy Act, utilities are only required to pay "avoided cost," to producers of such power who wish to sell the excess back to the grid. That is typically about 2 cents a kilowatt hour, one-fourth or less than the prevailing market rate.<sup>25</sup> Additionally, net metering rules do not cover CHP,<sup>26</sup> something this HEC counsel anecdotally confirmed during the Duke proceedings. This effectively shuts in CHP, keeping what could be low-cost, environmentally-efficient, homegrown power out of the market.<sup>27</sup>

---

<sup>20</sup> <http://www.eea-inc.com/chpdata/States/IN.html>

<sup>21</sup> The total CHP capacity of 82 GW represents just over 8% of current U.S. generating capacity.

<http://www.naseo.org/data/sites/1/documents/publications/CHP-for-State-Energy-Officials.pdf>

<sup>22</sup> DOE SEE Action. 2013. Guide to Successful Implementation of State Combined Heat and Power Policies.

[http://www1.eere.energy.gov/seeaction/chp\\_policies\\_guide.html](http://www1.eere.energy.gov/seeaction/chp_policies_guide.html)

<sup>23</sup> SABIC innovative Plastics recently announced construction of an 80-MW cogeneration facility at its Mt. Vernon plant. <http://www.courierpress.com/news/2013/dec/03/no-headline---sabic/>

<sup>24</sup> The SABIC facility is expected to create 150-200 construction jobs over a two-year timeframe; when complete, the plant will reduce greenhouse gases by 35-40 percent, the equivalent of 110,000 passenger cars.

<http://www.sabic->

[ip.com/gep/en/NewsRoom/PressReleaseDetail/december\\_03\\_2013\\_sabicsinnovativeplastics.html](http://www.sabic-ip.com/gep/en/NewsRoom/PressReleaseDetail/december_03_2013_sabicsinnovativeplastics.html)

<sup>25</sup> Avoided cost is a rate that is approximately one-third to one-fourth of the retail price of electricity.

[https://www.purdue.edu/discoverypark/energy/assets/pdfs/SUFG/publications/SUFG\\_Biogas.pdf](https://www.purdue.edu/discoverypark/energy/assets/pdfs/SUFG/publications/SUFG_Biogas.pdf)

<sup>26</sup> [http://www.in.gov/iurc/files/2012\\_Net\\_Metering\\_Required\\_Reporting\\_Summary.pdf](http://www.in.gov/iurc/files/2012_Net_Metering_Required_Reporting_Summary.pdf)

<sup>27</sup> <http://www.naseo.org/data/sites/1/documents/publications/CHP-for-State-Energy-Officials.pdf>

Elsewhere, that dynamic is changing. Other states, including neighboring Ohio, understand that CHP is a low-cost, domestic and energy-efficient resource that can help meet today's capacity challenges. Examples abound of commercial operations kept afloat by cutting energy costs with CHP. It is especially attractive in states with large manufacturing bases.<sup>28</sup> New Jersey, New York and Texas have robust CHP markets where obstacles have been removed and the market allowed to work. On the national level, the Department of Energy has set a goal for CHP to generate 20 percent of the country's power by 2030.<sup>29</sup>

No doubt, Duke will attempt to raise excuses in arguing it does not need to fully consider CHP as part of its IRP process. PURPA and other regulatory hurdles may serve as barriers.<sup>30</sup> These are simply excuses and nothing more. Whatever legitimacy and regulatory deference they may have enjoyed at one point is long past.

The development of an IRP that fully complies with 170 4-7-1 et seq. requires full investigation and incorporation of CHP resources within a given service territory and the commitment to obtain that resource at a price on par with other market-based alternatives. Here, Duke has failed to do so.

**2. The IRP process must be revised to affirmatively reflect comprehensive system benefits, including those primarily evidenced on the Transmission and Distribution ("T&D") system.**

Much has changed since the adoption of the Commission's original IRP rule in 1995. In those intervening 19 years, the system has morphed in a number of ways that would look quite unfamiliar to the rule drafters. Coal has given way to natural gas and renewable resources;

---

<sup>28</sup> <http://www.nrdc.org/energy/files/combined-heat-power-IP.pdf>

<sup>29</sup> The White House, Office of the Press Secretary. August 30, 2012.

<http://www.whitehouse.gov/the-press-office/2012/08/30/executive-order-accelerating-investment-industrial-energy-efficiency>

<sup>30</sup> Indeed, HB 1162 in this session of the Indiana General Assembly is an imperfect attempt to address that issue.

large generating units yielded to smaller facilities, and a centralized grid is evolving into strategic distributed generation that supports greater stability and reliability. Against this backdrop, the Commission should revisit the connection between an IRP and the T&D system.

The current rule provides:

***[t]he IRP process must be revised to affirmatively reflect comprehensive system benefits, including those primarily evidenced on the Transmission and Distribution (“T&D”) system.***

170 IAC 4-7-8(7). That remains a solid premise. However, the growing inter-relationship between T&D and resource procurement deserves a more comprehensive examination.

Indiana should join the number of states (California, Montana, Oregon, Utah, Washington and Vermont) affirmatively requiring fair consideration of energy efficiency and other resource-enhancing measures in both generation and T&D.<sup>31</sup> Specifically, demand-side resources can play a critical role in enhancing grid resiliency and system resiliency; as well, strategic resource acquisition and development can defer significant T&D investment.

With respect to grid resiliency, demand resources can be strategically sited to positively impact load balancing on a location and time basis. More advanced resources, such as CHP, can even help manage voltage regulation. In much the same way, demand resources can help the system keep critical facilities online during outages and spur quicker recover after natural disasters.<sup>32</sup> As noted above, for example, key CHP resources helped a number of hospitals in New Jersey and New York continue to operate in the aftermath of Hurricane Sandy, providing a degree of safety and security unachievable in a more centralized system.<sup>33</sup>

---

<sup>31</sup> See generally, [http://www.in.gov/iurc/files/Ethan\\_A.\\_Rogers\\_-\\_ACEEE\\_Contemporary\\_Issues\\_Presentation.pdf](http://www.in.gov/iurc/files/Ethan_A._Rogers_-_ACEEE_Contemporary_Issues_Presentation.pdf)

<sup>32</sup> [http://www.in.gov/iurc/files/Ethan\\_A.\\_Rogers\\_-\\_ACEEE\\_Contemporary\\_Issues\\_Presentation.pdf](http://www.in.gov/iurc/files/Ethan_A._Rogers_-_ACEEE_Contemporary_Issues_Presentation.pdf)

<sup>33</sup> <http://aceee.org/blog/2012/12/how-chp-stepped-when-power-went-out-d>

These strategic demand resource deployments can have a significant impact on total system costs. For instance, Consolidated Edison (Con Ed) reduced its projected T&D capital expenditures by more than \$1 billion after separately adjusting 10-year load forecasts for each of its 91 distribution networks and load areas in New York to reflect the expected impacts of system-wide efficiency programs.<sup>34</sup>

With the passage and implementation of Ind. Code Chapter 8-1-39, Indiana electric utilities are now able to seek an assurance of payment for T&D investments and recover those costs outside of a rate proceeding.<sup>35</sup> This chapter does not directly address the role that resource acquisition can have in deferring or alleviating the cost of T&D improvements; conversely, it does not expressly require an examination of the relative T&D costs of alternative resource acquisitions.

HEC recommends that the Commission review the IRP rules in light of Ind. Code Chapter 8-1-39 and developments in distributed generation.<sup>36</sup> Clarification of this rule and this statute may be appropriate to assure that regulated electric utilities taking advantage of the regulatory and financial protections of these provisions are doing so in a manner that is comprehensively least cost. It is not sufficient to assure that resources and T&D are acquired in independent least-cost manners; the collective result must be least cost as well. This is especially the case for a utility that is benefitting from the provisions of Ind. Code Chapter 8-1-39.

---

<sup>34</sup> U.S. Experience with Efficiency as a Transmission and Distribution System Resource,” published by the Regulatory Assistance Project, February 2012 [www.raonline.org/document/download/id/4765](http://www.raonline.org/document/download/id/4765)

<sup>35</sup> See, for instance, NIPSCO, Cause Nos. 44370 and 44371, currently pending before the Commission, in which the company seeks \$1 billion in such payments.

<sup>36</sup> HEC is not expressly requesting a rulemaking at this time, but reserves the right to do so pending Commission consideration of this matter.

### 3. Conclusion

For the reasons set forth above, the Hoosier Environmental Council, Inc., requests that the Commission and its staff (as appropriate) favorably consider these comments and take the following specific action in response:

1. Issue an Order requiring that Duke Energy Indiana include a full assessment, evaluation and inclusion of CHP resources in its service territory in its 2015 Integrated Resource Plan, and take such remedial action in its 2013 Plan as the Commission and/or its staff deem appropriate; and
2. Review the relationship between the IRP and Ind. Code Chapter 8-1-39 proceedings and issue a General Administrative Order or Proposed Rule (at its discretion) clarifying that any actions taken by a utility seeking to avail itself of these benefits must address the comprehensive system impact of a proposed action under either proceeding.

Respectfully submitted,

*/s/ Robert K. Johnson*

Robert K. Johnson

Robert K. Johnson, Attorney-at-Law, Inc.

2454 Waldon Dr.

Greenwood, IN 46143-8268

TX: 317-506-7348

FAX: 317-888-7428

E: [rjohnson@utilitylaw.us](mailto:rjohnson@utilitylaw.us)

IN Bar # 5045-49

*Counsel to Hoosier Environmental Council*