

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

**PETITION OF SOUTHERN INDIANA GAS AND)
ELECTRIC COMPANY D/B/A VECTREN ENERGY)
DELIVERY OF INDIANA, INC. FOR APPROVAL OF)
A TARIFF RATE FOR THE PROCUREMENT OF)
EXCESS DISTRIBUTED GENERATION PURSUANT)
TO IND. CODE § 8-1-40 ET SEQ.)**

CAUSE NO. 45378

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

TESTIMONY OF

ANTHONY A. ALVAREZ - PUBLIC'S EXHIBIT NO. 1

AUGUST 20, 2020

Respectfully submitted,



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TESTIMONY OF OUCC WITNESS ANTHONY A. ALVAREZ
CAUSE NO. 45378
SOUTHERN INDIANA GAS AND ELECTRIC COMPANY

I. INTRODUCTION

1 **Q: Please state your name and business address.**

2 A: My name is Anthony A. Alvarez, and my business address is 115 West Washington
3 Street, Suite 1500 South, Indianapolis, Indiana 46204.

4 **Q: By whom are you employed and in what capacity?**

5 A: I am employed as a Utility Analyst in the Indiana Office of Utility Consumer
6 Counselor's ("OUCC") Electric Division. I describe my educational background in
7 Appendix A to my testimony.

8 **Q: Have you previously testified before the Indiana Utility Regulatory**
9 **Commission ("Commission")?**

10 A: Yes. I have testified in a number of cases before the Commission, including electric
11 utility base rate cases; environmental and renewable energy Purchase Power
12 Agreement and tracker cases; Transmission, Distribution, and Storage System
13 Improvement Charge cases; and applications for Certificates of Public
14 Convenience and Necessity.

15 **Q: What is the purpose of your testimony?**

16 A: My testimony addresses Southern Indiana Gas and Electric Company's ("Vectren
17 South" or "Vectren") request for approval of an excess distributed generation
18 ("EDG") tariff ("Rider EDG tariff") rate in this Cause.¹ In particular, my testimony:
19 1) addresses Vectren's erroneous definition and application of the term "excess

¹ See Vectren Verified Petition dated May 8, 2020.

1 distributed generation” in its proposed Rider EDG tariff, which does not comply
2 with the definition of EDG as Ind. Code (“IC”) 8-1-40-5 prescribes; 2) addresses
3 the metering and billing methodology issues and deficiencies in Vectren’s proposal;
4 and 3) recommends the Commission deny Vectren’s request for approval of its
5 proposed Rider EDG tariff.

6 **Q: Please summarize your testimony.**

7 A: The statute is clear, under IC 8-1-40-5, that the utility first determines “excess
8 distributed generation,” which means the difference between electricity supplied by
9 an electric supplier and the electricity supplied to an electric supplier, and then,
10 under IC 8-1-40-15, the electric supplier will procure the excess distributed
11 generation at an approved rate. Vectren’s proposal does not follow these statutory
12 requirements. Instead, Vectren reverses the process, and applies the rates first to the
13 electricity supplied to and from the customer, and then takes the difference in the
14 dollar amount. Vectren’s proposal unfairly and negatively affects customers by
15 pricing all electricity supplied to an electric supplier at the EDG rate, instead of
16 taking the difference, which would offset an amount of electricity supplied to the
17 customer Vectren priced at the retail rate. Therefore, Vectren’s proposal should be
18 rejected because it does not follow the statutory requirements.

19 **Q: What did you do to prepare your testimony?**

20 A: I reviewed Vectren’s petition, direct testimony, and public and confidential exhibits
21 filed in this Cause. I wrote OUCC discovery questions and reviewed Vectren’s
22 responses to the OUCC’s and Intervenors’ discovery questions. I attended

1 teleconference discussions with Vectren staff, Intervenors, and OUCC staff
2 regarding issues and topics related to this Cause.

3 **Q: To the extent you do not address a specific item in your testimony, should it be**
4 **construed to mean you agree with Vectren's proposal?**

5 A: No. Excluding any topics, issues or items Vectren proposes does not indicate my
6 approval of those topics, issues or items. Rather, the scope of my testimony is
7 limited to the specific items addressed herein.

II. DEFINITION AND APPLICATION OF EXCESS DISTRIBUTED

GENERATION KWH IN VECTREN'S PROPOSED RIDER EDG

TARIFF AND STATUTE

8 **Q: How is the term "excess distributed generation" defined?**

9 A: IC 8-1-40-5 states "excess distributed generation" means the "difference between:
10 (1) the electricity that is supplied by an electricity supplier to a customer that
11 produces distributed generation; and (2) the electricity that is supplied back to the
12 electricity supplier by the customer." As identified in IC 8-1-40 *et seq.* (the
13 "Distributed Generation Statute"), two critical components must be present to
14 determine EDG: 1) the electricity that is supplied by an electricity supplier; and 2)
15 the electricity that is supplied back to the electricity supplier. Additionally, the
16 Distributed Generation Statute explicitly defines EDG as the resulting difference
17 between these two components. Therefore, to determine EDG, the utility or
18 electricity supplier must first take the difference between the electricity supplied to
19 the distributed generation ("DG") customer and the electricity supplied back by the
20 DG customer.

1 **Q: Did Vectren incorporate the definition of the term “excess distributed**
2 **generation” as defined in IC 8-1-40-5 in its proposed Rider EDG tariff?**

3 A: No. Vectren failed to define the term “excess distributed generation” as it is defined
4 in IC 8-1-40-5 in its proposed Rider EDG tariff, thus rendering its proposed tariff
5 incomplete, incorrect, and unacceptable for approval.²

6 In identifying EDG, Vectren witness J. Cas Swiz states, “[t]he electricity
7 supplied by Vectren to the customer is defined as “inflow”³ and the total inflow
8 amount “...represents delivered energy direct from the Company to the customer.”⁴
9 Further, Mr. Swiz states, “the electricity supplied by the customer to Vectren is
10 defined as “outflow”⁵ and the total outflow amount “...represents excess distributed
11 generation from the customer to the Company.”⁶ In effect, the “total inflow
12 amount” the DG customer’s meter measures and records is the kWh Vectren
13 supplied to the DG customer, and the “total outflow amount” the DG customer’s
14 meter measures and records is the kWh the DG customer supplies back to Vectren.
15 However, Vectren claims the “total outflow amount” is the EDG, which is contrary
16 to the definition of “excess distributed generation” set forth in IC 8-1-40-5.

17 To properly record the EDG of a DG customer, the utility must measure the
18 kWh supplied to the DG customer and measure the kWh the DG customer supplies
19 back to the utility. The utility must then determine the difference of these two
20 amounts, as clearly stated in IC 8-1-40-5 and apply the EDG rate to that kWh

² See Petitioner’s Exhibit No. 2, Direct Testimony of J. Cas Swiz, Attachment JCS-2, Definitions, page 1 of 5.

³ Swiz, Direct at 12, lines 12 – 14.

⁴ Swiz, Direct at 12, lines 21 – 23.

⁵ Swiz, Direct at 12, lines 12 – 14.

⁶ Swiz, Direct at 12, lines 23 – 25.

1 difference, as required in IC 8-1-40-15. Vectren's proposed Rider EDG tariff does
2 not take the difference between the electricity it supplied to the DG customer and
3 the electricity supplied back to it by the DG customer to determine the DG
4 customer's EDG. Instead, Vectren's proposed Rider EDG tariff erroneously
5 characterized the "outflow" measured, recorded and captured by its meter as EDG.⁷
6 This does not conform with the definition of the term "excess distributed
7 generation," as IC 8-1-40-5 prescribes. This is because the "outflow" measured,
8 recorded or captured by Vectren's meter only recognizes IC 8-1-40-5(2), "the
9 electricity that is supplied back to the electricity supplier by the customer," which
10 is only one of the two Distributed Generation Statute components used to determine
11 EDG kWh.

12 **Q: Does Vectren's inaccurate application of the term EDG in its Rider EDG tariff**
13 **affect its proposed metering and billing methodology?**

14 A: Yes. Mr. Swiz states, "the electricity supplied by the customer to Vectren is defined
15 as 'outflow,'"⁸ and "[t]he total outflow amount for the billing period will be priced
16 at the Rider EDG credit rate, as it represents excess distributed generation from the
17 customer to the Company."⁹ Vectren assumes the total amount of electricity
18 supplied back by the DG customer to Vectren or "total outflow amount" is the EDG
19 electricity for that particular billing period, without determining the difference from

⁷ See Pet. Exh. No. 2, Attach. JCS-2, Definitions, page 1 of 5. See also Swiz Direct, at 12, lines 12 – 14.

⁸ Swiz Direct, at 12, lines 12 – 14.

⁹ Swiz Direct, at 12, lines 23 – 25.

1 the electricity it supplied to the DG customer, as required by the Distributed
2 Generation Statute.

3 Further, in response to OUCC discovery, Vectren states “[t]he measurement
4 of outflow in the standard customer meter reflects the difference between what the
5 distributed generation resource produced and what the customer used behind the
6 meter, with the excess (‘excess distributed generation’) flowing through the meter
7 to Vectren South’s distribution system, and priced at the Rider EDG Marginal DG
8 Price in accordance with IC 8-1-40-17.”¹⁰ Vectren’s characterization of “excess
9 distributed generation” as “the difference between what the distributed generation
10 resource produced and what the customer used behind the meter” is incorrect and
11 again does not comply with the definition of EDG as prescribed by the Distributed
12 Generation Statute. The statutory definition does not refer to the difference of
13 energy generated by the DG resource and the customer’s consumption as EDG.
14 Rather, the Distributed Generation Statute clearly and only refers to EDG as the
15 difference between energy supplied by an electric supplier to a customer and energy
16 supplied back to the electric supplier by the customer.

III. METERING AND BILLING METHODOLOGY ISSUES

17 **Q: Does the Distributed Generation Statute describe how rates shall be**
18 **determined?**

19 A: Yes. IC 8-1-40-5 describes how “excess distributed generation” is determined. IC
20 8-1-40-15 states an “electricity supplier shall procure the excess distributed
21 generation produced by a customer at a rate approved by the commission under

¹⁰ Attachment AAA-1 – Vectren Response to OUCC DR 2.11, referencing responses to OUCC DRs 2.9 and 2.10.

1 section 17 of this chapter.” IC 8-1-40-17 sets the rate at the “average marginal price
2 of electricity paid by the electricity supplier during the most recent calendar year;
3 multiplied by... (1.25).” The utility shall measure the difference between the kWh
4 supplied to and kWh supplied back by the DG customer under IC 8-1-40-5, and
5 apply the rate, determined under IC 8-1-40-17, to procure any EDG, as required by
6 IC 8-1-40-15.

7 **Q: Does Vectren’s proposed Rider EDG tariff correctly apply the determination**
8 **of rates for billing as described in the Distributed Generation Statute?**

9 A: No. There are no provisions under the Distributed Generation Statute to support
10 Vectren’s proposed Rider EDG tariff in the determination of rates. I have two
11 primary concerns with Vectren’s determination of rates for billing. First, as
12 discussed previously in my testimony, Vectren incorrectly defines EDG. Secondly,
13 I have concerns with Vectren’s application of the rate – what the rate is applied to
14 and the sequence in which the rate is applied.

15 Vectren does not define EDG as the difference between the inflow (the kWh
16 supplied by the utility to the customer) and the outflow (the kWh supplied back by
17 the customer to the utility), which is how EDG is defined under the Distributed
18 Generation Statute. Instead, Vectren indicates EDG is represented by only the
19 outflow amount.

20 Because Vectren does not correctly determine EDG as the difference
21 between the inflow and outflow kWh, it does not apply the rate to the correct EDG
22 amount. Further, Vectren does not apply the rate in the correct sequence. Under
23 Vectren’s proposal, the customer’s applicable tariff rate is applied to the total
24 inflow amount and EDG rate is applied to the total outflow amount (separately)

1 resulting in two separate dollar amounts. Then, Vectren takes the difference
2 between the two inflow and outflow dollar amounts to determine what is billed to
3 customers. However, the Distributed Generation Statute is specific in requiring the
4 utility to first take the difference between the kWh supplied to the DG customer
5 and the kWh supplied by the DG customer to determine the EDG and then use the
6 resulting kWh for billing purposes, to which a rate is applied. The Distributed
7 Generation Statute requires taking the difference at the kWh level to determine the
8 EDG – not at the dollar level as Vectren's proposal indicates.

9 **Q: Does Mr. Swiz describe how Vectren proposes the EDG rate be applied under**
10 **its Rider EDG tariff?**

11 A: Yes. Mr. Swiz's Direct, at 14, lines 23 – 28, states:

12 Under Rider EDG, the customer is still able to utilize the distributed
13 generation resource to offset instantaneous load. In periods when a
14 DG resource is producing electricity to fully offset load, no inflow
15 will occur, and the effective rate applied to the generated energy is
16 the tariff retail rate. In periods when a DG resource is producing
17 excess (outflow), that excess production will be compensated at the
18 Rider EDG rate.

19 **Q: Do you agree with Mr. Swiz's description of how the EDG rate should be**
20 **applied?**

21 A: No. Mr. Swiz's description of "when a DG resource is producing excess (outflow),"
22 and referring to the "excess production" as EDG, is incorrect. EDG, as defined by
23 the Distributed Generation Statute, is the difference between the electricity supplied
24 to and the electricity the DG customer supplied back to the utility (IC 8-1-40-5).
25 The statute does not describe "excess distributed generation" as the excess of
26 distributed generation over the customer's consumption, nor does it even refer to
27 the customer's generation and consumption. Therefore, the outflow as measured

1 and recorded by the Advanced Metering Infrastructure (“AMI”) meter at the DG
2 customer’s premises does not constitute excess distribution generation until after
3 the utility determines the difference of the outflow reading from the inflow reading,
4 and the resulting kWh difference used as the kWh for billing.

5 **Q: How does Vectren’s proposal negatively affect customers?**

6 A: As explained above, Vectren incorrectly allocates all outflow as EDG. If Vectren
7 took the kWh difference of inflow and outflow, as required by the Distributed
8 Generation Statute, some outflow would necessarily offset an amount of inflow.
9 Based on Vectren’s calculations, the EDG rate for 2019 would be \$0.03183 per
10 kWh,¹¹ and the retail rate would be \$0.13908 per kWh.¹² By pricing all of the
11 outflow at the lower EDG rate, Vectren fails to offset some of the inflow, priced at
12 the higher retail rate, which negatively affects customers.

13 **Q: From a technical perspective, do you agree with Mr. Swiz, Direct at 12, lines**
14 **23 – 26, which states “[t]he total outflow amount for the billing period will be**
15 **priced at the Rider EDG credit rate, as it represents excess distributed**
16 **generation from the customer to the Company”?**

17 A: No. In a typical non-DG customer set up, the meter location at a customer’s
18 premises denotes the boundary or delineation between the customer-side (or load
19 side) and the utility-side (supply side), and power flow is one-way, from the supply
20 side to the load side and the meter measures and records the energy consumed by
21 the load. Aside from a one-way power flow, the meter remains the boundary or
22 delineation between the load side and the supply side in a DG customer set up.
23 However, with a DG resource present at the meter’s load side, interconnected, and

¹¹ Petitioner’s Exhibit No. 1, Direct Testimony of Justin M. Joiner, page 4, line 19.

¹² Swiz Direct, at 16, Table JCS-3 (\$214.32/1,541 kWh=\$0.13908/kWh).

1 in parallel connection with the meter's supply side and the distribution facility of
2 the utility, power can flow both ways – not at the same time or instance – but only
3 one way at a time (either power flows in or power flows out at any given time).¹³

4 In response to OUCC discovery, Vectren states “[t]he meters capture
5 ‘outflow’ as the difference between the energy produced by the Solar
6 Panels/inverters and the energy consumed by the customer behind the meter, thus
7 registering ‘outflow’ on the customer’s meter. The ‘outflow’ is then credited at the
8 Marginal DG Price under Rider EDG.”¹⁴ Vectren’s characterization of the
9 “outflow” captured by the meters “then credited at the Marginal DG Price under
10 Rider EDG,” thereby treated “outflow” as “excess distributed generation” is
11 incorrect and not supported by the Distributed Generation Statute. It is incorrect
12 because at the instance wherein the meter measures, records or captures an
13 “outflow,” the “energy consumed by the customer behind the meter” is not “the
14 electricity that is supplied by an electricity supplier to a customer that produces
15 distributed generation,” as prescribed by IC 8-1-40-5(1). At that instance, the
16 “energy consumed by the customer behind the meter” came from the internal DG
17 resource (or Solar Panels/inverters, in this example) of the customer. Therefore, the
18 “outflow” measured by the meter, at that instance, is simply “the electricity that is
19 supplied back to the electricity supplier by the customer,” as prescribed by IC 8-1-
20 40-5(2).

¹³ Note the use of the term power flow instead of electrical energy or electricity to provide the reader a more technical descriptive term to assist or enhance visualization. Also, at the instance of equilibrium, wherein the DG customer generates the exact amount of power its load consumes, the AMI will neither measure nor record power inflow or outflow.

¹⁴ Attach. AAA-1 – Vectren response to OUCC DR 2.16, referencing response to OUCC DR 2.1.

1 Although, Vectren claims the DG customer's AMI meter can measure,
2 record and accumulate both total power inflow and outflow distinctly and
3 separately from each other as they occur (one way at a time), the total power
4 outflow does not represent EDG from the customer to Vectren, as Mr. Swiz's
5 statement indicates.¹⁵ The utility cannot lay claim to the amount of power internally
6 generated and consumed by the load at the load side of its metering point.¹⁶ Vectren
7 can only lay claim to the electricity measured and recorded by the AMI meter at
8 the metering point. Therefore, Vectren cannot declare the power outflow or "total
9 outflow amount" as measured and recorded by the AMI meter represents EDG. The
10 power outflow or "total outflow amount" as the AMI meter measures and records
11 is simply the "the electricity that is supplied back to the electricity supplier by the
12 customer" {IC 8-1-40-5(2)}. The Distributed Generation Statute is precise in its
13 definition of how to determine EDG.

IV. CONCLUSIONS

14 **Q: Please summarize what you conclude from your review.**

15 A: The following is the summary of my review:

- 16 1. Vectren failed to define and/or incorporate the definition of the term "excess
17 distributed generation" as defined in IC 8-1-40-5 in its proposed Rider EDG
18 tariff, thus rendering the proposed tariff incomplete, ambiguous, and
19 unacceptable for approval.

¹⁵ Swiz, Direct at 12, lines 23 – 26. *See also* Attach. AAA-1 – Vectren response to OUCR DR 2.7 regarding the dual-channel, bidirectional capability of its AMI meter, and referencing responses to OUCR DRs 2.1, 2.6, and 2.9.

¹⁶ This is apparent at the instance of equilibrium, wherein the DG customer generates the exact amount of power its load consumes. Vectren cannot lay claim to the power consumed by the load as electricity (electrical energy or power) it supplied to the customer.

- 1 2. Vectren erroneously characterized the “outflow” measured by its meter as
2 “excess distributed generation,” which does not conform with the definition
3 of EDG, as prescribed by IC 8-1-40-5.
- 4 3. Vectren failed to conform with the definition of the term “excess distributed
5 generation,” as IC 8-1-40-5 prescribes, because the “outflow” measured, by
6 its meter only recognizes IC 8-1-40-5(2), “the electricity that is supplied
7 back to the electricity supplier by the customer,” which is only one of the
8 two Distributed Generation Statute components used to determine EDG.
- 9 4. Vectren failed to comply with the process of taking the difference between
10 “the electricity that is supplied by an electricity supplier to a customer that
11 produces distributed generation,” {IC 8-1-40-5(1)} and “the electricity that
12 is supplied back to the electricity supplier by the customer,” {IC 8-1-40-
13 5(2)} to determine the EDG.
- 14 5. Lastly, Vectren’s proposed Rider EDG tariff does not comply with the
15 requirements for billing as applied to distributed generation and required by
16 IC 8-1-40-15.

V. RECOMMENDATION

17 **Q: What do you recommend in this proceeding?**

18 A: Based on my conclusions above, and because Vectren’s proposal does not conform
19 with the statutory requirements for determining EDG, I recommend the
20 Commission deny Vectren’s request for approval of its proposed Rider EDG tariff.

21 **Q: Does this conclude your testimony?**

22 A: Yes.

APPENDIX A

1 **Q: Please describe your educational background and experience.**

2 A: I hold a Master of Business Administration degree from the University of the
3 Philippines (“UP”), in Diliman, Quezon City, Philippines. I also hold a Bachelor of
4 Science degree in Electrical Engineering from the University of Santo Tomas
5 (“UST”), in Manila, Philippines.

6 I joined the OUCC in July 2009 and have completed the regulatory studies
7 program at Michigan State University sponsored by the National Association of
8 Regulatory Utility Commissioners (“NARUC”). I have also participated in other
9 utility and renewable energy resources-related seminars, forums, and conferences.

10 Prior to joining the OUCC, I worked for the Manila Electric Company
11 (“MERALCO”) in the Philippines as a Senior Project Engineer responsible for
12 overall project and account management for large and medium industrial and
13 commercial customers. I evaluated electrical plans, designed overhead and
14 underground primary and secondary distribution lines and facilities, primary and
15 secondary line revamps, extensions and upgrades with voltages up to 34.5 kV. I
16 successfully completed the MERALCO Power Engineering Program, a two-year
17 program designed for engineers in the power and electrical utility industry.

II. Data Request.

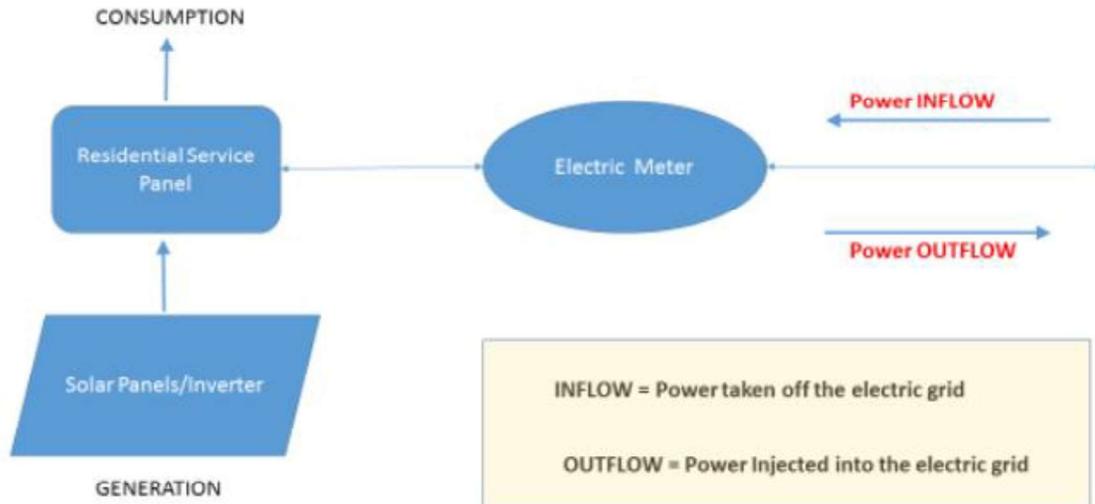
Q 2.1: Please define the following terms as used by Vectren in this Cause:

- a. “instantaneously measure the flow of energy;”
- b. “instantaneous measurement of electricity;”
- c. “net zero;”
- d. “perfect matching of generation to consumption;”
- e. “total inflow amount;”
- f. “total outflow amount;”
- g. “Net kWh – Metered;”
- h. “Buy-All / Sell-All;”
- i. “offset instantaneous load;”
- j. “generating an outflow measurement on the meter;” and
- k. “generating an inflow measurement on the meter.”

Response:

Please consider these definitions to apply to this and other discovery requests referencing the same terms. To assist in the explanations within these definitions, please refer to this simple diagram which depicts the set-up of a distributed generation customer and the metering of the flow of energy for this customer.

What is INFLOW and OUTFLOW?



- a. “instantaneously measure the flow of energy”
As used within testimony, Vectren South will utilize its current dual-channel (or bidirectional) meters to measure the flow of energy to and from the customer. The “instantaneous” terminology in testimony references the ability of the meter to measure the flow of energy at any point that a unit of energy moves through the standard meter. This unit of measurement is in kWh; however, partial kWh increments are measured as the meter, much like an odometer in an automobile, aggregates each unit.
- b. “instantaneous measurement of electricity”
Please see Vectren’s response to (a).
- c. “net zero”
“Net zero” as used within testimony represents a meter reading that shows zero change in usage. Referencing the diagram above, this instance is when the Solar Panels/Inverter is producing electricity that is fully consumed by the Residential Service Panel behind the meter, thus no flow of electricity occurs through the Electric Meter.
- d. “perfect matching of generation to consumption”
Please reference Vectren’s response to (c). Referencing the diagram above, this instance is when the Solar Panels/Inverter is producing electricity that is fully consumed by the Residential Service Panel behind the meter, thus no flow of electricity occurs through the Electric Meter.
- e. “total inflow amount”

As referenced in Attachment JCS-2 in Petitioner's Exhibit No. 2, "Inflow" is defined as "(kWh) the measurement of energy supplied by Company to Customer." "Total inflow amount" is defined as the cumulative inflow measurement on the meter (reference diagram and response to (a)) for the billing period (typically one month).

- f. "total outflow amount"
As referenced in Attachment JCS-2 in Petitioner's Exhibit No. 2, "Outflow" is defined as "(kWh) the measurement of energy delivered by Customer to Company." "Total outflow amount" is defined as the cumulative measurement on the meter (reference diagram and response to (a)) for the billing period (typically one month). This can also be equated to the "excess distributed generation" as defined in IC § 8-1-40-5.
- g. "Net kWh – Metered"
Please reference the diagram and response to (a). The "Net kWh – Metered" is defined as the typical single read for a customer's meter, which is the sum of the inflow and outflow channels (as defined in (e) and (f) respectively).
- h. "Buy-All / Sell-All"
"Buy-All / Sell-All" is defined as an arrangement for a distributed generation customer where the full extent of the customer's generation is separately measured (and priced) from the customer's usage for the billing period. Referencing the diagram, this would require two meters and the Solar Panels/Inverter would not feed directly to the Customer's Residential Service Panel.
- i. "offset instantaneous load"
Please reference the diagram, which shows that the Solar Panels/Inverter would feed to the Residential Service Panel in a standard distributed generation customer set-up. "Offset instantaneous load" is defined as the use of the generation produced by the Solar Panels/Inverter to supply the Residential Service Panel and customer's consumption.
- j. "generating an outflow measurement on the meter;"
Please reference the diagram, response to (a) and the response to (f).
- k. "generating an inflow measurement on the meter"
Please reference the diagram, response to (a) and the response to (e).

- Q 2.6:** Mr. Swiz’ Direct Testimony, page 12, lines 14 – 17, states “[b]ecause the meter can only register the instantaneous measurement of electricity in either direction, each unit of power can only be either inflow and outflow (or net zero in the case of perfect matching of generation to consumption).”
- a. Will Vectren’s AMI measure the “inflow” and “outflow” of electricity independently from each other? Please explain and provide document support to your response.
 - b. For billing purposes, what do the inflow and outflow readings represent? Please explain.

Response:

- a. Yes. Please see the response in OUCC Q 2.1 (including the associated diagram).
- b. Please see the response in OUCC Q 2.1 (including the associated diagram). Please also reference Attachment JCS-2 in Petitioner’s Exhibit No. 2. Inflow, as defined in Q 2.1, represents the energy supplied by Company to the Customer, and will be billed at the customer’s standard Rate Schedule (e.g., Rate RS). Outflow, as defined in Q 2.1, represents the energy supplied by the Customer to Company, and will be credited at the Marginal DG Price in Rider EDG.

Q 2.7: Please explain why Vectren proposes to use the “total inflow amount” to obtain the net “inflow” kWh for billing.

Response:

Vectren objects to this request on the grounds that it is vague and ambiguous in its use of the undefined term “net ‘inflow’ kWh for billing”.

Notwithstanding and subject to the above objection, Vectren responds as follows:

Relative the use of “total inflow amount”, please reference the response (including the associated diagram) to OUCC Q 2.1 and the response to OUCC Q 2.6. As noted, there are separate and distinct measurements of inflow and outflow within a standard, dual-channel (or bidirectional) meter. Inflow represents energy provided by the Company to the Customer to meet customer usage requirements and is subject to the Customer’s standard Rate Schedule (e.g., Rate RS). As noted in response to OUCC Q 2.9, the statutory authorization for using the standard metering information to bill is derived from IC § 8-1-40-5.

Q 2.9: Please explain why Vectren proposes not to subtract the inflow reading from the outflow reading (or vice versa) to obtain the net kWh for billing for distributed generation customers.

Response:

Please reference the objections and response to Indiana DG Data Request No. 1.20.

Q 2.10: If the “total inflow amount” or inflow reading or inflow kilowatt hours (“kWh”) exceed the “total outflow amount” or outflow reading or outflow kWh of the distributed generation customer during the billing period, please explain why Vectren proposes to bill or charge the distributed generation customer for the “total inflow amount.”

Response:

Please reference the response to OUCC Q 2.1 (including the associated diagram). Please also reference the objections and response to OUCC Q 2.9.

As noted, there are separate and distinct measurements of inflow and outflow within a standard, dual-channel (or bidirectional) meter. Inflow represents energy provided by the Company to the Customer to meet customer usage requirements and is subject to the Customer’s standard Rate Schedule (e.g., Rate RS). Outflow represents energy provided by the Customer to the Company, or energy in excess of the customer’s usage requirements. The outflow is priced at Rate EDG as it represents excess distributed generation. As noted in response to OUCC Q 2.9, the statutory authorization for using the standard metering information to bill is derived from IC § 8-1-40-5.

Q 2.11: If the “total inflow amount” or inflow reading or inflow kilowatt hours (“kWh”) exceed the “total outflow amount” or outflow reading or outflow kWh of the distributed generation customer during the billing period, please explain why Vectren is not billing or charging the distributed generation customer for the kWh difference between the “total inflow amount” and the “total outflow amount.”

Response:

Please reference the responses to OUCC Q 2.9 and Q 2.10.

IC 8-1-40 caps net metering and replaces the provisions of net metering. What is described in the request reflects the continuation of the current net metering structure. The measurement of outflow in the standard customer meter reflects the difference between what the distributed generation resource produced and what the customer used behind the meter, with the excess (“excess distributed generation”) flowing through the meter to Vectren South’s distribution system, and priced at the Rider EDG Marginal DG Price in accordance with IC 8-1-40-17.

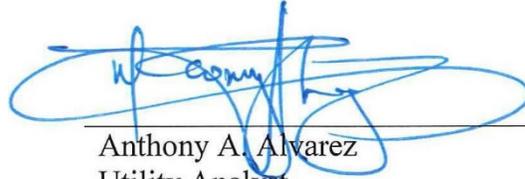
Q 2.16: Please confirm or deny. Vectren is using more than one “net kWh for billing” to calculate and determine a distributed generation customer’s monthly bill under its proposed EDG Rider Tariff.

Response:

Vectren objects to this request on the grounds that it is vague and ambiguous in that the term “net kWh for billing” is undefined such that Vectren is unable to either confirm or deny the statement set forth in the question. Subject to and without waiving the foregoing objection, Vectren states that it is not netting “inflow” and “outflow” as defined in the response to Data Request No. 2.1. The meters capture “outflow” as the difference between the energy produced by the Solar Panels/inverters and the energy consumed by the customer behind the meter, thus registering “outflow” on the customer’s meter. The “outflow” is then credited at the Marginal DG Price under Rider EDG.

AFFIRMATION

I affirm, under the penalties for perjury, that the foregoing representations are true.



Anthony A. Alvarez
Utility Analyst
Indiana Office of Utility Consumer Counselor
Cause No. 45378 VSE

August 20, 2020

Date

CERTIFICATE OF SERVICE

This is to certify that a copy of the ***OUCC TESTIMONY OF ANTHONY A. ALVAREZ*** has been served upon the following parties of record in the captioned proceeding by electronic service on August 20, 2020.

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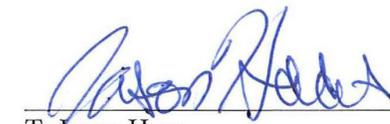
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