

**BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO**

In the matter of the Application of Vectren)	
Energy Delivery of Ohio, Inc. for)	Case No. 18-49-GA-ALT
Approval of an Alternative Rate Plan.)	
)	
In the Matter of the Application of)	
Vectren Energy Delivery of Ohio, Inc. for)	Case No. 18-0298-GA-AIR
Approval of an Increase in Gas Rates.)	
)	
In the Matter of the Application of)	
Vectren Energy Delivery of Ohio, Inc., for)	Case No. 18-0299-GA-ALT
Approval of an Alternative Rate Plan.)	

**SUPPLEMENTAL TESTIMONY OF
RON NELSON
ON BEHALF OF
ENVIRONMENTAL LAW AND POLICY CENTER**

Filed: January 28, 2019

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1 **I. Background and Qualifications**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Ron Nelson. I am a Manager with Strategen Consulting. My business address is
4 Suite 400, 2150 Allston Way, Berkeley, California 94704.

5 **Q. Who are you testifying on behalf in this proceeding?**

6 A. I am testifying on behalf of the Environmental Law and Policy Center (ELPC).

7 **Q. What is your educational and professional background?**

8 A. Currently, I am a Manager at Strategen Consulting. The Strategen team is nationally recognized
9 for its thought leadership and deep expertise in rate design, renewable program development, grid
10 modernization and new grid technologies including distributed and centralized renewable energy,
11 energy storage, smart grid technologies, and electric vehicles. During my time at Strategen, I
12 have worked with numerous consumer advocates on issues related to cost of service modeling
13 and theory, rate design, renewable program design, cost recovery issues, utility business models,
14 and electric vehicles.

15 Before joining Strategen in early 2018, I worked for the Minnesota Attorney General's
16 Office for almost five years, where I led the Office's work on cost of service, rate design, and
17 utility business model issues for both natural gas and electric utilities. Before that, I worked for
18 two universities and the United States Geological Survey as an economic researcher. I have a
19 Master of Science from Colorado State University in Agriculture and Resource Economics, and a
20 Bachelor of Arts and Minor in Environmental Economics and Mathematics, respectively, from
21 Western Washington University.

1 **Q. Have you testified in similar regulatory proceedings previously?**

2 A. Yes. I have testified in numerous natural gas and electric utility proceedings in Minnesota,
3 Oklahoma, and Illinois on issues related to cost of service modeling, revenue apportionment, rate
4 design, renewable program development, tariff analysis, fuel clause structure, multi-year rate
5 plans, performance metrics, performance incentive mechanisms, revenue decoupling, and the
6 utility business model. A full resume was attached to my direct testimony as Exhibit ELPC-
7 Nelson-1.

8 **II. Purpose of Testimony**

9 **Q. What is the purpose of your testimony?**

10 A. I am testifying in support of ELPC's objections on matters related to rate design changes
11 proposed by Vectren Energy Delivery of Ohio, Inc. (VEDO, Vectren, or the Company) and the
12 Staff of the Public Utilities Commission of Ohio (Staff) in a proposed Stipulation and
13 Recommendation (Stipulation) filed on January 4, 2019. Specifically, my testimony will
14 supplement my direct testimony to address the Stipulation's proposal to continue utilizing a
15 "Straight Fixed Variable" (SFV) approach to rate design for the Residential Class under the
16 applicable stipulation review standard. More generally, I will discuss the shortcomings of
17 utilizing the SFV rate design for any customer class.

18 **Q. Please provide a high-level summary of your analysis and the conclusions you came to**
19 **regarding the continuation of SFV rate design for the Residential customer class.**

20 A. My testimony demonstrates that circumstances have significantly changed since the Commission
21 adopted Vectren's SFV rate design for the Residential class. In particular, I present evidence that
22 clearly indicates that income and natural gas consumption is positively correlated—meaning that
23 more low-income households consume below average. Furthermore, I demonstrate that the fixed

charge has resulted in the cost of the natural gas customers actually consume becoming a much smaller portion of total bills than the Commission considered in 2008.

Q. Please explain your understanding of the settlement standard applied here.

A. There are three criteria: (1) the stipulation must be a product of serious bargaining among capable, knowledgeable parties; (2) the stipulation must not violate any important regulatory principles or practice; and (3) the stipulation must, as a package, benefit ratepayers and the public interest. I'm not an attorney, but my testimony will focus on whether the proposed Stipulation will benefit ratepayers and the public interest which overlaps to some extent with important regulatory principles.

Q. Please summarize the recommendations that you make in your direct testimony.

A. As discussed below, the Stipulation proposes to increase the customer charge, increase the Distribution Replacement Rider (DRR) annually for six years, and provide a fixed tax refund that would ultimately result in residents paying fixed charges of \$42.89 every month. I recommend that the Commission ensure that residents do not see \$42.89 of fixed charges every month. I make the following recommendations:

1. The Commission should reject the proposed increase in the Residential fixed charges and instead limit any rate increase it authorizes to the volumetric charge.

III. Rate Design

Q. What rate design changes has the Stipulation proposed for Residential Customers?

A. Residential customers currently pay fixed charges that total \$27.62. This total fixed charge consists of an \$18.37 customer charge and a \$9.25 Distribution Replacement Rider (DRR). The DRR is a rate rider that collects costs from residential customers through a fixed charge. The Stipulation proposes continuing the SFV rate design for the Residential Class resulting in a

customer charge increase from \$18.37 to \$32.86— approximately an 80% increase.¹ The \$32.86 does not include the DRR that will increase over the next six years.

In this case, Vectren is proposing to role all the costs currently collected through the DRR into the residential customer charge, which is part of what is driving a larger customer charge. Additionally, the Stipulation proposes to continue to increase the fixed charge that residential customers pay each year for the next six years through additions to the DRR, as demonstrated in Table 1 below.²

Table 1

Rate Effective	Fixed Charge	DRR	Total Fixed Charges
2019	\$32.86	\$2.50	\$35.36
2020	\$32.86	\$5.00	\$37.86
2021	\$32.86	\$7.50	\$40.36
2022	\$32.86	\$10.00	\$42.86
2023	\$32.86	\$12.00	\$44.86
2024	\$32.86	\$13.75	\$46.61

Q. Vectren characterizes the increase in less dramatic terms; can you please explain?

A. Vectren Witness Albertson categorized the customer charge and DRR increases as “gradual fixed charge increases over time.”³ As demonstrated below, continuing to allow Vectren to increase residential fixed charges has a large impact on low-usage low-income residents, which could see rates that are 40 percent higher under Vectren’s proposal compared to my own. This change will greatly diminish customers’ control over their bills and the incentive for customers to invest in

¹ See Stipulation Joint Exhibit 4 at 5.

² See Stipulation at 7. For purposes of this testimony, I assume Vectren will charge up to the monthly per customer rate cap set by the Stipulation.

³ Albertson Second Supp. Direct Test. at 4:3.

energy efficiency. Importantly, these negative impacts will fall more so on those residents that can do the least about it—low-income residents.

Q. What rate-design related issues do you address?

A. I focus on two primary issues. First, I provide analysis on how the high proposed fixed charges will inequitably burden low-usage, low-income residential customers. Second, I discuss the need to continually examine rate designs to ensure achievement of public policy goals.

Q. How does SFV rate design affect equity within the residential rate class?

A. When compared to a rate design that collects some or all demand related costs through a volumetric rate, SFV rate design shifts cost collection to lower usage customers. According to data filed in VEDO Witness Rina H. Harris' Direct Testimony, the Company's single and multi-family low income residents consume less per household than a typical resident in similar housing.⁴ Witness Harris' table is recreated below.

Table 2

Residential	Number of Households	2016 Gas Use (million Ccf/yr)	Avg. Use per Household (Ccf/yr)
Single Family	150,506	120.3	799
Multifamily	26,847	15.6	583
Single Family Low Income	84,609	62.3	737
Multi Family Low Income	30,101	15.3	509
Total	292,063	213.6	731

The information provided by Witness Harris indicates that single-family households consume an average of 799 Ccf/yr while single-family low-income households consume 737 Ccf/yr, which is approximately 8 percent less. Similarly, multi-family households consume 583 Ccf/yr while low

⁴ See Harris Direct, Attachment A at 37.

1 income multi-family households consume 509 Ccf/yr, which is approximately 15 percent less.

2 This data indicates that low-income residents would be worse off under VEDO's and Staff
3 proposals compared to a rate design that retains the current customer charge and collects any rate
4 increase through a volumetric rate.

5 **Q. Was low-income data of this level of granularity available to the Commission when the SFV**
6 **rate design was initially adopted?**

7 A. Not to my knowledge. In fact, the Commission relied on a finding that was in direct opposition to
8 the reality that the data above indicates. Specifically, the Commission stated that "there is *no*
9 *direct correlation* between low-usage customers and low-income customers."⁵ The data available
10 to the Commission today, provided by Vectren, clearly indicates a positive correlation between
11 income and usage. This means that the Commission based its decision to adopt SFV rate design
12 on a circumstance that has clearly changed or was supported using inaccurate information.

13 **Q. Is there additional evidence that supports the claim that there is a positive correlation**
14 **between income and usage?**

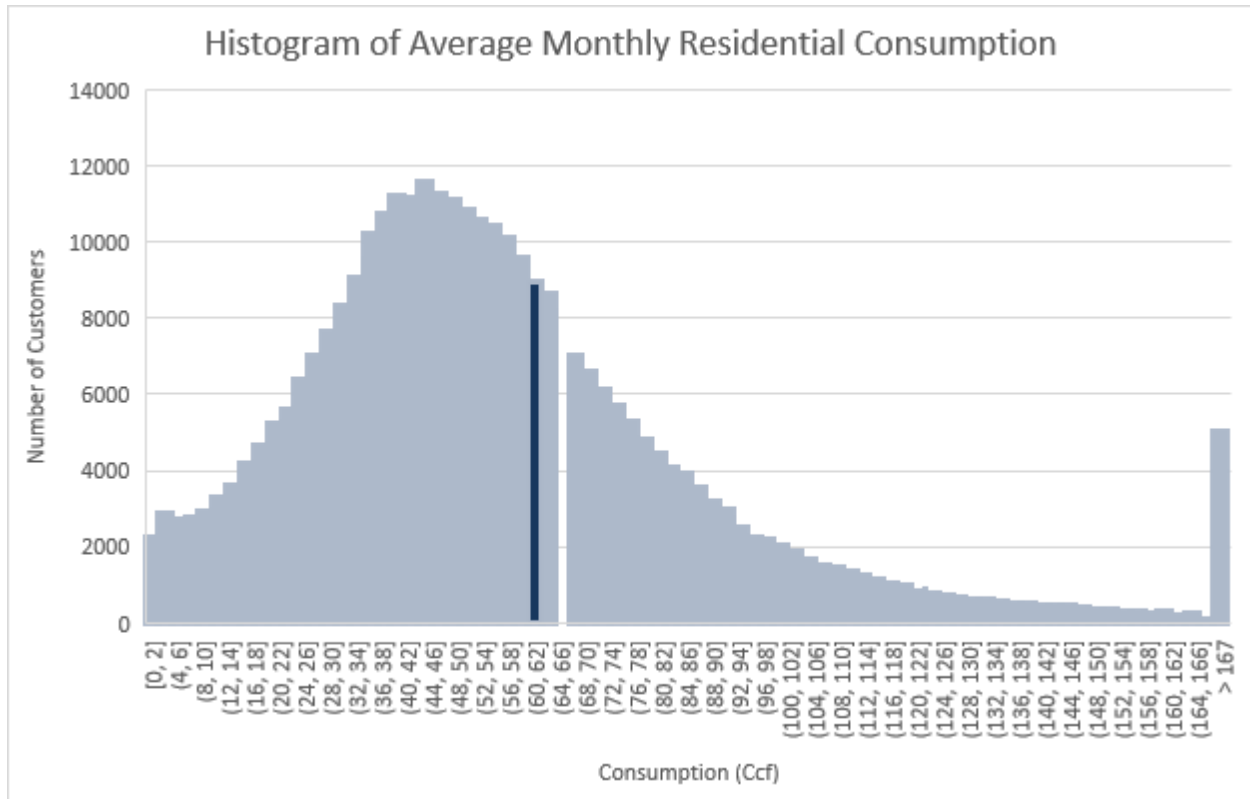
15 A. Yes. I created a frequency distribution, also referred to as a histogram, of residential consumption
16 from data provided in Vectren's response to OCC RPD-7-45, reflecting monthly and annual
17 consumption by all residential customers in 2016. ⁶

⁵ Case No. 07-1080-GA-AIR, Entry on Rehearing at 6.

⁶ See OCC RPD-7-45 - Ohio Consumption Res-Com 2016 - summary CONFIDENTIAL.

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Figure 1⁷



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Figure 1 has the number of customers on the y-axis (vertical) and consumption levels on the x-axis (horizontal). The labels on the x-axis depict usage levels. Each column in Figure 1 represents 2 percent of customers. Based on the graph and associated data, it is possible to determine the percentage of customers that consume less than a given amount of natural gas. In particular, Figure 1 has a bolded column that represents monthly average consumption of a residential customer, which is approximately 61 Ccf.⁸ Because of how residential customers consume natural gas, however, 64% percent of residential customers consume under the residential average

⁷ The data provided by Vectren did not appear “cleaned.” In particular, there appeared to be business names within the residential data, numerous accounts had near zero consumption levels, and statistical analysis did not generate results exactly in-line with results in Vectren’s filing (e.g. Harris Direct). Because of this condition in which Vectren provided the data, I made reasonable assumptions to better align the data with that filed by the Company.

⁸ 731/12=61.

(i.e. average consumption is far greater than the median consumption).⁹ This is simply because the majority of residential customers consume a low amount of natural gas, while there are some residents that consume a whole lot—pulling the average above the median. Additionally, 70% of residential customers consume less than the average single-family home, while only 31% of residents consume less than the average low-income multi-family residential customer.¹⁰ Using a distribution, as provided in Figure 1, provides more accurate information about residential consumption because it displays how all residential customers consume on average, while using the single measure of average consumption can be misleading.

Q. What does it mean that a larger portion of residential customers consume under the average amount?

A. Figure 1 is important because it indicates that high fixed charges hurt the *majority of customers*, that the majority of customers are low-use, and that it is likely a higher percentage of low-income customers are lower usage customers.¹¹

Q. How does a rate design with a high customer charge impact bills by usage level?

A. Figure 1 below demonstrates that low-usage customers receive higher bills under rate designs that utilize higher fixed charges. Specifically, Figure 2 displays the bill impacts associated with moving from the current customer charge of \$18.37 with the DRR recovered volumetrically and to the Stipulation's proposed customer charge of \$32.86.¹²

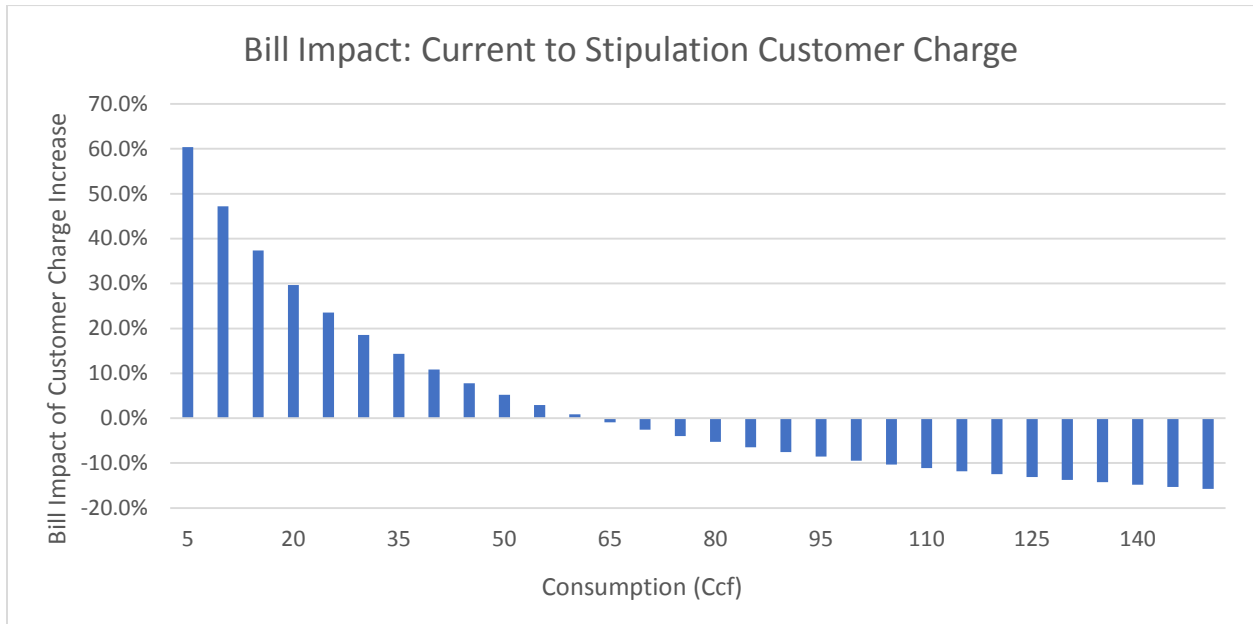
⁹ Median is the midpoint of a sample, or the 50th percentile, while the average is the summation of all observation divide by the total number of observations.

¹⁰ Assuming the averages provided by Witness Harris.

¹¹ The conclusion that a higher percentage of low-income customers consume less than average is simply based on the assumption that a low-income customer has a similarly shaped distribution as that of whole group of residents (i.e. similar to Figure 1).

¹² As above, note that the volumetric rate associated with the \$18.37 customer charges assumes all revenues, including the Distribution Replacement Rider, are collected through the volumetric rate.

Figure 2



Q. Please describe and discuss the important takeaways from Figure 2.

A. Figure 2 demonstrates the large impact that an SFV rate design has on low-usage customers. Figure 2 has average bill impacts on the vertical axis and the level of average monthly consumption on the x-axis. For example, a resident consuming 30 Ccf per month would realize an approximate bill increase of approximately 20 percent. Incorporating information from Figure 1, above, demonstrates that 65 percent of customers will receive a rate increase, while only 35 percent will see a decrease. On the other hand, a resident that consumes 95 Ccf per month on average – which consumes more than approximately 90 percent of residents – would realize more than a 7.5 percent decrease in their bill.

As Table 2 indicates, low-income multi-family households use approximately 42 Ccf per month on average. Figure 2 indicates that SFV rate design could increase low-income multi-family households' bills by approximately 11 percent depending on load profiles throughout the year. Furthermore, assuming a similar frequency distribution to Figure 1 for multi-family households, more than half of these customers consume less than average and will therefore

realize a rate increase higher than 11 percent. It is inequitable to give low-income residents an 11 percent rate increase simply by changing the rate design.

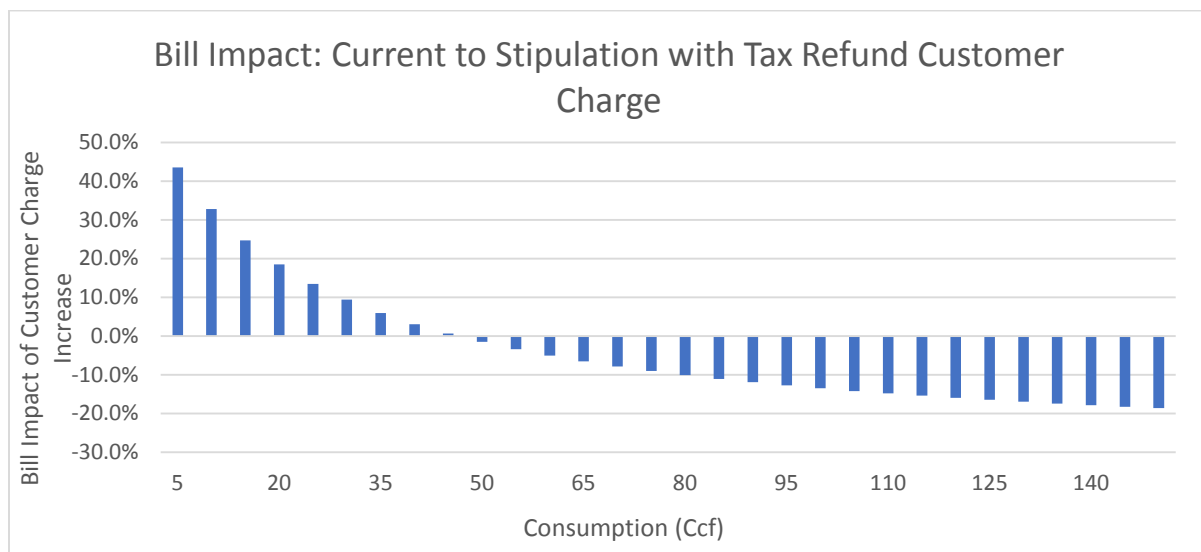
Q. Were there any proposals made in the stipulation to soften the rate impacts associated with the higher fixed charge?

A. Witness Swiz noted that a fixed tax-related refund of \$3.72 has been proposed in another docket, which would lower the residential customer charge to \$29.14.¹³ While this fixed credit for residential customers has been proposed in another docket, it is uncertain whether it will be adopted by the Commission.

Q. If adopted, will the fixed credit have a large impact on the bill impacts seen by low-usage and low-income customer?

A. It will not have a material impact. Figure 3 demonstrates the bill impact associated with increasing the fixed charge from its current level with the DRR recovered volumetrically to \$29.14.

Figure 3

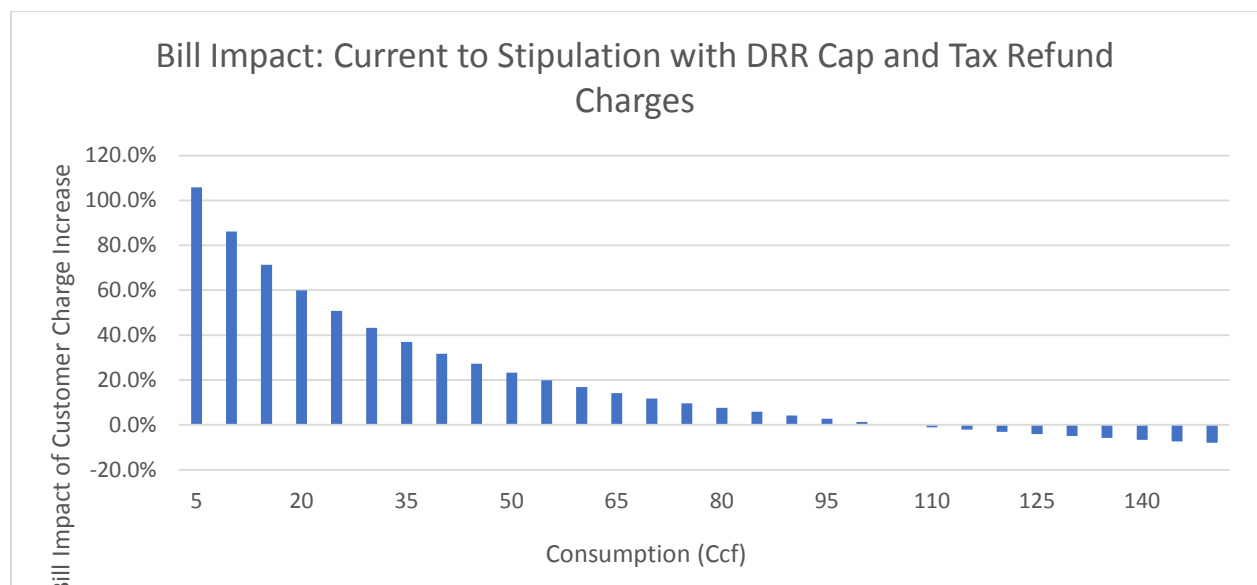


¹³ Swiz Second Supp. Direct Test. at 13.

1 **Q. Does the customer charge proposed within the Stipulation represent the full level of fixed**
2 **charges that will be faced by residential customers over the next 5 years?**

3 A. No. According to the Stipulation, the fixed charges administered to residential customers will
4 increase every year for the next six years because of the DRR. After the fixed charge is increased
5 the last time in 2024, the fixed charge paid by a residential customer every month will be \$42.89,
6 even with the tax refund. Figure 4 compares the rate impact of recovery all costs besides the
7 current customer charge volumetrically to the \$42.89 of fixed charges that will occur under the
8 Stipulation's proposal and the tax refund adjustment, all else constant.

9 **Figure 4**



11 Figure 4 demonstrates that bills will greatly increase for low-use residential customers.

12 Combining the information in Figure 1 and 4 indicates that the first 20th percentile of residential
13 customers will see a rate increase that is approximately 40 percent higher when using fixed rate
14 recovery over volumetric rate recovery. Many of those customers are likely to be low-income.

1 **Q. With fixed charges at \$42.89 in 2024, what portion of an average residential bill will be**
2 **related to gas usage?**

3 A. Based on an average residential bill of approximately \$73/month, gas consumption will consist of
4 approximately 35 percent of the bill for an average resident.¹⁴ For a low-income multi-family
5 household the average total bill would be approximately \$67, the gas consumption portion will
6 represent approximately 28 percent.¹⁵

7 **Q. When the Commission approved Vectren's SFV rate design, was gas usage a similar portion**
8 **of a resident's total bill?**

9 A. No. In 2008, the Commission partially based its adoption of SFV rate design on the belief that
10 "gas usage will still have the biggest influence on the price signals received by the customers
11 when making gas consumption decisions."¹⁶ The Commission's believed this because natural gas
12 prices were *3 times higher in 2008*.¹⁷ Since 2008, Vectren's cost to service has increased as a
13 portion of the residential bill while natural gas prices have decreased by a third. As a result, the
14 Commission's previous justification for adopting SFV rate design is no longer sound or factually
15 correct.

16 **Q. Why is it important that circumstances have changed since the Commission approved**
17 **Vectren's SFV rate design?**

18 A. It is important that circumstances have changed because the Commission was attempting to
19 balance interests of all stakeholders while achieving public policy goals in 2008. Vectren witness
20 Albertson asserts that it is not "a reasonable use of the Company's or Commission's resources to

¹⁴ Average residential consumption is based off of the information in Table 2.

¹⁵ Average low-income multi-family household consumption is based off of the information in Table 2.

¹⁶ See Case No. 07-829-GA-AIR, Opinion and Order at 24.

¹⁷ See Case No. 08-72-GA-AIR, Testimony of Roger Colton at 43. Filed September 25, 2008.

1 repeatedly relitigate a policy issue such as SFV.”¹⁸ But if the relevant circumstances have
2 changed, which they have, the Commission’s reasoning may also change. My testimony
3 demonstrates that the findings made by the Commission related to the relationship of low-income
4 and usage are no longer correct. Other factors, such as the price of gas, that factored into the
5 Commission’s decision have also changed. For this reason, this issue needs to be revisited and
6 thoroughly analyzed to determine whether SFV rate design is still efficiently achieving the public
7 policy goals it was intended to achieve in 2008. In my opinion, it is not.

8 **Q. What practical implications does raising the fixed customer charge have for Vectren**
9 **customers?**

10 A. Customers will have less control over their bills. They will have less ability to lower their bills
11 by turning down the temperature in their home and by practicing efficiency. This may cause
12 hardship for low income customers. It also sends the wrong signal to customers that it does not
13 matter how much gas they use. The natural gas system is built to meet peak demand, so incenting
14 customers to consume more by recovering most costs through a fixed charge will increase the
15 cost of the system and therefore increase rate base, and likely profit, for the utility.

16 **Q. Have you seen any evidence that the signatories to the Stipulation calculated these customer**
17 **impacts?**

18 A. No. Although Vectren witness Albertson asserts that “Staff and the City of Dayton . . . must
19 consider the interests of residential customers,”¹⁹ I have not seen evidence that they or any other
20 signatory party performed the type of analysis I provide above to quantify the specific impacts of
21 such a significant fixed charge increase based on actual customer usage data.

¹⁸ Albertson Second Supp. Test. at 4:16-18.

¹⁹ Albertson Second Supp. Test. at 4:22-23.

1 **Q. Is the level of the customer charge proposed in the Stipulation the appropriate policy choice**
2 **if the Commission decides not to consider issues related to conservation, customer ability to**
3 **control bills, and impacts on low-income customers?**

4 A. No. As I explained in my direct testimony, the proposed customer charge (both in Vectren's
5 original application and the Stipulation) includes demand related costs that are variable in the
6 long-term.²⁰ Recovering those costs through a fixed charge sends the signal to customers that
7 increased consumption will not increase system costs, which may in fact result in increased
8 customer demand and thus greater system costs (i.e., rate base) in the long-run. Conversely,
9 encouraging customers to reduce demand can decrease system costs to the extent they are related
10 to the level of customer demand. Thus, recovering all distribution costs through a fixed charge
11 even where they are demand-related is not the best or only policy choice. In fact, with respect to
12 both base distribution rates and Rider DRR, the Stipulation proposes that at least some of the
13 same costs that Vectren is recovering to residential and small commercial (Group 1) customers
14 through a fixed customer charge be recovered from larger commercial and industrial (Group 2
15 and 3) customers through a volumetric charge.²¹

16 **Q. Can Vectren still recover its revenue requirement through volumetric charges?**

17 A. Yes, rates are designed to recover VEDO's revenue requirement in a rate case. If the
18 Commission orders a lower customer charge, then an offsetting amount is collected through the
19 volumetric rate. If the Commission determines that the utility should have more revenue
20 certainty, it could consider revenue decoupling. I do not provide testimony on revenue
21 decoupling here because a proposal was not included in VEDO's Application, the Staff Report, or
22 the Stipulation.

²⁰ Nelson Direct Test. at 8:9-19.

²¹ Stipulation, Joint Ex. 4.0 at 45; Staff Report at 35; Vectren Application (Mar. 30, 2018) at 5.

1 **IV. Conclusion**

2 **Q. Please summarize your recommendations.**

3 A. As discussed above, I recommend that the Commission ensure that residents do not see \$42.89 of
4 fixed charges every month, the best result of the Stipulation even assuming approval of the tax
5 credit in a separate docket. I make the following recommendations:

- 6 1. The Commission should reject the proposed increase in the Residential fixed charges and
7 instead limit any rate increase it authorizes to the volumetric charge.

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing Testimony submitted on behalf of the Environmental Law & Policy Center was served by electronic mail, upon all Parties of Record, on January 28, 2019.

/s/ Madeline Fleisher

Madeline Fleisher

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Case No(s). 18-0298-GA-AIR, 18-0299-GA-ALT, 18-0049-GA-ALT

Summary: Testimony Supplemental Direct Testimony of Ron Nelson in Opposition to the Joint Stipulation and Recommendation electronically filed by Madeline Fleisher on behalf of Environmental Law & Policy Center