

OFFICIAL  
EXHIBITS

STATE OF INDIANA

FILED  
August 20, 2020  
INDIANA UTILITY  
REGULATORY COMMISSION

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

INTERVENOR'S - SI

EXHIBIT NO. 3  
DATE 11-17-20 REPORTER LR

SOLARIZE INDIANA, INC. SUBMISSION OF TESTIMONY

Solarize Indiana, Inc., respectfully submits the testimony of Darrell Boggess in the above referenced Cause to the Indiana Utility Regulatory Commission.

Respectfully submitted,

Russell Ellis

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## CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing was served by electronic mail this 20th day of August, 2020, to the following:

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\_\_\_\_\_  
Russell Ellis

**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 ) CAUSE NO. 45378  
OF A TARIFF RATE FOR THE )  
PROCUREMENT OF EXCESS )  
DISTRIBUTED GENERATION )  
PURSUANT TO IND. CODE § 8-1-40 ET  
SEQ.**

**DIRECT TESTIMONY OF DARRELL BOGGESS  
ON BEHALF OF  
SOLARIZE INDIANA, INC.  
AUGUST 20, 2020**

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

2   A.    My name is Darrell Boggess. My address is 3934 Saratoga Drive, Bloomington, IN  
3        47408.

4   **Q.    On whose behalf are you testifying?**

5   A.    I am testifying on behalf of nonprofit Solarize Indiana, Inc. (“Solarize Indiana” or  
6        “Solarize”).

7   **Q.    Have you testified before the IURC previously?**

8   A.    Yes. I have participated in the net metering technical conference, and I have presented  
9        comments at several field hearings.

10   **Q.    Please summarize your educational background and professional experience.**

11   A.    I have a Bachelor of Engineering from Vanderbilt University, Master of Business  
12        Administration from Arizona State University, and Juris Doctor from Indiana University.

13        I have decades of experience from a variety of engineering and management positions  
14        with General Motors and from various management positions with the federal  
15        government. In retirement, I am providing pro bono public service for Solarize Indiana as  
16        an educator and manager of the solar contractor selection process.

17   **Q.    Why do you have a personal interest in the Vectren proposed EDG tariff?**

18   A.    I believe the Vectren proposed Excess Distributed Generation (“EDG”) tariff, if it were to  
19        be approved, would reduce the rate of adoption of distributed solar energy in Vectren’s  
20        electric service territory, thereby adversely affecting the future health and wellbeing of  
21        my family and friends who live in the southwest Indiana region.

22   **Q.    Why are you a proponent for the adoption of distributed solar energy?**

23   A.    I resolved to help change our energy sources to be more sustainable, before I was aware  
24        of the word. Seeing the visible evidence of thousands of acres of strip-mined land  
25        rendered unsuitable for purposes other than possible sites for utility scale solar farms

1 were constant reminders of the consequences of our legacy energy policies that have  
2 allowed the destruction of air and water quality.

3 My hometown is a mining community in the Illinois coal basin near Evansville, Indiana.  
4 My family has been in the coal mining business for more than 100 years. Most of my  
5 male relatives have suffered and died from complications of breathing coal dust. Many  
6 hours of my life were consumed by cleaning wallpaper in our home that was heated with  
7 a coal furnace. My uncle died as a child when his clothing caught fire from the intense  
8 heat of coal burning in an open fireplace. My grandfather walked with a cane after one of  
9 his legs was amputated below the knee due to an underground mining accident. Watching  
10 him remove his prosthesis every night made a lasting impression on me at an early age.

11 In a larger context, experts say that ozone levels will increase as the climate warms.  
12 Ozone is produced more quickly in warmer weather, said Jeffrey Dukes, Director of the  
13 Purdue Climate Change Research Center, to the Indianapolis Star. The article reads:

14 ‘Under climate change, and just in warmer conditions in general and in sunnier  
15 conditions, you get ozone forming faster,’ Dukes said, ‘and then of course you  
16 have greater concentrations of it, you have more smog, worse air quality and all  
17 the health effects that come along with that.’

18 In addition, trees release volatile organic compounds— one of the ozone  
19 precursors — more quickly when it’s warmer. Gasoline, which contains volatile  
20 organic compounds, also evaporates faster when it’s hot. The higher amount of  
21 volatile organic compounds in the air contributes to more ozone being formed on  
22 hot days.

23 If humans take steps to address climate change such as switching from coal to  
24 renewable energy, Dukes said, it would reduce the amount of ozone-producing  
25 chemicals in the atmosphere. If people also exchange gasoline- or diesel-powered  
26 vehicles for electric cars, the nitrogen oxides that cars emit will start to go away,  
27 he said. So even though the Earth will be warmer as climate change progresses, a  
28 switch to renewable energy will improve air quality.

29 ‘Climate change is a bad news story for air quality if we don’t do anything about  
30 it,’ Dukes said. ‘But, if we address it, it could be a really good news story for air  
31 quality where we actually continue to improve our air quality over time.’<sup>1</sup>

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<sup>1</sup> Anne Snabes, *Ozone levels do not plummet this summer despite lower vehicle traffic*,  
Indianapolis Star, July 30, 2020, available at

1 Distributed generation provides Vectren customers the opportunity to address climate  
2 change by using solar energy with no fuel cost, thereby reducing their electric bills.

3 **Q. What is Solarize Indiana?**

4 A. The Solarize model began in 2009 with residents of Portland, Oregon, who wanted to  
5 install solar power, but did not know where to start.<sup>2</sup> They imagined that, if they  
6 organized a group of neighbors, they could collectively make an informed purchase and  
7 negotiate a volume discount. Solarize Indiana was organized to respond to Senate Bill  
8 309 based on the Oregon experience and adapted the Solarize model in such a way as to  
9 accelerate the growth of distributed solar energy in the State of Indiana. In short, Solarize  
10 Indiana was spawned to accelerate the growth of distributed solar energy in the State of  
11 Indiana.

12 As Solarize Indiana started, local teams of volunteers in several communities from  
13 Evansville to South Bend hosted public meetings in churches, libraries and other public  
14 spaces for people to learn about the performance, cost, incentives and availability of  
15 distributed solar energy systems. By July of 2017, teams in eleven regions across the state  
16 had been identified and trained. By September, over 90 volunteers on 13 teams had  
17 organized 65 solar information sessions that educated over 1,400 Hoosiers about the costs  
18 and benefits of distributed solar energy. At least in part to these efforts, the number of  
19 solar owners in the state has more than doubled in the past three years.

20 As an example, the Bloomington Solarize program involved a group of high school  
21 students who envisioned that a neighborhood of solar homes near the Indiana University  
22 – Bloomington campus could be a showplace for parents of college students to visit.  
23 Their goal was to double number of homes with solar to approximately fifty. Starting  
24 with small meetings in individual residences, the initiative grew into a successful  
25 partnership between the City of Bloomington and the nonprofit Solar Indiana Renewable  
26 Energy Network (“SIREN”); expanding to Monroe County and other nearby counties in

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<https://www.indystar.com/story/news/environment/2020/07/30/ozone-action-days-do-not-drop-this-year/5409345002/>.

<sup>2</sup> See <https://www.nrel.gov/docs/fy12osti/54738.pdf>.

1 response to demand from participants. In 2020, Monroe County has more than 500 solar  
2 owners.

3 **Q. Please describe the process that Solarize Indiana follows.**

4 A. The process begins with solar companies responding to Solarize Indiana's annual  
5 Requests for Proposals. Ten companies from Indiana, Kentucky and Ohio sent proposals  
6 in January 2020, indicating their experience, qualifications, products, pricing and  
7 preference for regions in the state. These solar contractor proposals are reviewed by  
8 volunteers and shared with local teams who select partner companies using best value  
9 criteria for quality products from reputable manufacturers and competitive pricing by  
10 capable installation companies.

11 Solarize Indiana volunteers host online public meetings discussing the cost, performance  
12 and availability of distributed solar energy for homes and businesses. Contact information  
13 for attendees who request a custom proposal is then provided to the partner company.  
14 Although review and modification of customer proposals is negotiated between  
15 customers and the solar company, participants appreciate the simplicity of the process  
16 with vetted products, pricing and providers. A significant barrier to growth of distributed  
17 solar in the Midwest is a generally low awareness of how and where to find providers.  
18 Solarize offers an easy path forward and a trusted source of information to prospective  
19 solar owners. Solar companies also appreciate the value added by partnering with  
20 Solarize Indiana insofar as Solarize provides qualified leads which reduce their costs of  
21 marketing and outreach.

22 **Q. What is the benefit of distributed solar energy for participants?**

23 A. Solar owners have made a personal choice to produce their electricity from the sun with  
24 no cost for fuel. Enough energy can be produced from the sun during clear days to power  
25 a typical Indiana home for a year. For example, a south facing ten kilowatt system tilted  
26 at about 30 degrees and with no shading will produce up to 13,000 kwh from thirty 335-  
27 watt modules in the first year and can be expected to produce more than 10,000 kwh  
28 annually after 25 years. With net metering, the share of that energy that is not consumed

1 by the homeowner goes to the nearest neighbor who pays the utility the retail price for  
2 energy that was not produced by the utility. At night and on cloudy days, net metering  
3 credits on the customer's account are reduced by energy provided to the solar owner from  
4 the grid, which is an elegant solution for solar owners with net metering or a PURPA  
5 compliant tariff in that this recognizes that daytime energy is more valuable than energy  
6 used at night.

7 **Q. Why are you concerned about Vectren's proposed EDG tariff?**

8 A. People responding to market price signals are less likely to invest in solar energy if its  
9 financial benefits are reduced. I understand that the proposed EDG tariff is similar to the  
10 unregulated REMC net billing, and will thus have the effect of reducing the amount of  
11 privately funded distributed solar energy. Thus, it is likely that solar systems will be sized  
12 smaller to allow less energy to be sent to the grid and/or will not be procured at all due to  
13 Vectren's proposed changes in solar energy compensation.

14 I am concerned that Indiana will be left behind. Corporate siting decision criteria include  
15 identifying state policies supporting renewable energy for companies expanding or  
16 relocating facilities. A recent 2019 Conservative Energy Network poll found that 70  
17 percent of voters, regardless of political affiliation, support action to reduce greenhouse  
18 gas emissions. States and utilities that unlock attractive renewable energy purchasing  
19 opportunities are better hosts for businesses looking to expand or move their operations.<sup>3</sup>

20 **Q. How do you expect that Solarize Indiana will be affected by the EDG tariff?**

21 A. I expect the Vectren proposed EDG tariff to have two adverse effects if approved. First,  
22 the new tariff will be a disincentive for future solar aspirants in that it reduces the  
23 financial feasibility of investments in solar energy. Second, it will create confusion and  
24 uncertainty in decision analysis by prospective solar owners. Individual Solarize  
25 participants, whether homeowners, businesses or nonprofits, have a range of motivations,  
26 including financial return on investment ("ROI"), mitigation of the effects of climate

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<sup>3</sup> Nick Dmitrovich, *Companies Want Renewable Energy*, Building Indiana, May 29, 2020,  
available at: <https://www.buildingindiana.com/companies-want-renewable-energy/>



1 change, and energy independence. These adverse financial effects from Vectren's  
2 proposed EDG tariff will certainly reduce the numbers of prospective and actual solar  
3 customers.

4 Explaining further, the solar market has increased due to solar panels becoming more  
5 affordable over the past decade and, therefore, ROI is becoming the primary  
6 consideration for people with lower incomes who had not previously considered solar.  
7 Common home improvement projects such as remodeling a bathroom or kitchen, or  
8 adding a hot tub, sauna or pool are expenses justified by enhanced comfort, convenience  
9 or aesthetics for which the cost is not expected to be fully recovered. Investment in a  
10 system for generating energy is mostly a financial decision whereby short-term cost is  
11 offset by greater long-term gain. Financial decisions are unlikely to be approved when  
12 the expected gain is less than the cost. Unfortunately, the financial incentive for new  
13 solar customers will be less after the July 2022 legislated end of net metering; however,  
14 Vectren's proposed EDG tariff will exacerbate this problem by lowering the expected  
15 gains even further. Thus, customers of Vectren will not be inclined to invest in solar  
16 energy if the proposed EDG tariff is approved, particularly considering Vectren's onerous  
17 netting proposal discussed further by SI Witness Kastner.

18 **Q. How are Solarize Indiana partner solar companies affected by the Vectren proposed**  
19 **EDG tariff?**

20 A. Solar companies responding to Solarize Indiana's Request for Proposals this year were  
21 particularly motivated because they anticipated that Solarize will provide a large number  
22 of potential customers who are interested in net metering before new tariff options are  
23 implemented pursuant to Senate Enrolled Act 309. When net metering expires, the  
24 number of companies responding to future Solarize Indiana requests for proposals is  
25 expected to decrease because Indiana's billing arrangements for solar customers will be  
26 less attractive and thus provide less business for these solar companies. It is likely that  
27 some of the companies will go elsewhere for work.

28 **Q. What are your recommendations?**

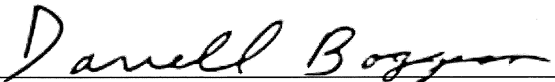
1     A.     I recommend the IURC consider the testimony of Solarize Indiana witnesses, Joint  
2           Intervenors' witnesses, and IndianaDG's witnesses in making its decision with regard to  
3           Vectren's proposed EDG tariff. As Vectren's proposed EDG tariff currently stands, it  
4           will seriously harm the adoption of distributed solar in Vectren's service territory. The  
5           Commission should also recognize that Vectren does not have a tariff compliant with the  
6           Public Utility Regulatory Policies Act ("PURPA"). A PURPA-compliant tariff option  
7           would be an effective sequel to net metering, promoting greater use of renewable energy  
8           by providing an acceptable rate of return for private investment in solar systems  
9           comparable to that realized for investments by public utility companies.

10    **Q.     Does this conclude your testimony?**

11    A.     Yes, at the present time.

**VERIFICATION**

I, Darrell Boggess, under penalty of perjury, affirm that the foregoing representations are true and correct to the best of my knowledge, information, and belief.

  
\_\_\_\_\_  
Darrell Boggess

August 20, 2020  
\_\_\_\_\_  
Date