

FILED

October 23, 2017

INDIANA UTILITY

REGULATORY COMMISSION

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF SOUTHERN INDIANA GAS )  
AND ELECTRIC COMPANY d/b/a VECTREN )  
ENERGY DELIVERY OF INDIANA, INC., FOR: (1) )  
APPROVAL OF AN ADJUSTMENT TO ITS )  
ELECTRIC SERVICE RATES THROUGH ITS )  
TRANSMISSION, DISTRIBUTION, AND STORAGE )  
SYSTEM IMPROVEMENT CHARGE ("TDSIC") )  
RATE SCHEDULE; (2) AUTHORITY TO DEFER 20% )  
OF THE APPROVED CAPITAL EXPENDITURES )  
AND TDSIC COSTS FOR RECOVERY IN )  
PETITIONER'S NEXT GENERAL RATE CASE; AND )  
(3) APPROVAL OF PETITIONER'S UPDATED 7- )  
YEAR ELECTRIC PLAN, ALL PURSUANT TO IND. )  
CODE § 8-1-39-9 )

CAUSE NO. 44910  
TDSIC 1

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

TESTIMONY OF

LEON A. GOLDEN – PUBLIC'S EXHIBIT NO. 2

OCTOBER 23, 2017

Respectfully submitted,



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Tiffany T. Murray  
Attorney No. 28916-49  
Deputy Consumer Counselor

**DIRECT TESTIMONY OF  
OUCC WITNESS LEON A. GOLDEN  
CAUSE NO. 44910 TDSIC-1**

**SOUTHERN INDIANA GAS AND ELECTRIC COMPANY D/B/A VECTREN  
ENERGY DELIVERY OF INDIANA, INC.**

**I. INTRODUCTION**

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

2 A: My name is Leon A. Golden, 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 by the Indiana Office of Utility Consumer Counselor (“OUCC”), as  
6 a Utility Analyst for the Energy Resources Division. My educational background,  
7 experience, and preparation for this testimony are detailed in Appendix LAG-1  
8 attached to this testimony.

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

10 A: I discuss my review of Vectren South’s (“Vectren” or “Petitioner”) 7-Year Plan  
11 Update. I provide an overview of terms of the Settlement Agreement  
12 (“Agreement”) that are relevant to my review of Vectren’s 7-Year Plan Update,  
13 including annual caps and revisions to Vectren’s 7-Year Plan as agreed to in the  
14 Agreement. I also provide an overview of how Vectren’s 7-Year Plan is organized.  
15 My testimony points out that although project cost estimates have not changed in  
16 this update, the OUCC is continuing to monitor those projects that Vectren indicates  
17 may increase in future filings. My testimony will recommend Vectren’s 7-Year  
18 Plan Update be approved.

**II. 7-YEAR PLAN OVERVIEW AND SETTLEMENT AGREEMENT**

1 **Q: Please discuss the relevant terms from the Cause No. 44910 Settlement**  
2 **Agreement you considered in your analysis in this Cause.**

3 **A:** The Commission approved the Cause No. 44910 Settlement Agreement  
4 (“Agreement”) in its entirety on September 20, 2017. As part of the Agreement,  
5 Vectren agreed to limit the total cost of its 7-Year Plan to \$446.5 million, to cap the  
6 capital investment in each Plan year as shown in Table 1, and that annual TDSIC  
7 cost recovery will not deviate by more than 5% above each annual cost recovery  
8 cap in a rolling three-year period.

9 **Table 1: Annual 7-Year Plan Caps**

<b>Year</b>	<b>Capital Investment Cap by Year</b>
2017	\$38,153,000
2018	\$53,925,000
2019	\$64,723,000
2020	\$68,098,000
2021	\$77,535,000
2022	\$80,838,000
2023	\$63,236,000

10 In addition to those terms in the Agreement, I also considered the following terms  
11 in my review:

- 12 • The Agreement provides that Vectren’s Advanced Metering Infrastructure  
13 (“AMI”), Advanced Distribution Management System, Geomagnetic  
14 Disturbance Protection, Mobile Asset Data Collection, and Substation  
15 Physical Security Upgrades programs are not included in the 7-Year Plan;
- 16 • Project contingency factors are not to exceed 15% for the first three years of  
17 the TDSIC Plan and 25% for the remaining years;

- 1 • Capital project costs allocated to Engineering and Supervision (“E&S”) and  
2 Administrative and General (“A&G”) on a combined basis are not to exceed  
3 18% of the direct capital costs;
- 4 • Cost of removal is not included as part of net capital investment eligible for a  
5 return recoverable in the TDSIC recovery mechanism;
- 6 • The planned substitution projects that are eligible to be moved into the 7-Year  
7 Plan are limited to a capital cost of \$67 million.

8 **Q: Please describe how Vectren’s 7-Year Plan is organized.**

9 A: Vectren’s 7-Year Plan consists of 877 projects that are organized into the following  
10 categories: System Improvement – Transmission; System Improvement –  
11 Distribution; Transmission Substation; Distribution Substation; and Distribution  
12 Pole Replacement. All 7-Year Plan projects are further organized into specific  
13 programs within these categories.

14 **Q: What cost support did Vectren provide regarding its 7-Year Plan projects in**  
15 **this filing?**

16 A: Petitioner’s Witness Steven Hoover’s testimony included Confidential  
17 Attachments SAH-1 and SAH-2, which are based on the original approved TDSIC  
18 Plan in Cause No. 44910 and are also attached to the Verified Petition in this Cause.

19 Attachment SAH-1 (Confidential) shows Vectren’s 7-Year Plan, and  
20 contains, by line item, each project’s Maximo Work Order number, the project city,  
21 applicable Plan Program, the responsible Work Group, short description, current  
22 planned year, final engineered estimated cost (in 2016 dollars), and the value of the  
23 final engineered project estimate.

1            Attachment SAH-2 (Confidential) shows Vectren's 7-Year Plan  
2 expenditures in comparison to the cost caps, and contains, by line item, each  
3 project's Maximo Work Order number, the Oracle/Power Plant project number,  
4 project category, the project city, applicable program, short description, current  
5 planned year, previously approved capital estimate, current capital estimate, actual  
6 capital spending since inception, actual variance, actual variance percentage, and a  
7 commentary on the project variance.

8 **Q: Please describe your analysis of Vectren's actual project costs and cost**  
9 **estimate updates in this Cause.**

10 A: I attended a pre-filing meeting between Vectren and the OUCC, which provided a  
11 basis for beginning my analysis. When this Cause was formally initiated, my  
12 analysis began with a review of the cost support provided by Vectren in the original  
13 7-Year Plan as filed in Cause No. 44910, exclusive of the projects that were  
14 removed per the Agreement. I then reviewed each project in Mr. Hoover's  
15 supporting attachments provided in this Cause to ensure that the projects in  
16 Vectren's Updated 7-Year Plan were included in Vectren's original 7-Year Plan. I  
17 analyzed the previously approved capital cost estimates and the updated capital  
18 costs estimates for the same projects. I performed this analysis to identify any  
19 project cost estimates that have decreased, those that have increased, and those that  
20 remain unchanged. Specifically, I performed this analysis to understand the drivers  
21 for cost estimate changes and to gain confidence that the 7-Year Plan is reasonably  
22 progressing within the terms of the Agreement.

23            I also participated in meetings with Vectren's technical staff to discuss  
24 outstanding questions resulting from my initial review. Vectren personnel answered

1 these questions and discussed projects that are trending higher, but have not yet  
2 been formally updated. The OUCC appreciates these types of discussions and  
3 continues to monitor these projects as they progress. My testimony in this Cause  
4 specifically discusses projects where actual costs or project cost estimates have  
5 increased by \$100,000 or 20% or more.

6 **Q: Please explain why your testimony specifically discusses actual costs or cost**  
7 **estimate updates that have experienced increases greater than or equal to**  
8 **\$100,000 or 20%.**

9 A: Vectren classified the capital estimates for projects implemented within the next  
10 two years as Class 2 estimates. This means that the expected accuracy range of the  
11 cost estimates range from -15% to +20%. I have also consistently applied a 20%  
12 standard to other 7-Year Plan updates for which I have provided analysis.<sup>1</sup> In  
13 addition, even though projects currently scheduled beyond the two year mark are  
14 classified as Class 4 estimates with an expected accuracy range of -30% to +50%,  
15 I will continue to discuss project cost estimate increases of 20% or greater to ensure  
16 increases in all projects are reasonable. In addition, I also specifically discuss  
17 project cost estimate increases over \$100,000 to ensure large increases that may  
18 comprise an overall small percentage of a large project are reasonable.

### **III. 7-YEAR PLAN UPDATE**

19 **Q: In your analysis of Vectren's 7-Year Plan Update, are there any actual project**  
20 **costs that have increased by at least \$100,000 or 20%?**

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<sup>1</sup> See Cause Nos. 44403 TDSIC-4, TDSIC-5 and TDSIC-6; 44733 TDSIC-1; 44429 TDSIC-4, TDSIC-5 and TDSIC-6; 44430 TDSIC-4, TDSIC-5 and TDSIC-6; and, 44720 TDSIC-1.

1 A: No. Due to the short recovery period for this filing, there have been no significant  
2 increases to the actual costs of Vectren's 7-Year Plan. However, my review  
3 confirmed that actual costs for Vectren's *Underground Cable Replacement –*  
4 *Christmas Lake Project* (Project 13616999) is currently 16% over its approved  
5 estimate and, according to Mr. Hoover, this project will approach the 20% threshold  
6 by completion.<sup>2</sup> In addition, Mr. Hoover lists three projects either completed since  
7 April 30, 2017 or still being constructed that are not currently over budget, but  
8 likely to exceed the filed estimates by 20% or more once all costs have been  
9 incurred.<sup>3</sup>

10 **Q: Do you have any concerns about the likely actual cost increase for the**  
11 ***Underground Cable Replacement – Christmas Lake Project* (Project**  
12 **13616999)?**

13 A: Not at this time. During the detailed project design, Vectren engineers discovered  
14 that two switchgear units it intended to replace were initially estimated with  
15 replacement equipment that is now obsolete as a result of updated design standards.  
16 Details of this project were discussed during technical discussions with Mr. Hoover  
17 and other Vectren staff. This discussion was helpful in understanding the project,  
18 and the OUCC continues to monitor this project and others as they progress. Once  
19 Vectren's 7-Year Plan is updated, the OUCC will review it in further detail.

20 **Q: Did your analysis identify any substitution projects that were added to**  
21 **Vectren's 7-Year Plan Update?**

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<sup>2</sup> Petitioner's Public Exhibit No. 1, page 11, lines 15 – 26.

<sup>3</sup> Petitioner's Public Exhibit No. 1, page 11, line 28 – page 12, line 2.

1 A: No. I did not identify any of approved substitution projects that were added to this  
2 7-Year Plan Update.

3 **Q: Did your analysis of Vectren's 7-Year Plan Update identify any project cost**  
4 **estimates that have increased by 20% or \$100,000 above the previously**  
5 **approved estimates?**

6 A: No. Due to the short recovery period for this filing, there have been no significant  
7 changes to the project cost estimates in Vectren's 7-Year Plan.

8 **Q: Did Vectren's 7-Year Plan Update include any contingency spending in excess**  
9 **of the 15% contingency cap for projects in years 1-3 and 25% for years 4-7 as**  
10 **included in the Agreement?**

11 A: No. I found that project contingencies remain unchanged from the Agreement. This  
12 is also confirmed by Mr. Hoover.<sup>4</sup>

#### **IV. CONCLUSIONS AND RECOMMENDATIONS**

13 **Q: Please summarize your recommendations.**

14 A: Based on my testimony, I recommend the Commission approve Vectren's Updated  
15 7-Year Plan in its TDSIC-1 filing.

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

17 A: Yes, it does.

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<sup>4</sup> Petitioner's Public Exhibit No. 1, page 18, lines 18 – 21.



**APPENDIX TO TESTIMONY OF  
OUCC WITNESS LEON A. GOLDEN**

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

2 A: I graduated from Purdue University School of Engineering and Technology -  
3 Indianapolis in 2011, with a Bachelor of Science degree in Mechanical  
4 Engineering. In October of 2011, I passed the Fundamentals of Engineering exam  
5 administered by the Indiana Professional Licensing Agency.

6 I worked as a civil engineering technician from 2005-2008, performing  
7 materials testing in field and laboratory settings, conducting analysis of mechanical  
8 properties of soils, and working in accordance with a variety of testing standards.  
9 From 2009-2014, I worked as an engineer co-op and project engineer in the electric  
10 utility industry in a number of different areas, including Customer Projects,  
11 Substation Relaying and Protection, and Standards and Code Compliance. I have  
12 also worked as a project engineer on nearly fifty distributed generation solar  
13 projects, ranging from 20 kW/ac to 10 MW/ac.

14 I have participated in several IEEE technical workshops, including Smart  
15 Grid Cyber-Security, Smart Distribution Systems, and Wind Farm Collector  
16 System Design workshops. I have attended New Mexico State University – Center  
17 for Public Utilities’ Basic Regulatory Training for the Electric and Natural Gas  
18 Industries in New Mexico, and the Institute of Public Utilities’ Intermediate  
19 Regulatory Studies Program at Michigan State University. In addition, I have  
20 attended MISO training courses on several topics, including Locational Marginal  
21 Price Mechanics, Financial Transmission Rights Mechanics, MISO Market  
22 Settlement Calculations, and Resource Adequacy Mechanics.

1 **Q: Have you previously testified before this Commission?**

2 A: Yes. I have testified in a number of Causes before this Commission.

3 **Q: Please describe the review and analysis you conducted in order to prepare**  
4 **your testimony.**

5 A: I reviewed and analyzed Petitioner's direct testimony and exhibits in this filing, as  
6 well as those made in its 7-Year Plan approval request (Cause No. 44910). I  
7 participated in pre-filing and technical meetings with Vectren staff to discuss its  
8 filing and the cost and engineering aspects of Vectren's 7-Year Plan Update. My  
9 review focuses on any actual project costs incurred in excess of those previously  
10 approved, any project cost estimates that have increased, and the reasonableness of  
11 these cost increases.

**AFFIRMATION**

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



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Leon A. Golden  
Utility Analyst

Indiana Office of Utility Consumer Counselor

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October 23, 2017

Date

Cause No. 44910 TDSIC 1

**CERTIFICATE OF SERVICE**

This is to certify that a copy of the *OUCC TESTIMONY OF LEON A. GOLDEN* has been served upon the following parties of record in the captioned proceeding by electronic service on October 23, 2017.

Robert E. Heidorn  
P. Jason Stephenson  
Goldie T. Bockstruck  
Vectren Corporation  
One Vectren Square  
Evansville, IN 47708  
[rheidorn@vectren.com](mailto:rheidorn@vectren.com)  
[jstephenson@vectren.com](mailto:jstephenson@vectren.com)  
[gbockstruck@vectren.com](mailto:gbockstruck@vectren.com)

Steven W. Krohne  
ICE MILLER LLP  
One American Square, Suite 2900  
Indianapolis, IN 46282-0200  
[Steven.krohne@icemiller.com](mailto:Steven.krohne@icemiller.com)



Tiffany T. Murray  
Deputy Consumer Counselor

**INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR**

115 West Washington Street  
Suite 1500 South  
Indianapolis, IN 46204  
[infomgt@oucc.in.gov](mailto:infomgt@oucc.in.gov)  
317/232-2494 – Telephone  
317/232-5923 – Facsimile