STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

JOINT PETITION OF OHIO VALLEY GAS CORPORATION AND OHIO VALLEY GAS, INC. FOR (1) AUTHORITY TO INCREASE THEIR RATES AND CHARGES FOR GAS UTILITY SERVICE; (2) APPROVAL OF NEW SCHEDULES OF RATES AND CHARGES; AND (3) APPROVAL OF CHANGES TO THEIR GENERAL RULES AND REGULATIONS APPLICABLE TO GAS UTILITY SERVICE

CAUSE NO. 44891

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

PUBLIC'S EXHIBIT NO. 5

TESTIMONY OF BRIEN R. KRIEGER

APRIL 20, 2017

Respectfully submitted,

Scott Franson
Attorney No. 27839-49
Deputy Consumer Counselor
TESTIMONY OF OUCC WITNESS BRIEN R. KRIEGER
CAUSE NO. 44891
OHIO VALLEY GAS CORPORATION AND OHIO VALLEY GAS, INC.

I. INTRODUCTION

1 Q: Please state your name and business address.
2 A: My name is Brien R. Krieger and my business address is 115 W. Washington 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 a Utility Analyst II. For a summary of my educational and professional experience and general preparation for this case, please see Appendix BRK-1 attached to my testimony.

8 Q: What is the purpose of your testimony?
9 A: The purpose of my testimony is to discuss my review and analysis of Ohio Valley Gas Corporation’s and Ohio Valley Gas, Inc.’s (“OVG” or “Petitioner”) cost of service study (“COSS”). My testimony addresses cost allocation of transmission mains contained within FERC account 367 and OVG’s continued effort towards single tariff rates. Additionally, I discuss Petitioner’s proposed interclass subsidies, elimination of the interruptible rate class, and fixed monthly facilities charges.

15 Q: Please summarize Petitioner’s COSS and rate design.
16 A: In Petitioner’s last rate case (Cause No. 44147) it started moving towards single tariff pricing. Petitioner developed rates from the combined costs of the three distinct geographical pipeline service areas: OVGC-ANR, OVGC-Texas Gas, and OVGI-Texas Gas. In this case, the proposed rates still contain “geographical” elements where each “geographical” area pays a different volumetric charge but the same monthly facilities
charge. OVG’s proposed rates move all rate classes, except grain dryers, closer to fully allocated cost by reducing interclass subsidies. Petitioner proposes to eliminate the Interruptible Rate schedule (Rate 3) and indicates it has never had any interruptible customers utilize the interruptible tariff.

Q: What concerns do you have with Petitioner’s COSS?
A: My concerns with Petitioner’s COSS involve one of the three allocators Petitioner used for assigning the cost of transmission mains. In addition to Annual Throughput (Allocator No. 1) and Design Day Demand (Allocator No. 4) Petitioner also used Number of Customers (Allocator No. 11). Including number of customers as an allocator for transmission costs inappropriately shifts large volume pipe costs (transmission mains) from large volume commodity customers to small volume commodity customers.

II. PETITIONER’S COST OF SERVICE STUDY

Q: Did Petitioner conduct a zero-intercept mains study?
A: Yes. Petitioner conducted a zero-intercept mains study. A zero-intercept mains study is a theoretical study that attempts to calculate the cost split of mains (distribution and transmission) between number of customers and the natural gas usage of customers.

Q: Please describe Petitioner’s zero intercept mains study.
A: Petitioner’s zero intercept mains study uses pipeline cost (FERC 367 and FERC 376) to determine the smallest theoretical pipe needed to serve all customers. This theoretical pipe, zero-diameter, is used to determine the percentage of total pipe cost that may be allocated based on number of customers per rate class (Allocator No. 11). If number of customers is used as an allocator, typically the remaining pipeline costs are split 50/50 and allocated as commodity - annual throughput (Allocator No. 1) and demand - design day throughput
(Allocator No. 4). In his zero-intercept mains study, Mr. Heid chose to use pipe sizes of
6-inch diameter and smaller. Mr. Heid’s zero-intercept mains study indicates the smallest
theoretical pipe cost is $2.7608/Ft. (y-intercept) and is multiplied by total linear feet in
Petitioner’s system to determine the least cost allocated by number of customers (Allocator
No. 11).

Q: Do you agree with the results of Petitioner’s zero-intercept mains study?
A: Yes. Petitioner’s zero-intercept mains study indicates 26% of the cost of transmission and
distribution mains could be related to the number of customers.

Q: Do you agree with using the results of the zero-intercept mains study to allocate
transmission main costs?
A: No. I disagree with using number of customers for allocating any transmission main
(FERC 367) costs. Petitioner is proposing twenty-six percent of transmission main costs
(FERC 367) and 26% of distribution main costs (FERC 376) be allocated by number of
customers. The remaining main costs (74%) are split 50/50, leaving 37% of total costs
allocated on class design day demand, and 37% allocated by a rate class’ annual natural
gas throughput.

Q: Why do you disagree with using the number of customers to allocate transmission
main costs?
A: Typically, large volume customers can be located on transmission size pipe or distribution
size pipe. Residential customers are only located on distribution pipes. Rate 1S, firm small
volume customers make up 99% of all customers and is comprised of residential and the
smallest commercial customers. All other rate classes represent 1% of all customers, but
account for approximately 25% of the estimated total peak design day demand.
Additionally, the peak design day demand system, calculated by Mr. Heid, does not include the two large volume special contract customers.

Mr. Heid’s 26% assignment of transmission mains costs to the number of customers unjustly penalizes the small volume commodity consumer. The distribution plant is designed for many smaller users and is appropriately allocated on number of customers, throughput, and demand per customer class. Assigning both transmission mains and distribution mains based on number of customers over-allocates costs based on number of customers, and results in reduced transmission costs to high volume consumers.

Q: How do you recommend transmission mains (FERC 367) be allocated?
A: I recommend that 50% of transmission mains be allocated based on rate class design day demand (Allocator No. 4), and 50% be allocated based on annual throughput (Allocator No. 1) of each customer class.

Q: How did you arrive at the OUCC’s proposed Revenues Required for Equalized Returns on OVG’s depreciated transmission plant?
A: Petitioner’s gross transmission plant (FERC 367) cost is $16,817,376 (adding Lines 3, 4, and 5 of Petitioner’s Exhibit KAH-2, Schedule 2, page 1 of 3). I allocated fifty percent (50%) of that cost to the rate classes based on annual throughput (Allocator No. 1), and I allocated the remaining 50% to the rate classes based on design day demand (Allocator No. 4). Petitioner allocated transmission plant depreciation reserve to each rate class. I subtracted those amounts from my allocated gross transmission plant. Then I multiplied this amount by the OUCC’s proposed rate of return (7.21%). In Table 1 below, I compare Petitioner’s and OUCC’s proposed return on depreciated transmission plant for each rate class. I subtracted the differences indicated on Table 1 from Petitioner’s Revenues
Required for Equalized Returns (Exhibit KAH-4, Column E) to arrive at the OUCC’s proposed Revenues for Equalized Returns, as shown in Attachment BRK-1.

Table 1  Return on Depreciated Transmission Plant (FERC 367)

<table>
<thead>
<tr>
<th></th>
<th>Rate 1S</th>
<th>Rate 2S/6T</th>
<th>Rate 4S</th>
<th>Rate 5T</th>
<th>Rate 8T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Volume</td>
<td>$329,287</td>
<td>$75,240</td>
<td>$3,715</td>
<td>$150,394</td>
<td>$23,035</td>
</tr>
<tr>
<td>Medium Volume</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grain Drying</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LV Transport</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Transport</td>
<td></td>
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</tr>
</tbody>
</table>

Q: How does eliminating number of customers (Allocator No. 11) as an allocator for cost of transmission mains (FERC 367) impact margins at proposed rates?
A: Rate 1S margin revenue is decreased by $204,975 (Table 1) before applying the OUCC’s overall revenue requirement. Offsetting the Rate 1S decrease are increases for transport customers and firm medium volume customers. Large volume transport (Rate 5T) marginal rates increase the largest percentage as compared to Petitioner’s proposal. Firm Small Volume (Rate 1S) experiences approximately a 7.5% margin revenue increase compared to Petitioner’s requested 18.3% increase for Rate 1S. Rate 1S experiences the largest percentage change to marginal revenue requirements of all rate classes as shown in Attachment BRK-2. See Attachment BRK-2 for a comparison of the OUCC’s and Petitioner’s Gas Sales Revenues (margins at proposed rates KAH-5, Column E).

III. INTERCLASS SUBSIDIES

Q: Are Petitioner’s proposed rates designed with interclass subsidies?
A: Yes. All of Petitioner’s rate classes experience an increased cost to serve and Petitioner proposes to structure its rates in such a way that interclass subsidies are reduced, but not eliminated. Petitioner proposes a 10% reduction in all subsidies except for the grain drying
rate. Petitioner proposes for Rate 4S, grain dryers, to continue receiving the same subsidy amount because Petitioner believes if subsidies were reduced the grain drying customers would experience rate shock.

Q: **Do you recommend modifications to Petitioner’s subsidy levels in the proposed rate design?**

A: No. Petitioner continues to design rates that move all rate classes closer to paying their fully allocated costs while attempting to mitigate rate shock to any rate class.

IV. PROPOSED TARIFF CHANGES

**Q:** Do you oppose Petitioner’s proposal to eliminate the Interruptible rate tariff?

A: No. Petitioner proposes to eliminate interruptible Rates 13/43/93. There were no interruptible customers in Petitioner’s last rate case and presently there are no interruptible customers. Mr. Heid testified Petitioner has never had customers utilize the available interruptible service. Since Petitioner has never had an interruptible customer I do not oppose the elimination of the interruptible rate class.

**Q:** **Please describe Petitioner’s monthly facilities charge proposal.**

A: Petitioner proposes to increase the monthly facilities charge for all tariffs. The monthly facilities charge for Rates 11/41/91 – Firm Small Volume Sales Service is proposed to be increased from $14.50 to $14.75. The Firm Medium Volume Sales Service (Rates 12/42/92) and the Medium Volume Transport Service (Rates 16/46/96) customer facilities charge continue to remain equal to each other and are proposed to be increased from $550 to $600. The Large Volume Transport Service (Rate 15/45/95) is proposed to be increased from $1,300 to $1,400. The Grain Drying Sales Service (Rates 14/44/94) is split into two different facilities charges based on meter volumetric throughput: Group 1 for less than
1400 standard cubic feet per hour and Group 2 for greater than 1400 standard cubic feet per hour. Petitioner proposes the Group 1 annual facilities charge to increase from $480 to $525 and the Group 2 annual facilities charge to increase from $840 to $915. The Public Schools Transport Service (Rates 18/48/98) is split into two different facilities charges based on meter volumetric throughput: Group 1 and Group 2. Petitioner proposes the Group 1 monthly facilities charge to increase from $34.50 to $36.00 and the Group 2 monthly facilities charge to increase from $54.50 to $56.00. Petitioner proposes to eliminate Rate 3-Interruptible Service.

Q: Do you have concerns about Petitioner’s proposed increases to the fixed monthly facilities charge?
A: No. I do not oppose Petitioner’s proposal to increase the fixed monthly facilities charge because all proposed monthly Facilities Charges are within the range of fixed customer charges of other similarly-sized gas utilities in Indiana.

Q: Does Petitioner’s proposed rate design continue towards single tariff pricing?
A: Yes. Petitioner continues to move the three distinct geographical pipeline service areas: OVGC-ANR, OVGC-Texas Gas, and OVGI-Texas Gas towards single tariff pricing where the same rate schedule applies to all customers within the same rate class regardless of geographical location. Petitioner recognizes full single tariff pricing will not be achieved in this proceeding.

V. RECOMMENDATIONS

Q: Please summarize your recommendations.
A: I recommend transmission mains costs (FERC 367) be allocated based on throughput and demand of customer classes as this more accurately represents the design of transmission mains. Petitioner’s rate revenues should be set at OUCC’s proposed rate class revenues as
presented in Attachment BRK-1. The OUCC’s proposed revenues include Petitioner’s proposed subsidies (KAH-4) and Petitioner’s proposed allocated miscellaneous revenues (KAH-2, Schedule 5, Page 1 of 1).

Q: Does this conclude your testimony?
A: Yes, it does.
AFFIRMATION

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

Brien R. Krieger
Utility Analyst II
Indiana Office of Utility Consumer Counselor
Cause No. 44891
Ohio Valley Gas Corporation and
Ohio Valley Gas, Inc.

4-20-17
Date
Q: Please describe your educational background and experience.

A: I graduated from Purdue University in West Lafayette, Indiana with a Bachelor of Science Degree in Mechanical Engineering in May 1986 and a Master of Science Degree in Mechanical Engineering in August 2001 from Purdue University at the IUPUI campus. From 1986 through mid-1997, I worked for PSI Energy and Cinergy progressing to a Senior Engineer. After the initial four years as a field engineer and industrial representative in Terre Haute, Indiana I accepted a transfer to corporate offices in Plainfield, Indiana where my focus changed to energy efficiency implementation and power quality. Early Demand Side Management (“DSM”) projects included ice storage for Indiana State University, Time of Use rates for industrials, and DSM Verification and Validation reporting to the IURC. I was an Electric Power Research Institute committee member on forums concerning electric vehicle batteries/charging, municipal water/wastewater, and adjustable speed drives. I left Cinergy and worked approximately two years for the energy consultant, ESG, and then worked for the OUCC from mid-1999 to mid-2001.

I completed my Masters in Engineering in 2001, with a focus on power generation including aerospace turbines and left the OUCC to gain experience and practice in turbines. I was employed by Rolls-Royce (2001-2008) in Indianapolis working in an engineering capacity of military engines. This work included: fuel-flight regime performance, component failure mode analysis, and military program control account management.
From 2008 to 2016 my employment included substitute teaching in the Plainfield, Indiana school district, grades 3 through 12. I passed the math Praxis exam requirement for teaching secondary school. During this period, I also performed contract engineering work for Duke Energy and Air Analysis.

Over my career I have attended various continuing education workshops at the University of Wisconsin and written technical papers. While previously employed at the OUCC, I completed NARUC’s Utility Rate School hosted by the Institute of Public Utilities at Michigan State University. In 2016, I attended two cost of service/rate making courses: Rate Making Workshop (ISBA Utility Law Section) and Financial Management: Cost of Service Rate-Making (AWWA).

My current responsibilities include reviewing and analyzing Cost of Service Studies (“COSS”) relating to cases filed with the Commission by natural gas, electric and water utilities. Additionally, I have taken on engineering responsibilities within the OUCC’s Resource Planning and Communications (RPC) division.

Q: Have you previously filed testimony with the Commission?
A: Yes. In 2016 and 2017, I provided written testimony concerning the cost of service studies in the following base rate cases: Community Natural Gas Corp. - Cause No. 44768, Westfield Gas LLC - Cause No. 44731, and Midwest Natural Gas Corporation - Cause No. 44880. While previously employed by the OUCC, I wrote testimony concerning the Commission’s investigation into merchant power plants, power quality, Midwest Independent System Operator and other procedures. Additionally, I prepared testimony and position papers supporting the OUCC’s position on various electric and water rate cases during those same years.
Q: Please describe the general review you conducted to prepare this testimony.

A: I reviewed previous Indiana base rate petitions for natural gas utilities. I reviewed the testimony and the respective Commission Orders with a focus on associated cost of service studies including Petitioner’s previous base rate case, Cause No. 44147. I reviewed and analyzed Petitioner’s prefiled direct testimony, exhibits, workpapers, and data request responses for this Cause. I focused primarily on the testimony, exhibits, and work papers of Petitioner’s witness Kerry Heid.
### COMPARISON OF PROFORMA OPERATING REVENUES AND RESULTING DOLLAR SUBSIDIES

OUCC Revenue Requirements from MHG-1, Schedule 5, pg 1/2 (before OUCC Transmission Mains Allocation)

<table>
<thead>
<tr>
<th></th>
<th>Proforma Revenues - Present Rates</th>
<th>Proforma Revenues - Proposed Rates</th>
<th>Petitioner Proposed Subsidy</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>PETITIONER</td>
<td>PETITIONER</td>
<td>OUCC</td>
</tr>
<tr>
<td></td>
<td>Revenues</td>
<td>Subsidy</td>
<td>Equalized Returns</td>
</tr>
<tr>
<td>Rate 1S (small volume)</td>
<td>$16,796,071</td>
<td>$(621,879)</td>
<td>$20,211,174</td>
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<tr>
<td>Rate 2S/6T (M.V./M.V. transp.)</td>
<td>$1,029,108</td>
<td>$95,737</td>
<td>$1,158,142</td>
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<tr>
<td>Rate 4S (grain drying)</td>
<td>$81,613</td>
<td>$(49,645)</td>
<td>$151,646</td>
</tr>
<tr>
<td>Rate 5T (L.V. transp.)</td>
<td>$880,397</td>
<td>$459,625</td>
<td>$552,159</td>
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<tr>
<td>Rate 8T (schools transp.)</td>
<td>$469,554</td>
<td>$116,158</td>
<td>$429,583</td>
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<tr>
<td></td>
<td>$19,256,743</td>
<td>$(4)</td>
<td>$22,502,704</td>
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</tbody>
</table>

**Notes**

1. Petitioner's Revenues and Subsidy Levels from Petitioner's Exhibit KAH-4.
2. Rate 2S medium volume and Rate 6T medium volume transport are combined in COSS.
3. ($$$) subsidy indicates rate class receiving subsidy.
5. OUCC Equalized Returns calculated with OUCC transmission mains allocation method.
6. OUCC Gas Sales Adjustments included from Public's Exhibit No. 2, Attachment DKW-1.
## COMPARISON OF GAS SALES REVENUES AT PRESENT AND PROPOSED RATES

<table>
<thead>
<tr>
<th>Rate</th>
<th>Present</th>
<th>Proposed</th>
<th>Increase</th>
<th>Proposed</th>
<th>Increase</th>
<th>Percent Increase</th>
<th>PETITIONER</th>
<th>OUCC</th>
<th>Percent Increase</th>
<th>PETITIONER</th>
<th>OUCC</th>
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<tbody>
<tr>
<td>Rate 1S (small volume)</td>
<td>$15,884,193</td>
<td>$18,787,012</td>
<td>$2,902,819</td>
<td>$17,067,610</td>
<td>$1,183,417</td>
<td>18.3%</td>
<td>7.5%</td>
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<td></td>
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<tr>
<td>Rate 2S/6T (L.V./M.V. transp.)</td>
<td>$986,619</td>
<td>$1,157,271</td>
<td>$170,652</td>
<td>$1,133,129</td>
<td>$146,510</td>
<td>17.3%</td>
<td>14.8%</td>
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<tr>
<td>Rate 4S (grain drying)</td>
<td>$78,243</td>
<td>$93,135</td>
<td>$14,892</td>
<td>$88,008</td>
<td>$9,765</td>
<td>19.0%</td>
<td>12.5%</td>
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<tr>
<td>Rate 5T (L.V. transp.)</td>
<td>$844,048</td>
<td>$955,410</td>
<td>$111,362</td>
<td>$934,432</td>
<td>$90,384</td>
<td>13.2%</td>
<td>10.7%</td>
<td></td>
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<tr>
<td>Rate 8T (schools transp.)</td>
<td>$450,168</td>
<td>$496,080</td>
<td>$45,912</td>
<td>$488,918</td>
<td>$38,750</td>
<td>10.2%</td>
<td>8.6%</td>
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<td>$18,243,271</td>
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<td>17.8%</td>
<td>7.8%</td>
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</table>

**Notes**

1. Depreciated Transmission Mains (Table 1) subtracted before applying OUCC revenue requirement.
2. Petitioner Requests 17.8% Margin Revenue Increase (KAH-5).
3. Marginal Rates do not include Misc. Revenues, Forfeited Discounts, or Special Contracts.
4. Rate 2S = medium volume firm service & Rate 6T= medium volume transport have same volumetric consumption requirements.
CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing Indiana Office of Utility Consumer Counselor Public's Exhibit No. 5 Testimony of Brien R. Krieger has been served upon the following counsel of record in the captioned proceeding by electronic service on April 20, 2017.

Clayton C. Miller  
Bamberger, Foreman, Oswald & Hahn, LLP  
201 N. Illinois Street, Suite 1225  
Indianapolis, IN 46204  
cmiller@bamberger.com

S. Mark Kerney  
Ohio Valley Gas Corporation  
111 Energy Park Drive  
P. O. Box 469  
Winchester, IN 47394-0469  
mkerney@ovgc.com

Scott Franson  
Deputy Consumer Counselor

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR
115 West Washington Street  
Suite 1500 South  
Indianapolis, IN 46204  
infomgt@oucc.in.gov  
317/232-2494 – Phone  
317/232-5923 – Facsimile