OWEN Electric

A Touchstone Energy Cooperative

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PUBLIC SERVICE COMMISSION

Rate Case No. 2011-00037

REBUTTAL TESTIMONY AND SCHEDULES

OF

MARK A. STALLONS

JAMES R. ADKINS

AND

MARY E. PURVIS

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October 6, 2011

Mr. Jeff Derouen, Executive Director
Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40602

RE: **PSC Case No. 2011-00037**

Dear Mr. Derouen:

Please find enclosed an original and ten copies of OWEN ELECTRIC COOPERATIVE, INC.'S, REBUTTAL TESTIMONY OF MARK A. STALLONS, JAMES R. ADKINS and MARY ELIZABETH PURVIS.

Respectfully yours,

CRAWFORD & BAXTER, P.S.C.

James M. Crawford
Counsel for Owen Electric Cooperative, Inc.

JMC/mns

Enclosures

cc: Mr. Dennis Howard, Assistant Attorney General

COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF OWEN ELECTRIC COOPERATIVE CORPORATION FOR AN ORDER AUTHORIZING A CHANGE IN RATE DESIGN FOR ITS RESIDENTIAL AND SMALL COMMERCIAL RATE CLASSES AND THE PROFERRING OF SEVERAL OPTIONAL RATE DESIGNS FOR THE RESIDENTIAL RATE CLASSES	))))	CASE NO. 2011-00037

REBUTTAL TESTIMONY AND SCHEDULES

OF

MARK A. STALLONS

JAMES R. ADKINS

AND

MARY E PURVIS

OCTOBER 7, 2011

COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION

OWEN ELECTRIC COOPERATIVE

CASE NO. 2011-00037

REBUTTAL TESTIMONY

OF

Mark A. Stallons

Q1. State your name, occupation and business address.

A.1 My name is Mark A. Stallons. I am President & CEO of Owen Electric Cooperative. My business address is 8205 Highway 127 North, P. O. Box 400, Owenton, Kentucky 40359-0400. I graduated from Ohio Northern University in 1979 with a Bachelor of Science in electrical engineering and University of Dayton in 1986 with a Masters in Business Administration. I am a licensed Professional Engineer in the State of Ohio. I have spent the last twenty years of my career with electric cooperatives and have worked in areas of increasing managerial responsibility including engineering, operations, marketing, customer service, power supply and senior executive management positions in Michigan and Illinois before coming to Owen Electric in January of 2009.

Q2. What is the purpose of your rebuttal testimony?

A2. The purpose of this testimony is to discuss the areas of agreement and areas of disagreement with the Testimony of Mr. Glenn A. Watkins ("Watkins Testimony").

Q3. What is your overall opinion in regards to Watkins Testimony?

A3. I believe that this testimony is fatally flawed. Indicates a complete lack of understanding of the current electric cooperative industry, and thus is not credible. Mr. Watkins opinions would have been useful to this Commission fifteen to twenty years ago. However, his testimony indicates his belief that nothing has significantly changed in the last ten or so years. He gives no recognition to a utility industry that is in the midst of

reinventing itself especially in the context of electric distribution cooperatives. What was appropriate for the 1990's is no longer appropriate for today's dynamic and volatile industry.

Q4. What are your areas of agreement with Mr. Watkins?

A4. Mr. Watkins presents a broad discussion in regards to economic theory in the areas of long run marginal costs, short run marginal costs, price theory, and his opinion on their application to Owen's proposals in this application. Ms. Mary E. Purvis in her rebuttal testimony will discuss Mr. Watkins presentation on economic theory and the flaws within his presentation and where there is agreement. Mr. James A. Adkins in his rebuttal testimony will address Mr. Watkins presentation on rate design and the flaws within his presentation and where there is agreement. The areas where I agree with Mr. Watkins in his testimony are as follows:

- Time of day and time of use rates have not worked well in the past;
- Texas power marketers are not an apples-to-apples comparison to Owen Electric or any electric cooperative.

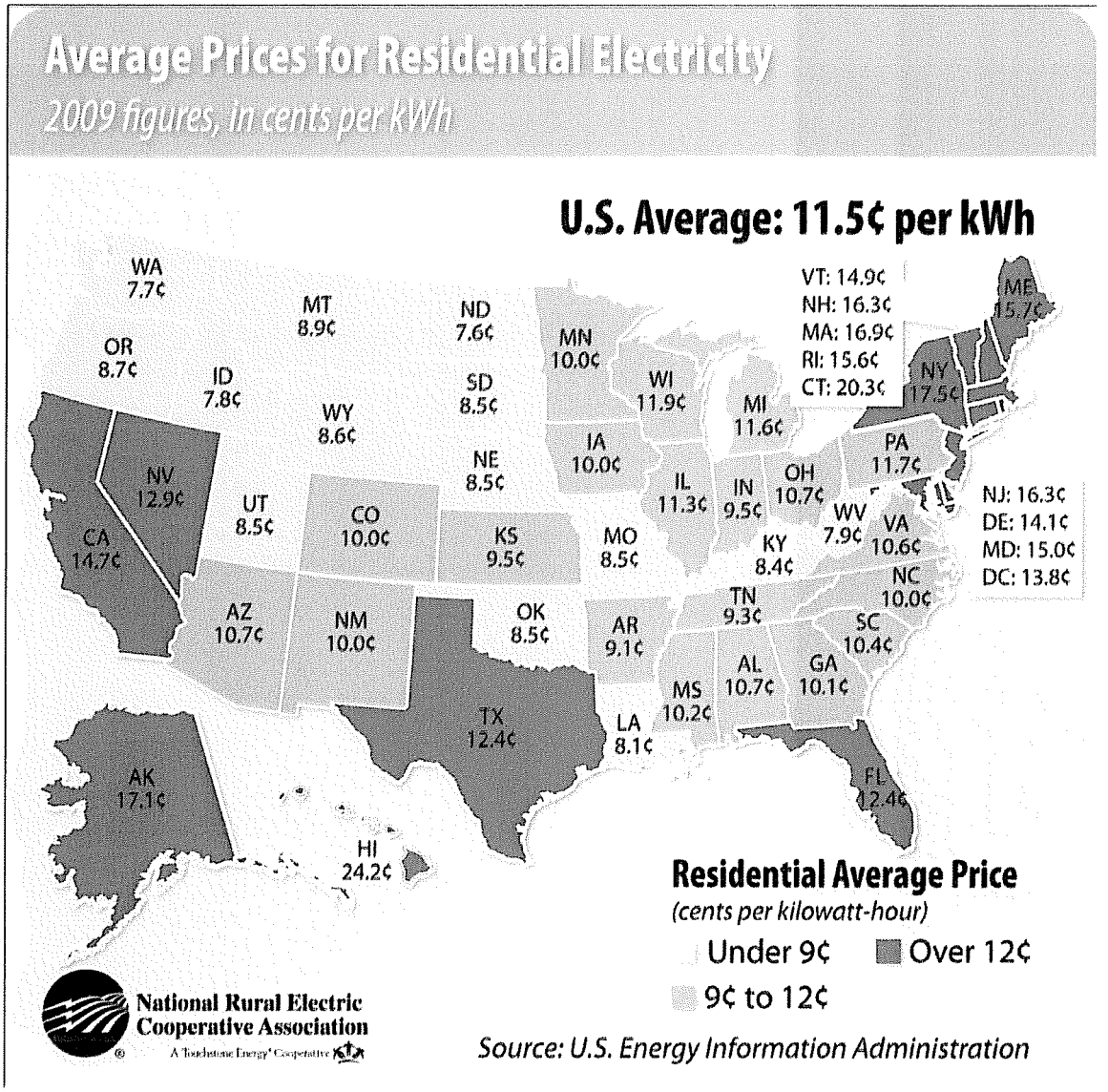
Those areas where I do not agree with Mr. Watkins are listed below and result in the lack of credibility of his testimony:

- The electric utility industry has changed dramatically in the last ten years requiring a new business strategy;
- Owen Electric's rate strategy is "Best Practice" in the electric cooperative industry and is the first step employed by cooperatives that are pursuing an aggressive and innovative DSM strategy;
- Owen Electric's proposed rate strategy is and will remain overwhelmingly volumetrically based;
- Complicated rate structures such as Owen's proposed residential time-of-day rates may be of more use than in the past;
- Owen Electric's proposed rate strategy is in the best interest of our member/owners.

Q5. Why do you state that the electric utility industry has changed dramatically in the last ten years requiring a new business strategy?

A5. I believe that Mr. Watkins is so focused on the long term that he ignores the short run where business is managed day to day and as a result is missing three basic drivers that have occurred in the last ten years and are creating pressures that are forcing the electric industry to change.

The three major drivers are as follows: First, since the fall of 2008 our business and general economy has been stuck in an economic great recession and since late 2007 and early 2008, our housing market has been in a great depression. Annual load growth has dropped from roughly 3% to 1% and new housing starts are approximately one-third of what they were in 2007. For some of our members their disposable income is falling, government LIHEAP funds are under pressure and may be reduced 50%, and many members' ability to pay their bill is under severe pressure. The second driver is the cost of coal fired generation which has risen from around $1,250 per KW in the early 2000's to about $3,000 per KW today. In 2000 the cost of most cooperative power supply was around $40 per MWh or 4 cents per kWh. Today the typical cooperative power supply cost is about 7 cents per kWh. The last driver and perhaps the most significant is the environmental regulatory environment that, if implemented as described by the EPA between now and 2017, will drive retail rates and power bills significantly higher. Perhaps to price levels near the 15 to 20 cents/kWh range as shown on the national rates map below in the Northeast U.S. and in California.



Based upon these drivers, utilities have two choices. The first, as proposed by Mr. Watkins, is to keep on doing what they have always done. Under this "do nothing different option", if rates climb, the utilities' most likely response will be to direct blame to outside forces such as (1) China buying US coal reserves and driving prices upward, (2) China and India building new power plants and driving steel, aluminum, cooper, and other building material prices higher, or (3) the EPA implementing new regulations forcing low cost older power plants to close, requiring millions and billions to be invested into ultra clean emissions, water management, ash removal, and CO2 removal. A second approach is more proactive and basically develops a hedge that protects our members should the above occur. The major components of the second business strategy are to (1)

embrace energy innovation and develop a organizational culture at Owen Electric that fully meets our members' needs to manage their energy consumption, (2) investigate, develop, and implement pilot projects designed to demonstrate new energy innovation technology on the grid and in the members' home, (3) develop reliable measurement & verification processes , (4) improve our communication and information network, (5) implement innovative and financial stable rate designs, (6) collaborate with cooperative partners such as NRECA, CRN, DOE, DEDI, EKPC, and fellow electric cooperatives within Kentucky and within the United States who are pursuing energy innovative strategies uniquely designed for their membership, and lastly (7) secure funding for pursuing an energy innovative strategy.

Q6. Why do you state that Owen Electric's rate strategy is "Best Practice"?

In the guide titled "Rate Strategies for 21st Century Challenges, A Guide to Rate Innovation for Cooperatives", NRECA and CFC, advise electric cooperatives to (1) integrate rates with the Business Plan, (2) adopt a rate policy Statement, (3) support financial and other strategic goals through effective and complimentary rate design, (4) consider decoupling revenue and sales, (5) align wholesale and retail rates with wholesale cost drivers, (6) develop a rate implementation plan, and (7) review rates at least annually. In the Executive Summary the first two paragraphs state:

> "Between 1983 and 2000 cooperatives enjoyed a period of rate stability when the U.S. Cooperative average total revenue per kilowatt-hour (kWh) hovered around 6.8 cents and inflation adjusted rates actually fell. Since 2000, inflation-adjusted rates have risen and the cooperative average total revenue per kilowatt-hour reached 9.3 cents in 2008 indicating a significant increase in costs. Unfortunately, it appears these increases are part of a long term trend … Over the next decade, cooperatives can expect continued escalation in power supply costs resulting from:
>
> - A new power plant construction cycle and rapidly rising construction costs:

- Potential climate change mandates that, if implemented, are likely to impose additional costs on fossil-fueled generation:
- Increased volatility in fuel costs and wholesale market prices: and
- Political, environmental, and regulatory pressures on utilities to achieve societal goals. Such as increased reliance on renewable resources and energy efficiency.

While cooperative loads are expected to grow faster than those of investor-owned companies due to population shifts and greater dependency of rural residential consumers on electricity to meet energy needs, increases in energy efficiency, conservation, demand response and distributed generation are still likely to result in a reduced rate of growth in kilowatt-hour sales. In addition, emerging technologies for new uses of electricity, new generating resources, and control and management of the electric system will create new risks and opportunities. These factors may make it more difficult for systems with traditional rates to recover their costs and margins."

In C. H. Guernsey's article titled "Rate Design Modifications That Encourage Efficiency", the author David Hedrick describes the "throughput incentive" as a rate structure that encourages a member to consume energy. In the next paragraph Mr. Hedrick discusses why a cooperative using the traditional rate structure advocated by Mr. Watkins "does not recover all of the fixed costs of providing service in the customer charge component". Mr. Hedrick goes on to state " the cooperative's costs to maintain line and equipment, trim trees, read meters and prepare bills and all other activities related to providing service do not go down if energy usage declines". As recommended by Mr. Hedrick, this rate recovery issue related to encouraging energy efficiency can be solved by increasing the fixed charge component of the rate.

Both of the above referenced articles can be found in Owen's reply to the Commission Staff's second information request, Item No. 2, page 30 and page 46.

It is interesting to note that the title of the NRECA and CFC rate guideline includes the following phrases: 21st Century Challenges and Innovation. No where in the rate guideline do the authors look to the 1800's for guidance, or for that fact the 1990's. Nowhere do the authors discuss the economic theory that all costs are variable in the long run. The reality is that theory is good to understand and business plans need to have a long run outlook; however, when managing a business, good leaders must have a keen focus on the here and now, are constantly scanning the business environment identifying new threats and opportunities, and are always evaluating and making plans and action items to take advantage of their organizations strengths and looking for ways to mitigate or improve their organizations weaknesses.

Lastly, no where in the above referenced rate guidelines do the authors look to Texas power marketers or investor-owned utilities as an example of "Best Practices". The reason is quite simple. investor-owned utilities and power marketers are completely different than electric cooperatives in regards to determining an applicable customer charge. The major reason is that their assets and services are spread over more customers with less, or no, miles of line. In a power marketer's business structure by definition the power marketers buy and sell energy with no asset ownership. They strictly buy and sell energy, and bill their customer for the energy provided. The power marketer does not own the transformer, the wires, the poles, or the meter. The customer pays their wires provider for that service. A power marketer's overhead is very limited and as a result its rate structure has no comparability to a distribution cooperative. In regards to an investor-owned utility the major difference is that their customer density is typically in the 35 customer per mile range while Owen's is 12.75. Thus, I would expect their customer charge to be roughly one third of Owen's.

In early 2009, Owen Electric developed an energy innovation business strategy based upon "Best Practices" to realign our business strategy to "help our members save energy and reduce their bill". Likewise, this strategy as originally proposed by NRECA and CFC, has been embraced by a group of cooperatives nationwide who have already

increased their customer charge to the $20 plus range and are embarking on new methods to encourage efficiency, conservation, and demand response.

Attached for the Commission's review, in Exhibit 1 to this testimony, is a list of true apple-to-apple comparisons. In the attachments we have provided customer charges for all electric cooperatives in Texas, Illinois, Indiana, and Ohio. In addition, we have provided the customer charge for the TVA cooperatives in the Commonwealth of Kentucky. What these attachments show is that Owen's request for a customer charge that gradually increases to $25 over the next five (5) years with a corresponding revenue decrease is reasonable when compared to neighboring electric cooperatives, as well as electric cooperatives in Texas, and the TVA cooperatives in Kentucky.

Q.7. Why do you state that "Owen Electric's proposed rate strategy is and will remain overwhelmingly volumetrically based"?

A7. Mr. Adkins in Question 7 of his rebuttal testimony provided the following table which lists the revenues from the customer charges in relationship to the total bill. From the member's perspective his/her bill today is roughly 90% based on the volume of energy consumed, while the fixed customer charge comprises roughly 10% of the bill. If Owen's rate proposal is accepted in its entirety, the volumetric portion of the bill will reduce roughly 2.0% each year and stabilize at about 78% in 2015, while the fixed customer charge will rise to roughly 22% of the bill. It is obvious that the bill will remain heavily volumetrically weighted.

Owen's approach will minimize its risk of lost distribution revenue as it moves heavily into Demand Side Management ("DSM") and customers begin to better manage their monthly bill and reduce the overall energy consumption. With less risk, Owen is very much incented to promote DSM and help their customer to better manage their bill.

RESIDENTIAL RATE CLASS REVENUES AND PERCENTAGES OF REVENUES FROM CUSTOMER CHARGE AND ENERGY CHARGE							
						Percent	
	Customer Charge		Energy Charge		Total	Customer	Energy
Year	Amount	Revenue	Amount	Revenue	Revenue	Charge	Charge
Current	$ 11.30	$ 7,332,660	$0.09478	$67,336,362	$74,669,022	9.82%	90.18%
2011	$ 15.00	$ 9,733,620	$0.09140	$64,935,402	$74,669,022	13.04%	86.96%
2012	$ 17.50	$11,355,890	$0.08912	$63,313,132	$74,669,022	15.21%	84.79%
2012	$ 20.00	$12,978,160	$0.08683	$61,690,862	$74,669,022	17.38%	82.62%
2014	$ 22.50	$14,600,430	$0.08455	$60,068,592	$74,669,022	19.55%	80.45%
2015	$ 25.00	$16,222,700	$0.08227	$58,446,322	$74,669,022	21.73%	78.27%

8Q. Is it your opinion that complicated time-of-day ("TOD") rates may become of more use than in the past?

8A. Owen has structured three different TOD rates so that a customer may select one that best fits their lifestyle. The rates will be offered in the Smart Home Energy Pilot and will be optional to our members. One significant point concerning these TOD rates is the fact that the number of off-peak hours is greater than in Owen's current TOD rates which should make them more attractive to customers. Additionally, Owen has established a comprehensive DSM education plan and the TOD rates are an important part of Owen's DSM program.

However, TOD rates as presently offered by Owen have not gained traction with our membership and one has to ask the question why? What are the barriers to members using TOD rates? In our Smart Home pilot we will work to identify and clarify the answer to this question. The simple possibility that quickly comes to mind is that at today's price point the benefit of TOD rates does not exceed the personal cost in time & effort. It is our hope that the Smart Home pilot will reduce the time & effort required by our members to implement TOD rates by simplifying and automating as much of the energy saving decision process as possible and by using the rate signal to properly economically incent the member to save energy. The three keys to the success of "Smart Home" technology will be (1) how simple will it be for our members to save energy and money; (2) how much will it cost to install and maintain the system; and (3) how quickly will the investment pay for itself. It is our belief that if the Smart Home pilot does not

adequately solve these barriers of simplicity, adequate energy savings, and a reasonable payout, neither the Smart Home, nor the TOD rates, will be adopted by our members in large numbers.

9Q. Please support your assertion that Owen Electric's proposed rate strategy is in the best interest of our member/owners;

9A. Our rate strategy resolves the throughput incentive issue by raising the customer charge to $25 over a five year period with a corresponding decrease in the energy charge. In so doing, Owen has positioned itself to aggressively promote energy efficiency, conservation, and demand response (DSM).

One might ask how this differs from what Owen has done in the past? The major difference is that in the past we offered many programs but unfortunately very few members took full advantage of our efforts, and thus, our energy sales were not significantly affected. The hard truth is that we have been unable to overcome the barriers to members embracing our DSM efforts such as "I do not have the time, energy, or financial resources to install a new heat pump", or "I will not see a payout quick enough", or "the rates are too complicated to remember", or "I am too busy to change how I use energy". In today's climate, and with the advent of new technology, we have an opportunity to investigate new efficiency products that will hopefully remove those barriers. Products such as "Beat the Peak, in home displays, home energy networks, web portals, smart phone interfaces, pre-pay metering, and How $mart Kentucky, are designed to reduce or eliminate barriers to members saving energy. Many cooperatives are experimenting with the above energy efficiency products to see what works and what segments of our membership may be most interested.

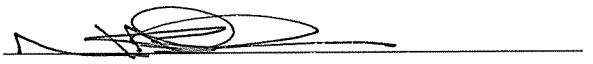
The external forces that are driving this innovation, such as environmental regulatory policy, cost of new generation, and hard economic times are variables that are difficult to predict. However, prudent business strategy suggests that now is the time to prepare and develop products to help our members manage their bill before they find themselves in dire straits, without any viable options for relief.

Because we are member owned and controlled, and because our customers are our shareholders, we believe it is in both of our best interests to align our rates to reduce our reliance on energy sales to cover our short run fixed consumer related costs. We believe it is in our interests to help our members manage their power bill, their comfort, and their convenience.

10Q. Does this conclude your testimony?

10A. Yes.

Affiant, Mark A Stallons, states that the answers given by him to the foregoing questions are true and correct to the best of his knowledge and belief.



Mark A Stallons

Subscribed and sworn to before me by the affiant, Mark A Stallons, this 6th day of October, 2011.

Notary Melissa K Moore

State-at-Large

My Commission expires April 14th, 2015.

Texas Cooperative Name:	Residential Customer Charge:
Bailey County Electric Cooperative	$12.20
Bandera Electric Cooperative	$22.50
Bartlett Electric Cooperative	$20.00
Big County Electric Cooperative	$18.50
Bowie-Cass Electric Cooperative	$17.50
Bluebonnet Electric Cooperative	$22.50
Bryan Texas Utilities	$8.15
Central Texas Electric Cooperative	$22.50
Cherokee County Electric Cooperative	$15.00
Coleman County Electric Cooperative	$17.50
Comanche Electric Cooperative	$21.00
Concho Valley Electric Cooperative	$19.75
Cooke County Electric Cooperative	$20.00
CoServ Electric	$10.00
Deaf Smith Electric Cooperative	$9.00
Deep East Texas Electric Cooperative	$15.00
Fannin County Electric Cooperative	$15.00
Farmers Electric Cooperative	$20.00
Fayette Electric Cooperative	$18.00
Fort Belknap Electric Cooperative	$16.00
[illegible]rson-Collin Electric Cooperative	$18.00
Greenbelt Electric Cooperative	$20.00
Guadalupe Valley Electric Cooperative	$15.00
Hamilton County Electric Cooperative	$15.00
Harmon Electric Association	$24.00
Heart of Texas Electric Cooperative	$18.00
HILCO Electric Cooperative	$19.50
Houston County Electric Cooperative	$10.00
J-A-C Electric Cooperative	$10.00
Jackson Electric Cooperative	$15.00
Jasper-Newton Electric Cooperative	$12.00
Karnes Electric Cooperative	$19.50
Lamar County Electric Cooperative	$12.50
Lamb County Electric Cooperative	$16.00
Lea County Electric Cooperative	$14.00
Lighthouse Electric Cooperative	$17.50
Lyntegar Electric Cooperative	$17.58
Magic Valley Electric Cooperative	$20.00
Medina Electric Cooperative	$25.00
Mid-South Synergy	$26.95
Navarro County Electric Cooperative	$15.00
[illegible]asoto Valley Electric Cooperative	$7.35
[illegible]th Plains Electric Cooperative	$20.00
Northeast Texas Electric Co-op	$7.50
Nueces Electric Cooperative	$14.00
Panola-Harriosn Electric Cooperative	$6.50

Texas Cooperative Name:	Residential Customer Charge:
Pedernales Electric Cooperative	$22.50
Rita Blanca Electric Cooperative	$10.00
Robstown Utilities	$11.32
Rusk County Electric Cooperative	$10.50
Sam Houston Electric Cooperative	$12.75
San Miguel Electric Cooperative	$16.00
San Patricio Electric Cooperative	$10.00
South Plains Electric Cooperative	$12.50
Southwest Rural Electric Cooperative	$25.00
Southwest Texas Electric Cooperative	$18.00
Swisher Electric Cooperative	$10.49
Taylor Electric Cooperative	$30.00
Tri-County Electric Cooperative - Oklahoma	$20.00
Tri-Electric Cooperative	$15.00
Trinity Valley Electric Cooperative	$20.00
United Cooperative Services	$17.30
Upshur-Rural Electric Cooperative	$13.00
Victoria Electric Cooperative	$18.50
Wharton County Electric Cooperative	$19.28
Wise Electric Cooperative	$20.00
[illegible]d County Electric Cooperative	$14.00
Average Facility/Customer Charge:	**$16.45**

Indiana Cooperative Name:	Residential Customer Charge:
Bartholemew County REMC	$30.34
Boone REMC	$33.60
Carroll County REMC	$25.00
Clark County REMC	$31.50
Daviess-Martin County REMC	$32.89
Decatur County REMC	$34.50
Dubois REC	$20.00
Fulton County REMC	$26.00
Harrison County REMC	$20.00
Hendricks Power Cooperative	$24.17
Henry County REMC	$25.00
Jackson County REMC	$18.00
Jasper County REMC	$25.00
Jay County REMC	$16.00
Johnson County REMC	$25.00
Kankakee Valley REMC	$30.00
Kosciusko REMC	$21.00
LaGrange County REMC	$22.00
Marshall County REMC	$19.50
Miami-Cass REMC	$16.50
Newton County REMC	$12.00
NineStar Connect	$30.00
Noble REMC	$15.00
Northeastern REMC	$15.00
Orange County REMC	$26.00
Parke County REMC	$22.50
Rush Shelby Energy REMC	$25.00
South Central Indiana REMC	$33.04
Southern Indiana Power	$24.50
Southeastern Indiana REMC	$20.00
Steuben County REMC	$17.00
Tipmont REMC	$20.00
United REMC	$18.00
Utilities District of Western Indiana REMC	$32.00
WaBash County	$18.00
Warren County REMC	$30.00
White County REMC	$27.00
Whitewater Valley REMC	$26.27
WIN Energy REMC	$18.00
Average Facility/Customer Charge:	**$23.73**

Illinois Cooperative Name:	Residential Customer Charge:
Adams Electric Coop	$37.00
Clay Electric Co-operative	$30.00
Clinton County Electric Coop	$22.00
Coles-Moultrie Coop	$30.00
Corn Belt Energy Corp.	$19.50
Eastern Illini Electric Coop	$26.15
Egyptian Electric Coop, Assn.	$24.00
EnerStar Electric Coop	$26.00
Farmers Mutual Electric Coop	$28.00
Illinois Rural Electric Coop	$40.00
Jo-Carroll Energy Coop	$25.00
McDonough Power Coop	$27.50
M.J.M. Electric Coop	$22.50
Menard Electric Coop	$24.00
Monroe County Electric Coop	$27.00
Norris Electric Coop	$15.50
Rock Energy Cooperative	$13.25
Rural Electric Convenience Coop	$35.00
Shelby Electric Coop	$29.00
South Eastern Illinois Electric Coop	$30.00
Southern Illinois Electric Coop	$29.25
Spoon River Electric Coop	$22.00
Tri-County Electric Coop	$21.50
Wayne-White Electric Coop	$25.00
Western Illinois Electrical Coop	$18.75
Average Facility/Customer Charge:	$25.92

Ohio Cooperative Name:	Residential Customer Charge:
Adams Rural Electric Coopertive	$29.00
Buckeye Rural Electric Cooperative	$20.00
Butler Rural Electric Cooperative	$33.00
Carroll Electric Cooperative	$23.00
Consolidated Electric Cooperative	$25.00
Darke Rural Electric Cooperative	$19.50
Firelands Electric Cooperative	$30.00
Guernsey-Muskingum Electric Cooperative	$16.00
Hancock-Wood Electric Cooperative	$18.00
Harrison Rural Electrification Association	$24.95
Holmes-Wayne Electric Cooperative	$16.65
Licking Rural Electrification	$15.00
Logan County Electric Cooperative	$24.00
Lorain-Medina Rural Electric Cooperative	$20.00
Mid-Ohio Energy Cooperative	$15.00
Midwest Electric, Inc	$35.00
Midwest Energy Cooperative	$35.00
North Central Electric Cooperative	$23.00
North Western Electric Cooperative	$29.00
Paulding-Putnam Electric Cooperative	$25.00
Pioneer Rural Electric Cooperative	$39.50
South Central Power Company	$11.00
The Frontier Power Company	$15.00
Tricounty Rural Electric Cooperative	$25.00
Union Rural Electric Cooperative	$14.00
Washington Electric Cooperative	$19.95
Average Facility/Customer Charge:	$23.10

Kentucky TVA Cooperative Name:	Residential Customer Charge:
Hickman-Fulton Coop	$21.50
Pennyrile RECC	$16.92
Tri-County	$18.00
Warren County	$18.80
Western KY	$21.65
Average Facility/Customer Charge:	$19.37

COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION

OWEN ELECTRIC COOPERATIVE
CASE NO. 2011-00037

REBUTTAL TESTIMONY
OF
JAMES R. ADKINS

Q1. State your name, occupation and business address.

A.1 My name is James R. Adkins. I am a self-employed utility rate consultant specializing in cost of service studies, rate design, revenue requirements determination, financial forecasting, regulatory affairs and other matters of finance and accounting pertaining primarily to electric cooperatives. My business address is P.O. Box 911162, Lexington, KY 40591-1162.

Q2. What is the purpose of your rebuttal testimony?

A2. The purpose of this testimony is to discuss the areas of agreement and areas of disagreement with the Testimony of Mr. Glenn A. Watkins ("Watkins Testimony").

Q3. What is your overall opinion in regards to Watkins Testimony?

A3. I believe that Watkins' testimony is fatally flawed as he fails to acknowledge the reality of the current electric cooperative marketplace. Mr. Watkins seems to be stuck in the early part of the latter half of the twentieth century and gives no recognition to a changing utility industry especially in the context of electric distribution cooperatives. What was appropriate for those times is no longer appropriate for today's industry. Insanity has been defined as "doing the same thing and expecting different results" and what Mr. Watkins is proposing to use as the basis for the development of customer charge may not be insane, but it is not appropriate in today's world.

Q4. What are your areas of agreement and/or disagreement with Mr. Watkins?

A4. Mr. Watkins presents a broad discussion in regards to economic theory in the areas of long run marginal costs, short run marginal costs, price theory, and his opinion on their application to Owen's proposals in this application. Ms. Mary E. Purvis in her rebuttal testimony will discuss Mr. Watkins presentation on economic theory and the flaws within his presentation as well as the areas where there is agreement. The areas where I agree with Mr. Watkins in his testimony are these:

- with what he considers in general to be the direct customer costs to connect a customer to the distribution grid;
- that short run marginal costs are the more appropriate way to price a product in a competitive market place; and
- that residential time-of-day rates have not been widely used in the past when available.

Those areas where I do not agree with Mr. Watkins are listed below and cause the fatal flaws within his testimony:

- the proper cost components to be included in the direct costs for connecting a customer to the distribution grid for an electric cooperative;
- what the appropriate marginal costs or the direct customer costs are to connect a new residential customer to the distribution grid;
- the percentage of revenue that Owen will collect through its volumetric/energy sales;
- why fully allocated costing is more appropriate than direct/variable costing for the development of the customer charge for this direction within the industry; and
- the reasons why the proposed residential time-of-day rates may become of more use than in the past.

Q5. Why do you not agree with the proper cost components that are a part of the direct costs for connection of a customer to the distribution grid?

A5. I agree with Mr. Watkins cost components with the exception of not including the

customer related components of a transformer when determining the direct costs for electric cooperatives. I have never seen service provided to a customer without a transformer being present. His direct cost determination may be appropriate for an investor owned utility and a municipal utility but the transformer should be included for electric cooperatives.

Q6. If one were to use the proper marginal costs to connect a residential customer to the distribution grid, what are the proper marginal costs to use?

A6. The proper marginal costs to utilize in the determination of the direct customer costs would include the expenses with the current investment cost for a new meter, a new service drop and for the customer related component of a transformer plus the other expenses that Mr. Watkins has included. The direct, marginal customer costs could amount to as much as $21.54 for a residential customer and $29.11 for small commercial customer. One should note that these are current direct costs and fully allocated customer costs. If Mr. Watkins believes in the use of direct costs as the basis for the customer charge, then it only seems logical to determine it on a marginal cost basis, where the marginal cost for these direct costs is the cost for the next installation. Listed below is a table that provides how these costs were developed.

COST OF INVESTMENT FOR NEW CUSTOMER					
	Residential Customer			Small Comm. Customer	
Transformer	10 KVA	$	1,529.18	25 KVA	$ 2,241.51
Service Drop	4 triplex	$	150.70	4 Quad	$ 190.30
Meter	3 Wire AMI	$	157.02	3 Wire AMI	$ 337.02
Total Cost		$	1,836.90		$ 2,768.83

ANNUAL COST FOR INVESTMENT FOR A NEW CUSTOMER			
	Residential Customer		Small Comm. Customer
Depreciation	$	59.25	$ 88.94
Interest	$	55.05	$ 82.98
Margin	$	55.05	$ 82.98
O&M	$	30.67	$ 30.67
Records & Collect.	$	48.83	$ 48.83
Annual Cost	$	248.85	$ 334.39
Monthly Cost	$	20.74	$ 27.87

FOOTNOTES		
	Residential Customer	Small Comm. Customer
Depreciaton		
Transformers	2.97%	2.97%
Services	5.50%	5.50%
Meters	3.53%	3.53%
Interest - Watkins Testimony	4.85%	4.85%
Margins for 2.0X TIER plus O&M & Records and Collection	Same as in Watkins Test.	Same as in Watkins Test.

Q.7. What part of Owen's revenue will be generated through its volumetric/energy sales in its residential rate schedule using the current customer charge and energy charge and the proposed customer charge and proposed energy rate.

A7. Provided below is a table which listed the revenues from the customer charges, the revenues from the energy charges, the total revenue, the percentage of revenue received from the customer charge and the percentage of revenue from the energy rate. From a very quick scan of this table, I certainly do not understand Mr. Watkins assertion that Owen will not receive a vast majority of its revenue from its volumetric/energy rate.

RESIDENTIAL RATE CLASS REVENUES AND PERCENTAGES OF REVENUES FROM CUSTOMER CHARGE AND ENERGY CHARGE							
						Percent	
	Customer Charge		Energy Charge		Total	Customer	Energy
Year	Amount	Revenue	Amount	Revenue	Revenue	Charge	Charge
Current	$ 11.30	$ 7,332,660	$0.09478	$67,336,362	$74,669,022	9.82%	90.18%
2011	$ 15.00	$ 9,733,620	$0.09140	$64,935,402	$74,669,022	13.04%	86.96%
2012	$ 17.50	$11,355,890	$0.08912	$63,313,132	$74,669,022	15.21%	84.79%
2012	$ 20.00	$12,978,160	$0.08683	$61,690,862	$74,669,022	17.38%	82.62%
2014	$ 22.50	$14,600,430	$0.08455	$60,068,592	$74,669,022	19.55%	80.45%
2015	$ 25.00	$16,222,700	$0.08227	$58,446,322	$74,669,022	21.73%	78.27%

Even in the last year, when the customer charge is proposed to increase to $25.00 per month, the percentage of revenue from its volumetric/energy sales will exceed 78 percent of the total revenue for the residential rate class. Below is a table presenting the same information for the small commercial rate class. The volumetric rate, not the customer charge, still provides the vast majority of the revenues for this rate class as well.

SMALL COMMERCIAL RATE CLASS REVENUES AND PERCENTAGES OF REVENUES FROM CUSTOMER CHARGE AND ENERGY CHARGE							
						Percent	
	Customer Charge		Energy Charge		Total	Customer	Energy
Year	Amount	Revenue	Amount	Revenue	Revenue	Charge	Charge
Current	$ 13.34	$ 339,516	0.09478	$ 4,421,681	$ 4,761,197	7.13%	92.87%
2011	$ 20.00	$ 509,020	0.09115	$ 4,252,177	$ 4,761,197	10.69%	89.31%
2012	$ 25.00	$ 636,275	0.08842	$ 4,124,922	$ 4,761,197	13.36%	86.64%
2012	$ 30.00	$ 763,530	0.08569	$ 3,997,667	$ 4,761,197	16.04%	83.96%
2014	$ 35.00	$ 890,785	0.08296	$ 3,870,412	$ 4,761,197	18.71%	81.29%

If Mr. Watkins is talking about only the distribution costs, then the customer charge segment will provide the majority of the revenue for both classes. However, this type of approach is fatally flawed in every respect and should be avoided or abandoned. The approach that Owen has submitted in this Application is based on the table provided below.

Type of Cost	Fixed or Variable Cost	Recovered Thru What Rate Segment
Wholesale Demand	Variable	Energy Rate
Wholesale Energy	Variable	Enegy Rate
Distribution Customer	Fixed	Customer Charge
Distribution Demand	Fixed	Energy Rate

Owen's approach will minimize its risk of lost distribution revenue as it moves heavily into Demand Side Management ("DSM") and customers begin to better manage their monthly bill and reduce the overall energy consumption. With less risk, Owen is very much incented to promote DSM and help their customer to better manage their bill.

Q8. Why do you feel that full absorption costing is the more appropriate way to Develop the customer charge than a variable costing approach?

A8. It is my opinion that the use of a fully allocated cost of service study ("COSS") is the better way to determine the revenue requirements for each rate class. In a COSS for an electric cooperative, revenue requirements are developed for each rate class, are based on a fully allocated COSS, and are broken down into demand-related, energy-related, and customer-related components. This process is supported by the National Association Regulatory Utility Commissioners ("NARUC") 1992 Electric Utility Cost Allocation Manual. Customer-related components include expenses for the following functions:

- a partial amount of expenses for lines,
- a partial amount of expenses for transformers.
- all expenses for service drops,
- all expenses for meters, and
- all expenses for customer services and accounting.

Since revenue requirements are determined on this basis, it becomes readily apparent that it is very logical to price this product in a similar way. The continuation of setting the customer charge at less than fully allocated costs and

expecting the customer to react in a manner different than the past is has no rational basis.

9Q. Is it your opinion that time-of-day ("TOD") rates may become of more use than in the past?

9A. Owen has structured three different TOD rates so that a customer may select one that better fits his/her lifestyle if they so choose. One significant point within these TOD rates is the fact that the number of off-peak hours is greater than in Owen's current TOD rates, and this should make them more acceptable to customers. Additionally, Owen has established a comprehensive DSM education plan and the explanation of TOD rates are an important part of Owen's DSM program.

10Q. Do you agree with Mr. Watkins assertion that an increased customer charge is against Commission policy?

10A. I certainly do not agree with this assertion. This Commission has emphasized gradualism in rate design changes and has stated that increased customer charges are acceptable when supported by a comprehensive DSM program. This approach is the one that Owen is proposing in this application as it seeks a gradual increase for its customer charge over a period of years and is supported by a comprehensive DSM program. Owen's proposal is forward- looking, is supportive of the Energy Independence and Security Act, and is the template for the future for electric cooperatives in Kentucky. This Commission in its Order dated February 17, 2011 in the Application of Meade County RECC in Case No. 2010-00222 stated the following in regards to customer charges and DSM program: As discussed later in this Order, given that Meade currently offers little in the way of DSM programs to its customers, we find that its need for higher customer charges is not as great as that of cooperatives more aggressively pursuing DSM. Therefore, in keeping with our principle of gradualism and recognizing the minimal prospects for substantive involvement in DSM by Meade in the foreseeable future, we find that the increase being

granted herein should be allocated 50 percent to customer charges and 50 percent to energy charges.

The message in this order has been resoundingly received by the electric cooperatives in Kentucky. Owen's Application and proposals contained therein are in complete compliance with this Order.

11Q. One of the reasons that Owen is seeking a higher customer charge is to provide some downside protection against distribution revenue erosion when its DSM program assists its members to reduce their consumption and better manage the bills. Does this Commission recognize this approach?

11A. This Commission recognized this approach in Order dated October 21, 2010 in Delta Natural Gas Company's Application, Case No. 2010-00116. The Commission stated in that Order the following:

> With this reduction in the revenue increase, and giving appropriate recognition to Delta's pressing need to collect its revenue requirement despite decreasing sales volumes, the Commission will increase Delta's residential customer charge from $15.30 to $20.44. Similarly, we will increase the small non-residential customer charge from $25.00 to $31.20 and increase the large non-residential customer charge from $100.00 to $131.00.

12Q Please summarize your rebuttal testimony.

12A. The electric utility industry is changing, especially for electric cooperatives. Electric cooperatives are moving to larger customer charges for the purpose of promoting DSM and to minimize the cooperative's risk if DSM leads to static or declining energy sales for the cooperative. This Commission has indicated its acceptance of this concept in the Delta Natural Gas Company Case where a larger customer charge was approved. This Commission has also acknowledged its acceptance of higher customer charges if supported by a comprehensive DSM program as illustrated in the Meade County RECC Case.

Owen has presented a comprehensive DSM program in this Application along with a process for increasing its customer charges, in a gradual manner, to a level that is still less than the customer related costs from a fully allocated COSS. It is my opinion that this application is very forward looking, promotes DSM, and will be the template for electric cooperatives DSM programs that will be presented to this Commission in the future.

13Q. Does this conclude your rebuttal testimony?

13A. Yes, this concludes my rebuttal testimony.

Affiant, James Adkins, states that the answers given by him to the foregoing questions are true and correct to the best of his knowledge and belief.

James R. Adkins

James Adkins

Subscribed and sworn to before me by the affiant, James Adkins, this 6th day of October, 2011.

Notary Melissa K. Moore

State-at-Large

My Commission expires April 14th, 2015.

COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION

OWEN ELECTRIC COOPERATIVE
CASE NO. 2011-00037

REBUTTAL TESTIMONY
OF
MARY ELIZABETH PURVIS

Q1. Please state your name, occupation, and business address.

A1. My name is Mary Elizabeth Purvis. I am employed by Jim Adkins Consulting (JAC) to assist in utility rate cost of service studies, rate design, revenue requirement determination, financial forecasting, regulatory affairs and other matters pertaining to electric cooperatives. My business address is PO Box 911162, Lexington, KY 40591-1167.

Q2: What are your degrees and experience?

A2: I possess Bachelor of Science degrees in Economics and Mathematics, a Master of Arts in Economics and a Master of Business Administration. I have ten years experience in the utility industry as a load forecaster and analyst. I have taught Economics and Mathematics for eighteen years on the collegiate level at Marshall University, University of Kentucky, Somerset Community College, ITT-Tech, and Bluegrass Community College.

Q3: What is the purpose of your rebuttal testimony?

A3: Owen Electric Cooperative has engaged JAC to assist in the development of a revenue neutral rate that increases the customer charge while decreasing the energy rate in the same process, TOD rates and inclining block rates. The purpose of my testimony is to support and provide the economic principles behind the development of the proposed rates, and to provide the basis for the agreement, or disagreement, with the testimony of Mr. Watkins. These proposed rates apply to only two rate classes: Schedule 1 – Farm and Home and Schedule – Small Commercial.

Q4: Please clarify the kind of market in which Owen Electric Cooperative provides service to its customers?

A4: Owen Electric Cooperative operates as a regulated natural monopoly. By definition a natural monopoly exists when economies of scale are so large that one firm can supply the entire market at a lower average total cost than can two or more firms. Natural monopolies typically occur in markets where the fixed costs are very large relative to the variable costs, such as an electric utility. This relationship between large fixed costs relative to the variable costs is defined as economies of scale. Because of the large economies of scale, competition from other firms does not provide for efficient pricing. Therefore, regulatory bodies set the prices. Efficient pricing dictates that price equates marginal cost. However, for a typical regulated natural monopoly the marginal cost is less than the average total cost, resulting in losses. Therefore, regulators are needed to set the price equal to the average total costs. Here the natural monopoly is able to economically break even.

Q5: Please define economic profits and losses:

A5: Economic profits are defined as a firm's revenues minus the sum of implicit and explicit costs. Explicit costs are costs that involve the spending of money, i.e. writing a check for an expense. Implicit costs are the opportunity costs or the returns that could have been realized in the next best alternative. In an efficient market a firm realizes zero economic profit. In other words, the firm cannot earn more than the next best alternative. Regulators try to mimic the pricing in a competitive market so that the natural monopoly earns zero economic profit. They do this by setting price equal to the average total cost as explained above. Accounting profits is defined as revenue minus explicit costs. In a competitive economic market, zero economic profits are realized. In other words, you may be making an accounting profit, but you cannot do better in your next best alternative.

Q6: Mr. Watkins speaks of importance of competitor pricing. Does Owen's pricing/rates mirror competitive pricing?

A6: Yes, Owen's pricing structure mirrors a competitive pricing structure. As explained above, the natural monopoly pricing structure dictates that the price equates average total cost. Owen's pricing is composed of two charges: the customer charge and the energy charge. These two components are the price charged by Owen. Economic theory does not dictate the allocation of the two charges. According to Jim Adkins's testimony Question 6, the average total cost is still maintained in a rate neutral case, so Owen is still mirroring competitive pricing in a regulated monopoly.

Q7: Please describe how customers respond to price changes.

A7: Elasticity of demand is defined as the percentage change in quantity demanded divided by the percentage change in price.

$$E_D = \frac{\%\Delta Q_D}{\%\Delta P}$$

The elasticity of demand is always negative due to the inverse relationship between price and quantity demanded (Law of Demand). A good is defined as being elastic if the elasticity of demand is greater than one. In other words, there is a significant change in quantity demanded as price changes. A good is considered to be inelastic when the elasticity of demand is less than one. Here, a change in price does not significantly change quantity demanded. Electricity is defined as being inelastic. Hence price changes do not bring about large usage changes. The characteristic of an inelastic demand curve is that it is very steep vertically.

A summary of studies have concluded that the price elasticity of demand for electric is

-0.2 in the short run and ranges from -0.7 to -0.9 in the long run. [1] This means in the short run a one percent change in price leads to a 0.2 percent change in usage in the opposite direction and in the long run a one percent change in price leads to a 0.7-0.9 percent change in usage in the opposite direction.

Q8: Mr. Watkins believes that this revenue neutral case encourages increased usage due to the decrease in the kWh price. Is this concern material?

A8: No, Mr. Watkins concern is not material. The laws of demand states that price and quantity demanded are inversely related. So theoretically a decrease in the kWh price will increase usage. However, the material economic question here is by how much. Or marginally, what is the increase. Based on Owen's proposed rate revision in Exhibit 5 of Owen's Application, over the five year period, the price of energy will fall an annual average of 2.7 percent. Given an elasticity of demand above, this means that usage will only increase by 0.55 percent in the short run and 1.95 percent in the long run, a very insignificant amount.

Consumers react to their total bill, not the individual components. Even more importantly, rational economic theory states that consumers will react to *changes* in their total bill. Exhibit 1 illustrates various usage increments and the impact of the rate proposals. Over the five year period, the bill changes on an annual average of -0.86 percent. (Note: those that should move to an inclining block rate have been removed from analysis.) This translates to an average annual change of only $2.01, a very insignificant amount of the total bill. Furthermore, once the change is in place, the customer will react to changes in their total bill due to normal bill fluctuations such as weather, fuel adjustment clauses and environmental surcharges not the lower energy

[1] Page 14, Demand Responsiveness in Electricity Markets. Ronal Lafferty, David Hunger, James Ballard, Gary Mahrenholz, David Mead, and Derek Bandera. The office of Markets, Tariffs and Rates. Revised: January 15, 2001.

charge. Hence the change in the bill will not promote significant usage increases. Thus, Mr. Watkins concern is not material.

Q9: Mr. Watkins is a strong proponent of volumetric rates. Do you agree with this?

A9: Volumetric rates are based on the position that the more you use, the more you pay. The revenue neutral rate design proposed is still largely volumetric. Please see Question 7 of the rebuttal testimony of Jim Adkins.

The proposed revenue neutral rate design puts the costs of providing member's electric service more in line with the customer charge and more usage (kWh) will be reflected in a higher bill. For example, the bill for a member who uses 1200 kWh per month in 2011 will be $124.68, the bill for a member using 1400 kWh will be $142.96. More usage, larger bill supporting volumetric rates.

Q10: Do you believe a rate structure with a higher fixed component constitutes "best practices?"

A10: I believe that what constitutes "best practices" is unique among companies and industries. Many natural monopolies such as natural gas are moving toward a higher fixed charge to that they are not so reliant upon sales to meet margins. In addition, Smart Grid and Smart Meters will allow for real time marginal cost prices to expand. In an age of conservation, efficiency and declining disposable income sole reliance on energy sales to meet margins has become a thing of the past.

Q11: What are the basic functions of utility rates and does the proposed rate design support such?

A11: According to the James C. Bonbright's book, "The Principles of Public Utility Rates", there are four basic functions of utility rates: attract and retain capital, efficient pricing, consumer demand control, and fair payment for the good. The proposed rate design supports this principles as explained below:

To attract and retain capital, normal rates of return or zero economic profits must be realized. If there was not a rate of return, or if the rate of return is less than a risk free investment, there would be no investment because money is better utilized elsewhere. In a regulated cooperative setting, all costs must be recovered and reasonable margins maintained so to realize a normal rate of return. The proposed rate design is an efficient design and provides for zero economic profit.

Efficient pricing is setting prices that mimic a competitive setting. Price regulation is designed to encourage efficient operations so to minimize economic costs. In the proposed rate design, the cost of providing the service is the marginal costs of connecting a residential customer and is reflected in the customer charge and the marginal cost of

providing a unit of energy is in the energy rate. These costs are expanded upon and supported in the rebuttal testimony of Jim Adkins Question 6.

Price regulation must offer some sort of demand control. The proposed rate design is still largely volumetric, as explained in the Rebuttal Testimony of James Adkins Question 7. Hence the customer still controls his/her bill through usage.

Payment for the good (energy) must be fair and equitable. The customer charge is the payment for Owen to provide the service and the energy charge is payment for usage. A normal rate of return is realized by Owen, and the member is paying for marginal cost of service and usage.

Q12: Is this rate revenue neutral to all rate payers?

A12: It is revenue neutral on the average. Pricing decisions are made based on the cost of serving the average customer not the individual customer.

Q13: Are you aware of studies supporting an increase customer charge?

A13: There have been several studies supporting a higher customer charge. One, by the NRECA titled "Rate Strategies for 21st Century Challenges: A Guide to Rate Innovation for Cooperatives" can be referenced in Owen's reply to the Commission Staff's second information request, Item No. 2. Another published article can found in Exhibit 2 of this testimony. In addition, the natural gas industry, such as Georgia Natural Gas and Kentucky's Delta Natural Gas Company has adopted higher customer charges.

Q14: Does this conclude your testimony?

A14: Yes.

Affiant, Mary E Purvis, states that the answers given by her to the foregoing questions are true and correct to the best of her knowledge and belief.

Mary E. Purvis

Mary E Purvis

Subscribed and sworn to before me by the affiant, Mary E Purvis, this 6th day of October, 2011.

Notary Melissa K. Moore

State-at-Large

My Commission expires April 14th, 2015.

Owen Electri operative, Inc.
Case No 2011-00037

RESIDENTIAL RATE CLASS
TOTAL BILL AT VARIOUS USAGE INCREMENTS

		2011			2012			2013			2014			2015		
kWh	Current	Bill	Change	% change	Bill	Change	% change	Bill	Change	% change	Bill	Change	% change	Bill	Change	% change
800	$ 87.12	$ 88.12	$ 1.00	1.14%	$ 88.80	$ 0.68	0.77%	$ 89.46	$ 0.67	0.75%	$ 90.14	$ 0.68	0.76%	$ 90.82	$ 0.68	0.75%
900	$ 96.60	$ 97.26	$ 0.66	0.68%	$ 97.71	$ 0.45	0.46%	$ 98.15	$ 0.44	0.45%	$ 98.60	$ 0.45	0.46%	$ 99.04	$ 0.45	0.45%
1000	$ 106.08	$ 106.40	$ 0.32	0.30%	$ 106.62	$ 0.22	0.21%	$ 106.83	$ 0.21	0.20%	$ 107.05	$ 0.22	0.21%	$ 107.27	$ 0.22	0.21%
1100	$ 115.56	$ 115.54	$ (0.02)	-0.02%	$ 115.53	$ (0.01)	-0.01%	$ 115.51	$ (0.02)	-0.02%	$ 115.51	$ (0.01)	-0.01%	$ 115.50	$ (0.01)	-0.01%
1200	$ 125.04	$ 124.68	$ (0.36)	-0.28%	$ 124.44	$ (0.24)	-0.19%	$ 124.20	$ (0.25)	-0.20%	$ 123.96	$ (0.24)	-0.19%	$ 123.72	$ (0.24)	-0.19%
1300	$ 134.51	$ 133.82	$ (0.69)	-0.52%	$ 133.36	$ (0.46)	-0.35%	$ 132.88	$ (0.48)	-0.36%	$ 132.42	$ (0.46)	-0.35%	$ 131.95	$ (0.46)	-0.35%
1400	$ 143.99	$ 142.96	$ (1.03)	-0.72%	$ 142.27	$ (0.69)	-0.48%	$ 141.56	$ (0.71)	-0.50%	$ 140.87	$ (0.69)	-0.49%	$ 140.18	$ (0.69)	-0.49%
1500	$ 153.47	$ 152.10	$ (1.37)	-0.89%	$ 151.18	$ (0.92)	-0.60%	$ 150.25	$ (0.94)	-0.62%	$ 149.33	$ (0.92)	-0.61%	$ 148.41	$ (0.92)	-0.62%
1600	$ 162.95	$ 161.24	$ (1.71)	-1.05%	$ 160.09	$ (1.15)	-0.71%	$ 158.93	$ (1.16)	-0.73%	$ 157.78	$ (1.15)	-0.72%	$ 156.63	$ (1.15)	-0.73%
1700	$ 172.43	$ 170.38	$ (2.05)	-1.19%	$ 169.00	$ (1.38)	-0.81%	$ 167.61	$ (1.39)	-0.82%	$ 166.24	$ (1.38)	-0.82%	$ 164.86	$ (1.38)	-0.83%
1800	$ 181.90	$ 179.52	$ (2.38)	-1.31%	$ 177.92	$ (1.60)	-0.89%	$ 176.29	$ (1.62)	-0.91%	$ 174.69	$ (1.60)	-0.91%	$ 173.09	$ (1.60)	-0.92%
1900	$ 191.38	$ 188.66	$ (2.72)	-1.42%	$ 186.83	$ (1.83)	-0.97%	$ 184.98	$ (1.85)	-0.99%	$ 183.15	$ (1.83)	-0.99%	$ 181.31	$ (1.83)	-1.00%
2000	$ 200.86	$ 197.80	$ (3.06)	-1.52%	$ 195.74	$ (2.06)	-1.04%	$ 193.66	$ (2.08)	-1.06%	$ 191.60	$ (2.06)	-1.06%	$ 189.54	$ (2.06)	-1.08%
2100	$ 210.34	$ 206.94	$ (3.40)	-1.62%	$ 204.65	$ (2.29)	-1.11%	$ 202.34	$ (2.31)	-1.13%	$ 200.06	$ (2.29)	-1.13%	$ 197.77	$ (2.29)	-1.14%
2200	$ 219.82	$ 216.08	$ (3.74)	-1.70%	$ 213.56	$ (2.52)	-1.16%	$ 211.03	$ (2.54)	-1.19%	$ 208.51	$ (2.52)	-1.19%	$ 205.99	$ (2.52)	-1.21%
2300	$ 229.29	$ 225.22	$ (4.07)	-1.78%	$ 222.48	$ (2.74)	-1.22%	$ 219.71	$ (2.77)	-1.24%	$ 216.97	$ (2.74)	-1.25%	$ 214.22	$ (2.74)	-1.26%
2400	$ 238.77	$ 234.36	$ (4.41)	-1.85%	$ 231.39	$ (2.97)	-1.27%	$ 228.39	$ (3.00)	-1.29%	$ 225.42	$ (2.97)	-1.30%	$ 222.45	$ (2.97)	-1.32%
2500	$ 248.25	$ 243.50	$ (4.75)	-1.91%	$ 240.30	$ (3.20)	-1.31%	$ 237.08	$ (3.22)	-1.34%	$ 233.88	$ (3.20)	-1.35%	$ 230.68	$ (3.20)	-1.37%
2600	$ 257.73	$ 252.64	$ (5.09)	-1.97%	$ 249.21	$ (3.43)	-1.36%	$ 245.76	$ (3.45)	-1.39%	$ 242.33	$ (3.43)	-1.39%	$ 238.90	$ (3.43)	-1.41%
2700	$ 267.21	$ 261.78	$ (5.43)	-2.03%	$ 258.12	$ (3.66)	-1.40%	$ 254.44	$ (3.68)	-1.43%	$ 250.79	$ (3.66)	-1.44%	$ 247.13	$ (3.66)	-1.46%
2800	$ 276.68	$ 270.92	$ (5.76)	-2.08%	$ 267.04	$ (3.88)	-1.43%	$ 263.12	$ (3.91)	-1.46%	$ 259.24	$ (3.88)	-1.48%	$ 255.36	$ (3.88)	-1.50%
2900	$ 286.16	$ 280.06	$ (6.10)	-2.13%	$ 275.95	$ (4.11)	-1.47%	$ 271.81	$ (4.14)	-1.50%	$ 267.70	$ (4.11)	-1.51%	$ 263.58	$ (4.11)	-1.54%
3000	$ 295.64	$ 289.20	$ (6.44)	-2.18%	$ 284.86	$ (4.34)	-1.50%	$ 280.49	$ (4.37)	-1.53%	$ 276.15	$ (4.34)	-1.55%	$ 271.81	$ (4.34)	-1.57%
Average	$ 191.38	$ 188.66	$ (2.72)	-1.13%	$ 186.83	$ (1.83)	-0.78%	$ 184.98	$ (1.85)	-0.80%	$ 183.15	$ (1.83)	-0.80%	$ 181.31	$ (1.83)	-0.81%
Annual Average			$ (2.01)	-0.86%												

Creating the right retail rate environment for energy conservation and energy efficiency.

"We're in the business to sell electricity." And sell it we do.

For many years, energy consumption has been good for business. The more energy we sell, the greater our revenues. So for many years, energy consumption has been encouraged, with low fixed "customer charges" and energy rates that included "declining blocks." The more electricity a member used, the cheaper it got.

In addition, for the past thirty years, growth, both in the number of customers and in usage per customer, has been a good friend to most cooperatives. The old maxims that "Growth is good for business" and "There are few problems that you can't grow your way out of" proved to have a great deal of validity. When cooperatives are growing, retail rates that don't properly reflect cost causation and that deviate from accepted ratemaking principles still may recover enough of the cooperative's fixed cost and margin to meet the cooperative's financial obligations and avoid financial difficulties.

But what if cooperatives stop growing? What if usage per customer begins to decline and the decline is sufficiently large that it offsets any growth in the number of customers, so that the cooperative's overall growth rate is negative? Are there rate designs that cooperatives can adopt that would protect their finances and treat customers fairly regardless of whether growth was positive or negative? These are important questions that cooperatives must consider as the business environment that they face begins to change.

The "Perfect Storm"

Increases in the cost of constructing new generation plant, the adoption of state and federal renewable portfolio standards, transmission line expansion to accommodate renewable energy, the implementation of carbon cap and trade legislation and fuel price increases are creating, in many areas of the country, a "perfect storm" that is significantly increasing wholesale and, as a consequence, retail electric prices. Customer reaction to these price increases is fairly predictable. Customers want to conserve and use electric energy as efficiently as possible as the price of electricity increases. Indeed, in response to a national call for energy conservation, many customers are responding, not just because of increasing prices, but also because they hear the message that conservation is "the right thing to do." Add to this the energy efficiency standards that are being considered in both state and federal legislation and reduced usage per customer is headed our way. And these retail electric price increases and efficiency standards are not the only factors providing an incentive for customers to conserve and use energy more efficiently. Customers today are facing price increases for medical care, food, gasoline and a host of other products that they use, which put pressure on their budgets and put them in a frame of mind to save money wherever they can, including on their electric service.

Cooperatives have the opportunity to anticipate these significant changes and proactively respond to them in ways that help their members reduce their energy bills while maintaining the financial strength of the organization. Rate design can play a big role in this response by creating the proper retail rate environment for energy efficiency and conservation, and by providing incentives for customers to take actions that will make them less costly for the cooperative to serve, while avoiding negative impacts on the cooperative's finances.

One of the major challenges that cooperatives face is how to effectively manage and recover a cooperative's "fixed costs." These are the costs that are present due to the fact that a customer is being served, and they do not increase or decrease based upon how much energy a customer uses or doesn't use. These "fixed costs" include poles and wires, cooperative buildings, transformers and everything else a cooperative needs to serve its members, no matter how much energy that customer uses. A significant

portion of the costs for both G&T and distribution cooperatives are fixed. For a G&T cooperative, almost all of the costs of its generation and transmission plant are fixed costs. For a distribution cooperative, almost all of the cost of its distribution facilities is a fixed cost.

For years, many cooperatives did not pay specific attention to fixed cost recovery in rates. So long as the cooperative was recovering all of its costs in some way, that was sufficient. Indeed, they may have wanted the "customer charge" to remain low because they perceived that members favored it. This approach may not have been harmful when cooperatives were experiencing growth in both the number of customers and in usage per customer. However, in today's new environment, this longstanding practice can have a significant negative financial impact on cooperatives when usage per customer is falling because of factors such as energy efficiency, conservation and customer-owned generation.

Key Principles of Utility Ratemaking

One of the bedrock principles of rate design is to recover fixed costs through fixed charges (the "customer charge") and variable costs through variable charges (the "energy charge" or "per kWh" charges). Following this fundamental rate design principle helps to assure that all of a cooperative's customers are treated fairly and that one group of customers does not "subsidize" another group. Indeed, it is also a fundamental principle of sound rate design that cross subsidies among customers should be avoided.

In order to be as fair as possible to all customers and avoid cross-subsidization, the fixed cost of a cooperative's distribution system is divided into two components: I) customer-related costs and 2) demand-related costs. The portion classified as "customer-related cost" is the portion of the fixed costs of the distribution system that is size invariant. The portion classified as demand-related cost is the portion of the fixed costs of the distribution system that varies with the load carrying capability of the distribution facilities; that is, the size of the demand that the customer places on the system.

Customer-related costs that do not vary with the load carrying capability of the distribution facilities are fixed costs that exist irrespective of what size of facility is installed. These costs are present due to the fact that a customer is being served and will not increase or decrease with the load requirements of that customer. These fixed costs that do not vary with size are best allocated on the basis of customer months because they are caused by the existence of a customer, not by the size of the demand that the customer places on the system. Customer-related costs reflect the minimum amount of equipment that any customer must have in order to access the electric grid. Once this minimum system is determined, every customer needs at least this minimum system, and the cost of this minimum system is reflected in the monthly customer charge. However, some customers will not be able to get by with just a minimum system and will need equipment that is larger than the minimum system.

The portion of the cost of distribution facilities that is related to the size of the customer is classified as "demand-related", and is recovered through a "demand charge." This demand charge is assessed to customers with watt-hour meters as a charge per kWh and is assessed to customers with demand meters as a charge per kW of monthly billing demand.

The ratemaking principle that fixed costs should be recovered through fixed charges (such as the customer charge and demand charge) and variable costs should be recovered through variable charges (such as the energy charge and the wholesale power cost adjustment charge) helps to eliminate cross subsidies among customers. If fixed costs are recovered through variable charges, each kWh contains a component of fixed costs and customers using more energy than the average customer in the class are paying more than their fair share of the cooperative's fixed costs and margins, while customers using less energy than the average customer in the class are paying less than their fair share of fixed costs and margins. The collection of fixed costs through variable charges, such as the energy charge, typically results in customers with above-average usage subsidizing customers with below-average usage. Similarly, the collection of variable costs through fixed charges also results in subsidies among customers, with customers with below-average usage subsidizing customers with above-average usage.

In order to eliminate these subsidies among customers, it is necessary to adhere to the principle of collecting fixed costs through fixed charges and variable costs through variable charges.

When fixed costs are recovered through variable charges, such as an energy charge per kWh, a cooperative's fixed cost recovery is at the mercy of sales fluctuations due to weather, energy efficiency, conservation or self-generation. If fixed costs and margins are loaded in every kWh that the cooperative sells, then reduced sales mean reduced fixed cost and margin recovery by the cooperative. These unrecovered fixed costs and margins are a self inflicted wound that need not occur if the cooperative had followed the principle of recovering fixed cost and margin through fixed charges, such as the customer charge. Recovering fixed costs through fixed charges aligns the interests of customers and distribution cooperatives by allowing the cooperative to recover its fixed costs and margins regardless of sales, thus freeing the cooperative to work closely with its customers in reducing the costs that the cooperative pays to its supplier and reducing customer energy bills.

For a typical distribution cooperative, about 65% to 75% of its cost structure is purchased power from its supplier, which is a variable cost, while the remaining 25% to 35% represents distribution system costs, which are fixed costs. If a cooperative is assured of recovering its distribution system costs, which are not related to the volume that it sells, through a fixed charge, then it can work cooperatively with customers in reducing the 65% to 75% of the bill that goes to the cooperative's supplier, which benefits both the cooperative and its customers through lower energy bills. Thus, recovering these non-volumetric fixed costs through a fixed charge creates the right environment for the cooperative to pursue energy efficiency, conservation and customer-owned generation to help customers reduce their energy bills with no financial harm to the distribution cooperative.

Successfully Making The Shift

Eliminating Declining Block Rates

The declining block rates that many cooperatives have in place were developed to recover the fixed costs and margins that were not being collected through the customer charge up front through the cooperative's initial kWh sales to its members, with the energy charge declining in later usage blocks after a sufficient amount of fixed costs and margins were recovered. These declining block rates are considered by many as encouraging consumption, while the real reason was to correct a problem of insufficient fixed cost and margin recovery through the customer charge. If the customer charge recovers a cooperative's fixed cost and margin, this correction is no longer necessary and declining block rate structures can be eliminated. With fixed costs collected through the customer charge, a cooperative can eliminate declining block rates and make the shift to encouraging conservation with little fear of negative financial consequences.

Low-Income Members

One key concern of cooperative managers and board members in evaluating whether, and how, to make the move towards better rate design is the impact of such a shift on low income and fixed income members. How will they be impacted?

For low income and fixed income customers to benefit from a low customer charge with the unrecovered fixed costs and margins included in the energy charge, they would have to use less electric energy than the average customer. Generally, this is not the case for low income customers. Studies reveal that the housing stock in which many low income customers are living is relatively inefficient from an energy usage standpoint, so their energy usage is frequently above the class average. The inefficient energy usage of the dwelling in which they live has typically resulted in the price of the dwelling being discounted to a level that low income customers can afford.

This was demonstrated in a recent cooperative rate case in Virginia where Northern Neck Electric Cooperative collected load research data on customers who meet the state standards for participating in

low income energy assistance programs and found that the average annual usage for all its residential customers was 13,969 kWh per year, while the annual average usage for customers meeting low income energy assistance standards was 14,871 kWh per year. With usage above the average, the typical low income customer actually would benefit from a rate design that had a higher customer charge and a lower energy charge. Similarly, fixed income customers typically have a stock of appliances similar to other customers and are frequently home all day with usage levels generally in the neighborhood of the class average, and they also would not be significantly affected by such a change.

Since low income customers generally have usage levels above the average and do not typically benefit from a low customer charge, who are the low usage customers that do benefit from a low customer charge? For most rural electric cooperatives, their low-usage customers are loads like boat docks, garages, electric fences, stock tanks, vacation homes, hunting camps, fishing camps and services run to barns in case they might be needed. All of these loads typically consume very few kilowatt hours during the course of a year and the usage is sporadic. However, the cooperative often incurs significant fixed costs in installing the minimum system requirements necessary to serve these loads. Furthermore, these loads usually are not located near roads and existing distribution lines. A rate design with a low customer charge and with a significant portion of fixed cost and margins recovered through the energy charge would result in revenue that was insufficient to support the investment necessary to serve loads such as vacation homes, barns, stock tanks, electric fences, and hunting cabins. Such a rate design would result in these customers being subsidized by other cooperative customers who have above-average usage. A rate design with a low access charge and with a significant portion of the cooperative's fixed cost and margins recovered through the energy charge sends incorrect economic signals to customers. It sends a signal that it is relatively inexpensive to provide the minimum amount of physical equipment necessary to provide service to customers, and this is definitely not the case in rural areas.

Another concern that some cooperative managers and board members have about increasing the customer charge and reducing the energy charge is that a lower energy charge may encourage increased usage rather than conservation and efficiency. This ignores the pressure that customer budgets are under from a host of other price increases, which provides a strong incentive to conserve and cut costs wherever possible, including energy. In spite of this pressure to cut costs, conservation advocates frequently argue in favor of higher energy charges and lower service charges as a way to encourage conservation. The problem with recovering fixed costs through the variable energy charge is that whenever customers take measures to conserve energy, they reduce the cooperative's recovery of the fixed costs embedded in the energy charge. The result is a win/lose situation, with customers achieving reduced energy usage and lower energy bills through conservation efforts and the utility losing through the reduced recovery of fixed cost and margin. However, none of the cooperative's fixed costs have been avoided or reduced. With a reduction in fixed cost recovery as a result of customers using less energy, it is difficult for a cooperative to enthusiastically promote energy conservation and energy efficiency.

Many progressive conservation advocates have realized that a more constructive approach is to create a "win/win" environment for energy conservation and energy efficiency by aligning the interests of customers and the cooperative. Collecting the non-volumetric portion of a cooperative's fixed distribution costs through a customer charge severs fixed cost recovery from energy usage and creates a "win/win" environment for energy conservation and energy efficiency. With fixed and variable costs properly segregated, the cooperative recovers its fixed costs and margins regardless of how much energy the customer consumes, or perhaps more to the point, does not consume. In this win/win environment, cooperatives can actively promote energy conservation and energy efficiency.

There is currently an increasing interest in customer-owned renewable generation, such as wind and solar generation. This has resulted in regulatory commissions and state legislatures requiring utilities to offer net metering to customers with renewable generation. With net metering, a customer's production of energy and the customer's energy consumption are measured using a single meter, with the meter running backward when the customer produces more energy than the customer is consuming. When a cooperative sells power to a net metering customer, the Cooperative is providing three services: I)

generation, 2) transmission, and 3) distribution. However, when a net metering customer sells power to the cooperative, the customer is providing only a generation service, as the customer does not own transmission and distribution assets.

When the customer produces more energy than he is consuming and the meter is running backward, the customer receives essentially the full retail energy charge for the excess energy produced. Being paid the full retail energy charge represents a subsidy to the net metering customer, a subsidy paid by other customers of the Cooperative who either choose not to or cannot afford to own their own generators. When the customer charge is low and significant amounts of fixed cost and energy are included in the energy charge, the cooperative is paying out fixed cost and margin rather than recovering it. This financial harm to the cooperative can be mitigated by removing the fixed cost and margin recovery from the energy charge and putting it in the customer charge where it belongs. With a cost-based customer charge, net metering is much less of a problem for a cooperative from a rates perspective.

Finally, some cooperative leaders have voiced concerns over potential "pushback" that they may receive from customers if they restructure rates and increase the customer charge to appropriate levels. To mitigate this problem, the cooperative can communicate to its members that the customer charge is being changed as a matter of fairness. It is fair because customers are only asked to pay for what they are using. All customers need the minimum amount of equipment necessary to access the grid, and all customers are charged for this minimum system through the customer charge. Customers are charged for the size-related portion of the distribution system fixed costs that they require above this minimum system based on their actual usage. The cooperative also can put the new customer charge into perspective by comparing it to the cost for basic telephone service (dial tone), basic cable TV service and basic satellite dish service. All of these are usually about the same as or higher than the proposed customer charge for electric service.

Build the "Win-Win" For Cooperative Members

With the changes to our business environment that are likely to occur in the near future, the time is ripe to revise our retail rates to create the right environment for energy efficiency and conservation and align the cooperative's financial interests with those of our members. We can't do much to change the cards that we are being dealt but we do have responsibility for how we play the hand. Let's play this hand in a way that we can actively and aggressively promote energy conservation and energy efficiency for the benefit of both our cooperatives and our customers.

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