

C. DUKES SCOTT
EXECUTIVE DIRECTOR

1401 Main Street, Suite 900
Columbia, SC 29201



DAN F. ARNETT
CHIEF OF STAFF

Phone: (803) 737-0800
Fax: (803) 737-0801

nsedwar@regstaff.sc.gov

Nanette S. Edwards
Chief Counsel and Director of Legal Services

November 1, 2013

VIA ELECTRONIC FILING

Jocelyn G. Boyd, Esquire
Chief Clerk & Administrator
Public Service Commission of South Carolina
101 Executive Center Drive, Suite 100
Columbia, South Carolina 29210

Re: Application of South Carolina Electric & Gas Company ("SCE&G") for Increases and Adjustments in Electric Rate Schedules and Tariffs and Request for Mid-Period Reduction in Base Rates for Fuel
Docket No. 2012-218-E

Dear Ms. Boyd:

Pursuant to Order No. 2012-951 adopting the settlement agreement in the above-referenced docket, the South Carolina Office of Regulatory Staff ("ORS") submits its report detailing its findings and recommendations.

Sincerely,

Nanette S. Edwards

cc: Parties of Record (via e-mail)

South Carolina Office of Regulatory Staff

Report on South Carolina Electric & Gas Company's Study of the Electric Weather Normalization Adjustment

Docket No. 2012-218-E



Table of Contents

Introduction and Background	(1)
<i>History of the eWNA</i>	(1)
SCE&G’s Examination of Potential eWNA Modifications	(2)
ORS’s Concerns	(3)
<i>Complexity of the eWNA program</i>	(3)
<i>eWNA Groups</i>	(5)
<i>eWNA’s Impact on Energy Efficiency/Demand Side Management</i>	(6)
<i>Customers Using Gas to Heat Their Homes</i>	(7)
<i>Lack of Transparency</i>	(7)
Consumer Concerns	(8)
<i>Consumers Contacting ORS</i>	(8)
<i>Consumers Contacting the Commission</i>	(9)
Conclusion	(9)



Introduction and Background

History of the eWNA:

In Order No. 2010-471, the Public Service Commission of South Carolina (“Commission”) authorized the establishment of an Electric Weather Normalization Adjustment (“eWNA”) for South Carolina Electric & Gas Company (“SCE&G” or “Company”) as part of the settlement agreement approved in Docket No. 2009-489-E. Initially approved as a pilot program, the eWNA was developed to minimize the impact of extreme fluctuations in weather, both on the customers and the Company.

Under the eWNA, bills of certain residential and small business customers are adjusted to reflect average temperatures over the most recent fifteen (15) years for which data is available. More specifically, when summer temperatures are hotter than normal or winter temperatures are colder than normal and customers’ energy usage spikes as a result, the eWNA decreases the rate customers are charged per kilowatt hour (“kWh”). Alternatively, when summer weather is abnormally cool or winter weather is abnormally warm and customers’ energy usage is lower than expected, the eWNA increases the charge per kWh. Thus, the eWNA is designed to mitigate upward spikes in customers’ monthly energy bills and protect SCE&G from recovering less than its operating costs due to weather fluctuations.

In October 2011, SCE&G filed a report in compliance with the Commission’s Order. Along with the report, the Company requested authorization to modify certain aspects of the eWNA program. Without opposition, the Company sought permission to:

1. Create an additional group within Rate 9 to bring the total number of eWNA groups to nineteen (19);
2. Update its equations every four (4) years based on its most current billing experience;
3. Update its equation to prevent future over-credits; and
4. Revisit the statistical regression analysis each fall.

The Commission approved the Company’s requested changes in Order No. 2011-864.



After two years of operation, the usefulness of the eWNA was called into question by the AARP, an intervenor in Docket No. 2012-218-E, the Company's request for a general rate increase. The AARP voiced concern that the eWNA discouraged conservation and made bills confusing and unpredictable. AARP and the Office of Regulatory Staff ("ORS") proposed in a Memorandum of Understanding ("MOU"), and SCE&G agreed, that SCE&G would investigate the impact that changing certain aspects of eWNA application would have on customer billing by applying several scenarios to actual historical data. The study was to be filed with the Commission no later than June 30, 2013. ORS was to analyze the findings of SCE&G's study and present its review by November 1, 2013.

As a result of Commission approval of the MOU, SCE&G filed its study as ordered on June 28, 2013. In compliance with Order No. 2012-951, ORS presents this report detailing its evaluation of the scenarios described in SCE&G's study and its conclusions regarding the eWNA's administration and impact on consumers.

SCE&G's Examination of Potential eWNA Modifications

In its study, SCE&G examined the impact to customers if the following scenarios were incorporated into the eWNA:

1. Including a cap on the amount of the adjustment applied to a customer's monthly bill and if so, the amount of the cap ("Scenario 1");
2. Including only the four (4) summer and four (4) winter months ("Scenario 2"); and
3. Excluding a base amount that is non-weather sensitive from the eWNA calculation ("Scenario 3").

In its study, SCE&G states that the caps in Scenario 1 produced the same cumulative results achieved under the eWNA currently in effect. The Company recognizes the lack of understanding related to the eWNA and states that these caps "do nothing to reduce customer confusion surrounding the eWNA and likely exacerbate it." Additionally, the Company would still want to collect the full eWNA adjustment, regardless of a cap and states that the amounts outside the cap would be deferred for later collection.



SCE&G states that if Scenario 2 were in place, there would be a \$32 million reduction in customers' electric bills since the inception of the eWNA through April 30, 2013, as compared to the \$37.9 million reduction that customers experienced under the existing eWNA program. As such, customers would have paid approximately \$6 million more in their electricity bill than was necessary for SCE&G to operate its system during October, November, April and May.

The Company's study shows that Scenario 3 would shift the eWNA onto a smaller number of customers, and those customers would possibly include many low-income customers with less energy-efficient homes.

SCE&G's analysis results in the Company stating that no adjustments or modifications to the eWNA mechanism are prudent or reasonable.

ORS's Concerns

Complexity of the eWNA program:

SCE&G utilizes nineteen (19) statistical regression equations in the eWNA mechanism, one for each of the eWNA groups. All the regression equations have the following form:

$$\text{KWH} = \text{BASE}_{\text{month}} + A * \text{HDD} + B * \text{CDD} + C * \text{CDD}^2 / 1000; \text{ where}$$

KWH is the monthly consumption of the average customer in the eWNA group;

HDD are the heating degree days in the billing period;

CDD are the cooling degree days in the billing period;

CDD² are the cooling degree days squared, i.e. CDD * CDD;

A, B, and C are weather sensitivity parameters estimated in the regression statistics, and BASE_{month} is the monthly non-weather sensitivity parameters statistically estimated.



The Company determines HDD and CDD by taking the average of the high and low temperature for Columbia, SC and Charleston, SC. The average of this average is then calculated. The HDD and CDD are summed over the days of the particular billing period.

According to SCE&G, the formulas for HDD and CDD on a particular day are:

HDD = max(0, 60-T) and CDD = max(0, T-75) where T is the average temperature.

The temperature data used to calculate the eWNA factor is not readily available to customers and the weather sensitive parameters are only available through SCE&G. Additionally, the weather sensitive parameters are generated through statistical regression equations and ORS is unable to independently verify the Company's calculations of these parameters.

The resulting eWNA factors are generated by SCE&G, and while the amount of the factor is provided on the customer's bill, the equation used to generate this factor is only available by contacting SCE&G.

In his opinion piece about SCE&G's eWNA, David Slade, a columnist for the *Post and Courier*, states the same apprehension and says, "what's troublesome for customers is the unpredictability of the adjustments. There's no way for a customer to calculate how they will change their bill from one month to the next, because it's based on complex statistics and calculations that vary by customer."¹

Further complicating the eWNA is that within each of the nineteen (19) eWNA groups, there are twenty (20) separate eWNA cycles for each billing month. As such, two customers in the same eWNA group might have different eWNA factors based on each customer's billing cycle. Since the inception of the eWNA program in August 2010 through August 2013, there have been 21,862 eWNA factors applied to customers' bills.

¹ <http://www.postandcourier.com/article/20120819/PC05/120819099>



eWNA Groups:

The nineteen (19) eWNA groups are described below:

<u>eWNA Group</u>	<u>Rate</u>	<u>Description</u>
1	1	Single Family - Less Sensitive to Cold
2		- More Sensitive to Cold
3	1	Multi Family - Less Sensitive to Cold
4		- More Sensitive to Cold
5	6	Single Family - Less Sensitive to Cold
6		- More Sensitive to Cold
7	6	Multi Family - Less Sensitive to Cold
8		- More Sensitive to Cold
9	6	Mobile Homes - Less Sensitive to Cold
10		- More Sensitive to Cold
11	8	Single Family - Less Sensitive to Cold
12		- More Sensitive to Cold
13	8	Multi Family - Less Sensitive to Cold
14		- More Sensitive to Cold
15	8	Mobile Homes - Less Sensitive to Cold
16		- More Sensitive to Cold
17	9	Commercial - Less Sensitive to Cold
18		- More Sensitive to Cold
19		- With KVA Demand Component



eWNA's Impact on Energy Efficiency/Demand Side Management:

SCE&G's eWNA mechanism cuts the link between prices and consumption or, at the very least, distorts it so that many of its ratepayers, especially its residential ratepayers, can only discern a somewhat weak connection between the electricity they use and the bill they pay. When the price of electricity is known and it appears low or rising slowly, the customer may use more and do various things, such as turning the air conditioning down to a cooler level, that consume more electricity. If, however, the price seems high, the customer may take steps to reduce consumption.

When the customer has considerable difficulty knowing the exact price, the link between price and quantity consumed is broken. If customers cannot tell what they will pay, then they cannot base their consumption on price. Although the eWNA mechanism reduces SCE&G's vulnerability to swings in revenue brought about by fluctuations in weather, it distorts price signals to the consumer. This price distortion can lead to frustration among those customers who have made energy efficiency upgrades in their homes and see weather-related price increases despite a decrease in their energy usage.

In its direct testimony in Docket No. 2013-208-E, the Southern Alliance for Clean Energy ("SACE") expresses its concerns about the impact of the eWNA on customers' conservation efforts and the Company's Demand Side Management ("DSM") programs. SACE states that the Company provides no quantitative analysis to support its assertion that regardless of the eWNA, customers realize the full benefit of energy efficiency measures in their homes. SACE also states that, "the eWNA ultimately creates more distance between customer usage and bills, which in turn creates a clear disincentive for customers to pursue energy efficiency opportunities. This disincentive may be adversely impacting participation rates in SCE&G's DSM programs."

Consumers have complained to ORS and the Commission that the eWNA adversely impacts conservation and efficiency measures. Several of these complaints are specifically addressed in the "Consumer Concerns" section of this report.

Customers Using Gas to Heat Their Homes:

SCE&G implemented a gas weather normalization adjustment in 1991 (Order No. 1991-971), which applies to residential and commercial customers in the months of November through April. Since the inception of the eWNA, customers receiving electric and gas service from SCE&G are subjected to a weather normalization adjustment on both electric and gas service during the months of November through April.

Customers using gas to heat their homes have asked why their electric bills are being weather-adjusted in the winter when they do not use electricity to heat their homes. The contention is that winter weather primarily impacts a customer's heating usage and those customers using gas to heat their homes would not see a fluctuation in their electric usage during the winter months. While there might be some appliances that would be impacted by the weather in the winter, this impact would be de minimis in comparison to the impact of the winter weather on the electricity required to heat a home.

SCE&G takes measures to place customers who use gas to heat their homes into an eWNA group that is less sensitive to cold and states that the eWNA calculation accounts for those customers using gas to heat their homes. Regardless, ORS is concerned that these customers are even subjected to a weather normalization adjustment on their electric bills during the winter, despite using gas rather than electricity to heat their homes.

Lack of Transparency:

S.C. Code Ann. Section 58-27-820 (2012) states that, "under rules and regulations prescribed by the Commission, every electrical utility must file with the Commission and provide to the Office of Regulatory Staff, within such time and in such form as the Commission may designate, schedules showing all rates, service rules and regulations, and forms of service contracts established by the electrical utility and collected or enforced or to be collected or enforced within the jurisdiction of the Commission."

SCE&G does not have a filing of the eWNA mechanism with the Commission that ratepayers can view. However, there is a comparable filing by SCE&G for their gas weather normalization adjustment.² It is worrisome to ORS that SCE&G has not made a filing with the Commission so that customers can see how this portion of their bill is calculated.

² <http://etariff.psc.sc.gov/uploads/tariffFile/6AE2AF8A-FFB2-8D80-B6071AE9075DC77C.PDF?{ts%20'2013-10-08%2015:43:24'}>



Consumer Concerns

Consumers Contacting ORS:

Since the inception of SCE&G's eWNA program, ORS has received 189 inquiries from consumers regarding the eWNA program. A summary of consumer concerns expressed to ORS are below:

1. SCE&G is the only entity who can compute the monthly eWNA factor leaving consumers and ORS dependent on the Company to provide the monthly rate factor for the eWNA portion of the bill.
2. The eWNA is so complicated that neither the Company's customer service representatives nor ORS staff can explain how it was calculated.
3. The eWNA does not provide consumers an incentive to save energy and consumers who have made energy efficiency upgrades to their homes say they are discouraged by eWNA charges.
4. By lowering the rate charged in hot months, the eWNA further strains the power grid by removing the incentive to save power in the summer.
5. SCE&G applies the eWNA to customers who heat with gas and who are already subjected to gas weather normalization adjustment during the winter heating months. Consumers state that those with gas heat should be excluded from eWNA during the winter months.
6. Consumers state they should be allowed to opt-in or opt-out of the eWNA program.
7. Several consumers state that the Company's explanation for implementing eWNA is to help prevent large fluctuations in their bills but contend that they can enroll in the "Budget Billing" program already provided by the Company if they need help managing their monthly charges.

Consumers Contacting the Commission:

Consumers, such as Viktor Veytskin and David Huffstetler, filed complaints with the Commission regarding the eWNA in Docket Nos. 2013-41-E and 2013-67-E, respectively.

In his complaint, Mr. Veytskin expressed his concern over the impact of the eWNA on energy conservation and stated that his own attempts to reduce his bill were offset by rate increases due to the eWNA. He requested that the eWNA program be terminated but, if allowed to continue, then customers should be given the opportunity to opt-out of the eWNA program.

Mr. Huffstetler also stated his concern regarding the eWNA and energy conservation. He stated that he attempts to conserve energy but is “hit with the extra WNA fee.” Both complaints were dismissed and these customers were added to the service list for SCE&G’s eWNA study and ORS’s subsequent report on this study.

William Reynolds also filed a complaint with the Commission and requested to be removed from SCE&G’s eWNA program in Docket No. 2013-304-E. After receiving no response from Mr. Reynolds regarding SCE&G’s motion to dismiss his complaint, the Commission approved the Company’s motion as unopposed.

Conclusion

In Docket No. 2012-218-E, the AARP voiced concern that the eWNA discouraged conservation and made bills confusing and unpredictable. Based on these issues, SCE&G agreed to investigate the impact of changing certain aspects of eWNA and provide a report of its findings. Recognizing the issues expressed by the AARP and SCE&G customers, ORS reviewed the Company’s study and analyzed the eWNA mechanism.

It is worrisome to both ORS and consumers that only SCE&G can generate and verify the calculation of the eWNA factor. The temperature data used to calculate the eWNA factor is not readily available to customers, and the weather sensitive parameters are generated through statistical regression equations and only available through SCE&G.

ORS is also concerned with the impact of the eWNA on customers’ conservation measures and the Company’s DSM programs. Additionally, those customers who use gas to heat their homes are subjected to a weather normalization adjustment on their electric bill



despite using gas to heat their homes. Finally, there is no filing of the eWNA mechanism with the Commission that ratepayers can view to determine how this portion of their bill is calculated.

The *Principles of Public Utility Rates* states that the revenue-related attributes of a sound rate structure include “stability and predictability of the rates themselves” and that the practical attributes include “understandability, public acceptability and feasibility of application.” Additionally, these rates should have “freedom from controversies as to proper interpretation.” SCE&G’s eWNA program does not contain these attributes. There is no stability and predictability in the rates as there are nineteen (19) different eWNA groups with twenty (20) separate eWNA cycles for each billing month. Since the inception of the eWNA through August 2013, there have been 21,862 eWNA factors applied to customers’ bills. Multiple customers have expressed concerns over the lack of transparency and understandability of the eWNA and, consequently, a lack of public acceptance. The lack of customer acceptance and understanding leads to questions over the interpretation of the eWNA program.

SCE&G examined three (3) modifications to its current eWNA program and recognized that even with these modifications, the confusion surrounding the eWNA would exist and could possibly be exacerbated. There are on-going concerns about the complexity of the eWNA program, the impact of this mechanism on energy conservation, the impact to those customers using gas to heat their homes and a lack of transparency. These concerns are coupled with the fact that the eWNA program lacks the attributes needed in the development of a sound rate structure.

Based on the above stated reasons, ORS recommends that SCE&G’s eWNA program be terminated with the last billing cycle for December 2013.