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IN THE PUBLIC UTILITIES COMMISSION
FOR THE
COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

Petition of the
Commonwealth Utilities Corporation
For rate relief in its Power Business

RATE CASE No. 13-01

CUC's Testimony of:
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Subject: Supplemental Testimony in support of request to change the name of the LEAC to Fuel Adjustment Clause and to change the duration of the Fuel Adjustment Clause from six months to one month.

Transmittal Date: May 15, 2014

Prefiled Testimony of
Economists.com LLC
Robert E. Young, Managing Director

Section I – Introduction and Summary of Rate Proposal

Q. **What is the purpose of this prefiled testimony?**

The purpose is to provide my analysis of and recommendations for the change the name Levelized Energy Adjustment Clause (LEAC) to Fuel Adjustment Charge (FAC) and to change the duration of the FAC from six months to one month.

This testimony is presented by Robert E. Young, Managing Director of Economists.com. Therefore the use of “I”, “my”, refers to both of Economists.com and Robert E. Young, and not to CUC, unless stated otherwise specifically. My professional resume has already been submitted to the CPUC in this Docket.

Q. **Please explain why you propose to change the name of the LEAC to Fuel Adjustment Charge?**

A. Many of our customers do not understand the term LEAC and think that it is a charge unrelated to the provision of electricity. It is one of the most common questions CUC customer service gets when talking with customers about CUC electric rates and charges. LEAC questions from customers to CUC staff run the gamut from puzzlement to comical (“What is this leak (sic) charge on my bill, I do not have any electric leaks!) Questions about the meaning of the LEAC also come up regularly at CPUC hearings. Simply put, changing the name of LEAC to Fuel Adjustment Clause will increase the transparency of CUC’s electric rates. I use ‘transparency’ to mean easy to perceive or detect. Of the ten island utilities surveyed for this testimony, all but two used the word fuel in the clause name. Hawaiian Electric Company’s (HECO) fuel clause is called the Energy Cost Adjustment Clause because a component of the cost of supplying electricity is purchased from other entities. Unelco GDF Suez on Vanuatu change their entire rate structure monthly, so it does not have a separate fuel clause. Simply stated, renaming the LEAC to Fuel Adjustment Clause more accurately describes the nature of the rate and makes it easier to understand for CUC’s customers.

Q. **Please explain why you propose to change duration of the Fuel Adjustment Clause from six-months to monthly.**

A. First and foremost is that changing the Fuel Adjustment Clause from its current six-month duration to monthly will result in a decrease in the FAC of about 5% or 1.3 cents per kWh at current fuel prices, because of the elimination of the volatility element in the FAC formula.

Second, it will increase the transparency of CUC's rates because its customers will be able to track changes in the price of gasoline with changes in the cost of electricity. The rigidity of the LEAC during falling oil prices caused considerable controversy a couple of years ago when fuel prices fell sharply and CUC was not able to change the LEAC to reflect lower fuel prices. (Part of the reason for the inability to change the LEAC was because the CPUC did not have a quorum. In addition, the CPUC subsequently added a clause that allows CUC to change the LEAC if the CPUC is not functioning and CUC fuel costs change be more than 5%. However, if at some point in the future, CUC fuel costs drop significantly shortly after a LEAC rate is established, CUC will be unable to revise the LEAC unless it makes an emergency filing with the CPUC.)

Third, the LEAC is inherently unsuitable for a utility such as CUC where fuel costs represent two-thirds of its operating costs, consistently loses money on an operating basis, has minimal cash reserves, accounts receivable is almost $29 million as of September 30, 2013 and represents about of 29% of annual revenue and is unable to borrow funds at reasonable rates. Volatility in fuel prices creates the risk of disruptive emergency LEAC filings with the CPUC when fuel prices increase rapidly as they did in late 2010, causing CUC to seek a change in the LEAC three months after the prior LEAC had been approved. The combination of volatile fuel prices and a very weak financial position places unacceptable risks on CUC and its customers.

Fourth, the volatility adjustment in the LEAC, which was about 5% in prior CPUC LEAC orders, is far below the level it should be. Based on current measures of volatility in petroleum markets such as the Oil Volatility Index or OVX and the confidence interval of the

US Energy Information Agency (EIA) monthly oil price forecast, the volatility element should be about 12%.

Finally, a survey of other Pacific Island and Caribbean electric utilities shows the monthly fuels adjustment clauses are by far the most common method used by utilities and their regulatory bodies or boards to manage volatility in the price of fuel to generate electricity.

Q. **Please explain why changing the duration of the LEAC or Fuel Adjustment Clause from six months to one month will lower electric rates by about 5% for all CUC Customers.**

A. The price CUC pays for fuel is based on the average Mean of Platt's Singapore (MOPS) price for the prior month plus transportation handling costs, taxes, and other costs invoiced by the fuel supplier. Each month, the CUC receives notice that the price of fuel will change, up or down based on the prior months MOPS. Because the LEAC is fixed for six-months and CUC has minimal financial reserves and cannot borrow funds or hedge the fuel price risk, the LEAC includes a volatility element of about 5%, or about 1.3 cents per kWh, which increases the LEAC to provide extra cash to CUC to cover unexpected increases in the price of fuel. (Also part of the LEAC is a true-up or reconciliation element to reflect any over or under collection from the prior six months.)

If CUC is able to change calculation which refunds any over collection is increased by about 5% to provide a cushion in the event of an increase the price of fuel. Because of the time it takes to analyze and file the FAC, there would be a one-month lag in the FAC calculation. For example, the FAC for June would be based on the MOPS price from the prior April. Thus changes in the cost of fuel are flowed through to CUC customers much more frequently eliminating the need for a volatility adjustment. In addition, the true up or reconciliation for over/under collections from the prior month would occur each month as part of the FAC calculation, which would simplify greatly the current LEAC reconciliation process.

Q. **How will changing the Fuel Adjustment Clause duration from six-months to one month increase the transparency of CUC rates?**

A. Because CUC generates electricity with diesel, its customers understand that when the price of gasoline increases or decreases significantly, the price of electricity will also change. In addition, because much of the food and gods not made in the CNMI must be transported via ships, the retail price also changes with the cost of fuel. With a six-month LEAC, that direct relationship between changes in the price of fuel and the price of electricity is somewhat distorted because of the lag of prices. This is particularly apparent when the price of fuel drops significantly and CUC must wait until the next LEAC filing to reflect the lower fuel prices into electric rates. Conversely, CUC customers are protected from price increases by the LEAC, which leads to emergency filings and customer complaints because of the new LEAC will include not only the higher fuel prices, but also the accrued under collection.

Q. **Why do you believe a six-month LEAC is unsuitable for a seriously financially challenged utility like CUC and its customers?**

A. Higher risk and higher rates. CUC's dire financial situation is well established. With almost $29 million in accounts receivable, CUC is chronically cash strapped and can only purchase fuel when it has enough cash in the bank, so it makes frequent fuel purchases between 12 and 14 times per month. Even with a 5% volatility element, a sudden rise in fuel prices shortly after a LEAC is set would result in an emergency LEAC filing such as happened in December of 2010. In that situation, the price of fuel jumped by over 15% in 3 months, dwarfing the 5% volatility element and further weakened CUC's financial situation. For a utility with a strong balance sheet that can borrow money at reasonable rates such as Guam Power Authority and Water and Power Authority of the Virgin Islands, they can afford to absorb rapid increases in fuel prices for a short period, or can hedge the fuel price risk through the purchase of financial instrument for a portion of the fuel needs. CUC cannot afford to take the risk of higher oil prices.

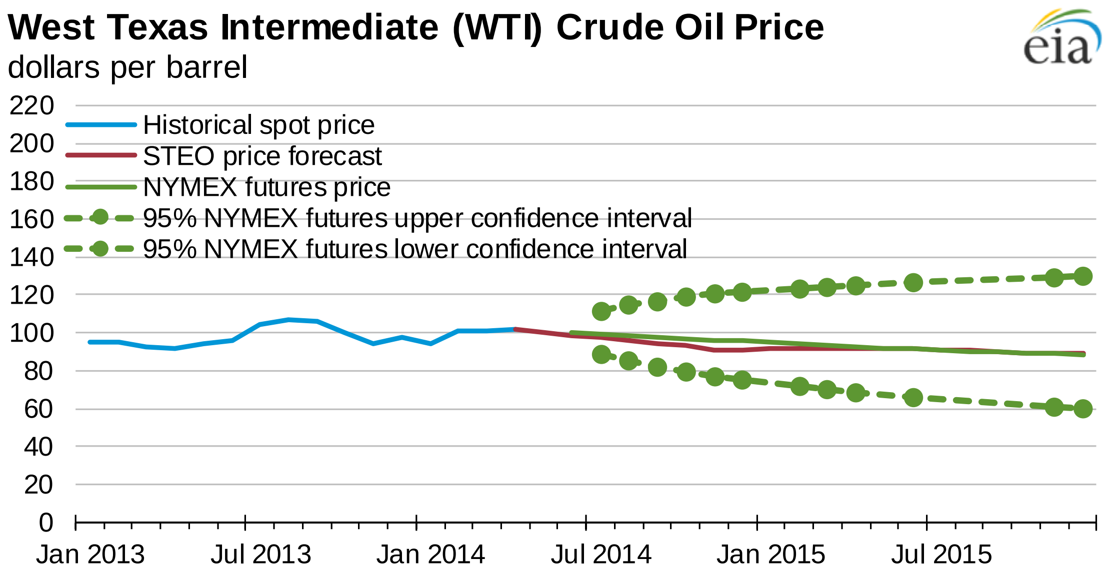
CUC customers should not be forced to pay higher electric rates for the LEAC, the volatility element results in an unnecessary 1.3 cents per kWh increase in electric rates simply to have a stable six-month fuel charge.

Q. **You stated earlier that the LEAC Volatility Element of 5% does not reflect accurately the oil price risk faced by CUC and its customers and that the Volatility Element should be substantially higher for a six month LEAC. Please discuss the support for that statement.**

A. Financial markets have a measure of volatility called the volatility index or VIX, which measures the markets perception of the expected volatility in the Standard and Poor's 500 stock index. The Chicago Board Options Exchange developed the VIX in in 1993 and used the same methodology to measure the markets perceptions of volatility for other number of other stock indices, commodities, interest rates and stocks. Currently the CBOE lists about 25 VIX-like products that trade like shares of stock. The oil volatility index or OVX is one such index and was developed by the CBOE in 2007. The OVX is an annualized valued that represents the expected volatility in the price of crude oil, which we can use as a proxy for the MOPS because of the close correlation between diesel fuel and crude oil. Currently the OVX is about 16.7, which implies that the market thinks that crude oil prices will vary by 4.8% over the next 30 days. Note that the current market expectation for the 30 day volatility is very close to the Volatility Element in the LEAC for six months. The six month volatility using the OVX methodology is about 11.8%. Note that the OVX declined significantly since the last CPUC LEAC calculation in January of 2012 when it was about 38, or about twice the current level.

The EIA uses a similar process to calculate the 95% confidence intervals around its monthly crude oil price forecast. The chart below, labeled Exhibit ECON-1 shows the EIA April 2014 Crude Oil forecast from its Short Term Energy Outlook Report.

Exhibit ECON - 1



Note: Confidence interval derived from options market information for the 5 trading days ending May. 1, 2014. Intervals not calculated for months with sparse trading in near-the-money options contracts.

Source: Short-Term Energy Outlook, May 2014.

Note that the bandwidth around the point estimate increases as you go farther out in time. The OVX and EIA chart show convincingly that if the CPUC decides to continue with a LEAC month LEAC, it will need to increase significantly the Volatility Element.

Q. Please discuss your survey of Pacific and Caribbean island electric utility fuel adjustment clauses?

A. I performed a web search for Pacific and Caribbean island electric utilities that used diesel as a primary fuel source that also had some sort of fuel adjustment mechanism. I excluded Guam and Virgin Islands because they operate under the same LEAC protocol as CUC. Exhibit ECON-2 shows the 10 utilities and their fuel clauses.

Exhibit ECON - 2

COMMONWEALTH UTILITIES CORPORATION The CNMI's Not for Profit Utility Summary of Island Fuel Adjustment Clauses			
Utility	**Regulation**	**Name of Clause**	**Period**
American Samoa Power Authority	Board	Fuel Adjustment	Monthly
Barbados Light & Power	Fair Trading Commission	Fuel Clause Adjustment	Monthly
Caribbean Utilities Company	Economic Regulatory Authority	Fuel Cost	Monthly
Chuuk Public Utilities Corporation	Board	Automatic Fuel Price Adjustmen	Monthly
EPC Samoa	Office of the Regulator	Fuel Surcharge	Monthly
HECO	Hawaii PUC	Energy Cost Adjustment	Monthly
Kauai Electric Coop	Hawaii PUC	Energy Rate Adjustment Clause	Monthly
Kosrae Utilities Authority	Board	Fuel Adjustment Clause	Monthly
Palau Public Utility Corporation	Board	Fuel Adjustment	Monthly
Unelco GDF Suez (Vanuatu)	Utility Regulatory Authority	Base Tariff	Monthly

The survey contains a mix of regulated investor-owned for profit utilities such as Hawaiian Electric and Caribbean Utilities Company and government-owned not for profit utilities such as Palau Public Utilities Corporation and American Samoa Power Authority. Note that all fuel clauses are monthly.

R. In closing, we have a couple of housekeeping questions. Did you prepare this testimony and exhibits, or were they prepared under your supervision and control?

B. Yes.

Q. Are the statements in your testimony true and correct to the best of your knowledge, information and belief?

A. Yes.

Q. If you were testifying live, under oath, today, would you say what appears in this, your prefiled testimony filing?

A. Yes.

Q. Does this conclude your prefiled testimony?

A. Yes it does. However, I reserve the right to make any necessary adjustments during the course of these proceedings.

DECLARATION

Robert Young

Robert Young

Digitally signed by Robert Young
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