

**BEFORE THE
VIRGIN ISLANDS PUBLIC SERVICES COMMISSION
DOCKET NO. 289**

**PETITION OF VIRGIN ISLANDS WATER AND POWER AUTHORITY
FOR CHANGE TO LEVELIZED ENERGY ADJUSTMENT CLAUSE (LEAC)**

**REPORT OF
GEORGETOWN CONSULTING GROUP, INC.
TECHNICAL STAFF OF THE PSC**

WAPA LEAC PETITION JULY 2020 THROUGH DECEMBER 2020

MAY 29, 2020

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**REPORT OF
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WAPA LEAC PETITION JULY 2020 THROUGH DECEMBER 2020
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FINDINGS AND RECOMMENDATIONS

On April 3, 2020, USVI Water and Power Authority (“WAPA”) filed a petition with the VI Public Services Commission (“Commission” or “PSC”) requesting that the current Levelized Energy Adjustment Clause (LEAC) of 16.3989¢/kWh remain in place for the period of July 1, 2020 through December 31, 2020. The proposal is for no change in customer LEAC rates and therefore no change in customer bills. The proposed rate is not supported by specific data and calculations, but rather is a maintenance at the current level, which would allow WAPA to recover a substantial portion of its claimed Deferred Fuel Balance (“DFB”) while current fuel expenses are substantially reduced.

The analysis in this report shows, that dependent on the findings made by this Commission, that the appropriate Electric System LEAC rate before addressing the DFB could range from WAPA’s request of 16.3989 ¢/kWh to as low as 14.4129 ¢/kWh. Deferred Fuel also contains significant policy issues which will drive the final LEAC rate.

The major issues addressed in this report and the recommendations are:

1. For the LEAC rate period July – December 2020:
 - a. Fuel prices based on the updated futures prices on May 21, 22 & 26, 2020.
 - b. Non-Revenue Electricity set at 5.56% for St. Thomas and 21.5% for St. Croix on a one-time basis as a phase-in to a prudent level not to exceed 6.6% consistent with Commission Order 4/2005 beginning on January 1, 2021.
 - c. kWh sales as for WAPA to be 265,400 mWh consistent with the NRE levels above.
 - d. Fuel expenses forecasted to be \$37,857,137 based on Staff’s update of fuel prices.
 - e. Current fuel portion of the LEAC rate be equivalent to 14.26¢/kWh
 - f. No deferred fuel recovery portion of the LEAC rate.
 - g. LEAC rate for July – December 2020 be set at 14.9417¢/kWh

2. Non-Revenue Electricity (“NRE”) levels for the purposes of inclusion by the Commission in future LEAC rates beginning with January 1, 2021 shall not exceed 6.6% pursuant to Commission Order 04/2005. For the July – December 2020 LEAC rate period an NRE level of 5.56% and 21.5% for St. Thomas and St. Croix, respectively, are implemented on a one-time phase-in basis.

3. We recommend that a very high priority be given to having WAPA provide a reconciliation of fuel expenses used for the determination of the LEAC rate with the fuel expense contained in its financial audit reports for FY 2018 & FY 2019. This should be ordered by the Commission and provided back to the last reconciliation provided. WAPA should indicate when the audits for FY 2018 & FY 2019 will be provided.
4. Full reconciliation of the DFB should not be deemed final until WAPA has received its audited annual financial statements covering the entire period and has provided a reconciliation between fuel expense used in the LEAC and fuel expense in the audited financials. In the meantime, the Commission should establish policies by which the reconciliation shall take place going forward. It is important to understand that very much integral to the discussion of deferred fuel is whether the actual fuel expenses are based on reasonable and prudent costs. Currently there is a continuing theme of WAPA's current generation being less efficient than optimal and in addition outages of equipment cause less efficient generation to be brought on-line at a greater cost. Staff suggests that the Commission consider setting a maximum value on the heat rates for baseload units and overall system performance to govern the prudent expense level of fuel included in future LEAC rate. After the 24-months that WAPA says its new generation will be online the maximum value heat rate should be adjusted to the guaranteed heat rate for the new generation. In the interim the maximum value should be an appropriate meld of heat rates that currently exist or could be procured in this timeframe. We recommend that WAPA be required to provide a position for such a heat rate performance criteria for future LEAC rate setting beginning January 2021 by October 1, 2020 with the next LEAC filing on October 1, 2020.

Each of these recommendations, and the underlying information, is discussed below

Systemic LEAC Rate Findings

Both the current fuel expense and the net DFB for incorporation into the LEAC rate were the primary items of analysis in our determination of the LEAC rate. Based on Staff's investigation and analyses of the WAPA's petition and supporting data/information, subsequent responses to staff requests for information ("RFI's") and telephone conferences with WAPA representatives we find:¹

1. WAPA is at a power production efficiency plateau and is not proposing to bring into service any new permanent production improvements (hi-efficiency or new technology) during the

¹ WAPA's responses to Staff's discovery requests are not complete as of the writing of this report.

next 24-month period, and perhaps longer based on past implementation barriers and difficulties encountered.² We find WAPA should be strongly encouraged to:

- a. Explore all means by which the implementation of its resource planning schedule for permanent or leased generation could be accelerated and implemented for cost effective alternatives.
 - b. Explore alternative public – private partnerships that could be used to accelerate its resource planning schedule.³
 - c. Time is of the essence. Staff has indicated for over a decade that lower cost more efficient generation with smaller size generators would result in savings to consumers in the tens of millions of dollars annually with much more reliability. The management audit has borne that out. The two completed IRPs have reinforced the management audit and borne that out. And finally, the purchase of new Wartsila units and the leased Agrekko units have confirmed the fact with small efficient units. The 2016 management audit and the IRP have estimated the cost of delay in implementation at approximately \$50 million annually. The entire cost of these WAPA management decisions and delays have been bore by the residences and businesses of the Virgin Islands to the detriment of the local economy and consumers.
2. WAPA has been indifferent to system improvements that could be timely achieved to enhance system efficiency. As long as the LEAC rate allows an automatic pass-through of inefficiencies to consumers we believe this will remain an issue. The current LEAC rate-setting protocols should be changed to discourage this behavior by the establishing acceptable benchmarks (i.e., these could be minimum acceptable efficiency or performance targets) that would define upfront what the Commission considers as acceptable performance for the purpose of setting a LEAC rate.
 3. WAPA has not completed any audited financial statements for FY 2018 or FY 2019 which would contain an audited figures for fuel expense and WAPA’s deferred fuel balance thereby giving the Commission confidence in the figures put forward by WAPA to collect the LEAC and the DFB. Meanwhile, WAPA is seeking to recover deferred fuel created in these periods for which there are no audits (FY 2018 and beyond.) In past years final fuel expense reconciliations have been provided annually by WAPA between the fuel expenses used in the LEAC proceedings before the Commission and WAPA’s audited financials. The Commission should require annual fuel expense reconciliations to the WAPA audited figures. Reconciliations should also be provided for any past period for which the reconciliation was not provided. In the event that such reconciliations are not provided the Commission should take appropriate action in setting future LEAC rates.

² WAPA has indicated that there are no permanent additions to new efficient generation for at least the next 24 or so months. There is included two leased 5 mW units beginning in November 2020. Therefore, improved efficiency (BTU/kWh) and associated expense declines will not be available for the period prior to this date.

³ Issuing Requests for Proposals that would produce fuel expenses lower than WAPA’s current schedule.

4. NRE industry standards for electric utilities comparable to WAPA typically range in the order of 5%.⁴ In this proceeding, NRE levels on St. Thomas are 5.56% and are reasonably consistent with industry norms and consistent with the 6.6% level established by Order 04/2005. However, the NRE level forecast for St. Croix for inclusion in this LEAC filing is 21.25%. This means that allowing for a normal NRE level that WAPA is only able to account for approximately 84% of its net production on St. Croix – approximately 16% is unknown. Something is seriously awry with the reporting of kWh sales to consumers on St. Croix. The current NRE level for St. Croix is unreasonable and imprudent. As explained later this set of facts results in a LEAC rate being set artificially high and consumers who are billed and pay their bills having higher LEAC rates than they should and WAPA passing through the additional expenses that they have created to this set of customers.⁵ We do not recommend that the Commission accept this treatment. This situation should be viewed as a high priority and should be corrected going forward.
5. Similar to NRE, the station service uses at WAPA power plants (i.e., inside the fence uses) appear to be excessive. St. Thomas has uses on the order of 5% and St. Croix on the order of 7%. For systems like WAPA's comprised predominantly of diesel and gas turbine generation, station service uses are typically far less than the 6 – 7% level currently experienced by WAPA.⁶ Further investigation is required to ascertain whether these values currently experienced by WAPA are just, reasonable and prudent. Insufficient data has been provided for us to reach a conclusion and recommendation in this proceeding and more study of this matter is required and should probably begin with WAPA submitting prior to the next LEAC filing a complete identification of all station uses and a twelve-month history of usage.
6. Evidence in this LEAC proceeding supports that the DFB has been reduced through receipt of a portion of the Community Development Loans (CDL) that WAPA received. The CDL that was used to pay for fuel is the appropriate offset for the deferred fuel account. It is anticipated that the debt service schedule for repayment of the CDL received by WAPA will be recovered in base rates unless the debt is forgiven.
 - a. This amortization schedule of the CDL will have no impact on either the LEAC rate in this proceeding as the amortization impacts base rates only.
 - b. Should the CDLs be forgiven by the federal government, the corresponding unamortized portion of the DFB shall be written off against the Net Assets of WAPA and shall not be included in rates since their expenses were associated with the payment of debt service on the bonds.

⁴ U.S. Energy Information Administration (EIA) estimates that electricity transmission and distribution (T&D) losses average for the period 2014 – 2018 about 5%. <https://www.eia.gov/tools/faqs/faq.php?id=105&t=3>

⁵ While LEAC rates are artificially higher than should be, base rates are potentially set artificially lower than should be costing WAPA valuably needed revenues.

⁶ Station service uses for diesel/combustion turbine generation like WAPA more typically operate at a level of less than 2%, gas/fuel oil fired steam generation at a 5% level and coal-fired generation at 7-8% levels.

- c. In addition, billings for the March 2020 time period during which WAPA billed for 45 days results in an over billing of approximately \$10 million thereby reducing the DFB to a level of approximately \$20 million at March 31, 2020.

Current LEAC and DFB Rate Component Findings

To determine the appropriate LEAC rate, the Commission needs to make findings on both the (i.) appropriate current fuel expense component of the LEAC rate, and (ii.) the appropriate amount of the DFB component to be included in the LEAC rate. In this overview we discuss each one of the two components separately.

To determine the current fuel expense, it is necessary to determine the projected generation for each island and the resources needed to generate. WAPA produces this using historical trends. After projecting the generation for the LEAC period, WAPA then projects the sales to customers taking into account station uses and NRE.⁷ Based on the data in this proceeding staff finds the following:

1. The “gross” generation projections in this proceeding have been accepted for setting the LEAC rate. Any difference between the projected amount and the actual amount will be trued up in the subsequent LEAC proceeding.
2. The NRE presented by WAPA in this proceeding is unreasonable and should not be relied upon. As discussed later the NRE for St. Thomas is reasonable, but the NRE for St. Croix is unreasonably high and imprudent. It seems likely from other data presented in this proceeding that the problem arises from inadequate billing as the AMI system is not collecting accurate data for WAPA to bill St. Croix consumers and as a consequence there is a considerable amount of actual electricity usage not being billed. The result is that customers that do get billed end up paying for the fuel expenses for usage that is not identified and billed since all fuel expenses are collected over the billed usage. This is highly unfair and should not be allowed to happen. WAPA is indifferent to this misallocation of expense as WAPA has been collecting and proposes to continue to collect all fuel expenses from those who are billed. Our recommendation is not to allow this to happen and to set the sales level in this LEAC based on the normal NRE. To the extent that WAPA cannot identify the customers to bill for the full usage it will not collect those revenues and will have an incentive to get the systems required to function correctly.⁸ WAPA has retained Black & Veatch to assist in solving the AMI issues related to billing. In documents provided by WAPA it is the goal to have the billing problem corrected by the year-end 2020. Therefore, correcting the problem before the end of December 2020 does seem likely. We point out that prior to the hurricanes Irma & Maria the NRE levels

⁷ Initially WAPA used a 6-month rolling average for NRE that was later replaced by a 12-month rolling average.

⁸ WAPA does currently have a contract with Black & Veatch to fix the AMI system while the billing system problems have existed for a while with the attendant problem of billing those identified an excessive amount.

for WAPA were close to industry standards. To provide for a practical solution to this issue we reluctantly recommend that the Commission, for the limited purpose of this proceeding, use the NRE level projected by WAPA (as corrected) in this proceeding on a one-time basis to phase in to the correct level in the next LEAC to begin January 1, 2021 consistent with the level prior to hurricanes Irma & Maria and also consistent with the cap on NRE adopted by the Commission in Order 04/2005 of 6.6%. This will allow WAPA to correct the billing issue during the period June through December 2020 and be on notice that beginning January 1, 2021 all LEAC determinations will be made with NRE limited to 6.6%. This shall also include that the determination of allowable fuel expense shall also be made with an NRE not to exceed 6.6%.

3. As is the practice in LEAC proceedings we have used the most recent levels of pricing for both propane and fuel oil as required. Currently we have used futures prices available for May 21, 22, and 26, 2020.
4. Based on the above, current expense of fuel for this LEAC proceeding is 14.99¢/kWh. This increase in the current fuel component of the LEAC is above that amount included in WAPA's April 3, 2020 filing. This is a direct result of an almost 50% increase in LPG since March 26th, the dates used in WAPA's petition to establish fuel futures. This increase in LPG prices is likely driven by the shut-ins being applied to natural gas wells from which LPG is a by-product. Together with other charges that are part of the LEAC determination the table below provides the detail of the current fuel component of the LEAC rate under this scenario being 15.68¢/kWh.

Jul - Dec 2020		6-Month Analysis			
		Current as Approved	Proposed LEAC	Updated Fuel Prices	
		Units	Jan - Jun 2020	Jul - Dec 2020	Jul - Dec 2020
Retail Energy Sales					
Computed	MWh	251,391	252,447	252,447	
Costs to be Recovered					
Current Fuel Cost Portion of LEAC	\$	39,014,913	31,763,398	37,842,164	
Other Charges					
Regulatory Costs (Dkt 289)	\$	84,000	84,000	84,000	
Renewable Energy Cost	\$	624,102	625,152	625,152	
Ultra Pure Water Charge	\$	890,358	897,488	897,488	
Plant Repair RO Contract	\$	126,871	126,871	126,871	
Total Other Charges	\$	1,725,331	1,733,510	1,733,510	
Total Costs to be Recovered	\$	40,740,244	35,230,417	41,309,184	
LEAC Rate Component					
Current Fuel Cost Portion of LEAC	¢/kWh	15.52	12.58	14.99	
Other Charges					
Regulatory Costs (Dkt 289)	¢/kWh	0.03	0.03	0.03	
Renewable Energy Cost	¢/kWh	0.25	0.25	0.25	
Ultra Pure Water Charge	¢/kWh	0.35	0.36	0.36	
Plant Repair RO Contract	¢/kWh	0.05	0.05	0.05	
Total Other Charges	¢/kWh	0.69	0.69	0.69	
LEAC Rate Before Deferred Fuel Amortization		16.2059	13.2689	15.6768	
Total LEAC Rate Requested	¢/kWh	16.40	16.40	16.40	
Contribution to Recovery of Deferred Fuel Balance (Credit for Prior Period Over Recovery)	¢/kWh	0.19	3.13	0.72	
Number of Months to Cover Deferred Fuel Balance		N/A	24	97	

- WAPA acknowledged that in this filing they had in error used a 6-month rolling average of Line Losses and Other (NRE), when the minimum filing requirements for LEAC rates

require using a 12-month rolling average. In response to an RFI, WAPA provided an updated Attachment A, which directly impacted the amount of kilowatt hour sales and agreed that the use of these updated sales figures was appropriate. Provided below is the cumulative affect of both the updated fuel prices and the correction to NRE. As can be seen, the impact is to reduce the current portion of fuel expense from 14.99 ¢/kWh to 14.26 ¢/kWh and the LEAC rate from 15.68¢/kWh to 14.94¢/kWh.

Jul - Dec 2020					
	Units	Current as Approved	Proposed LEAC	Updated Fuel Prices	Corrected Line Losses
		Jan - Jun 2020	Jul - Dec 2020	Jul - Dec 2020	Jul - Dec 2020
Retail Energy Sales					
Computed	MWh	251,391	252,447	252,447	265,400
Costs to be Recovered					
Current Fuel Cost Portion of LEAC	\$	39,014,913	31,763,398	37,842,164	37,837,157
Other Charges					
Regulatory Costs (Dkt 289)	\$	84,000	84,000	84,000	84,000
Renewable Energy Cost	\$	624,102	625,152	625,152	625,152
Ultra Pure Water Charge	\$	890,358	897,488	897,488	897,488
Plant Repair RO Contract	\$	126,871	126,871	126,871	126,871
Total Other Charges	\$	1,725,331	1,733,510	1,733,510	1,733,510
Total Costs to be Recovered	\$	40,740,244	35,230,417	41,309,184	41,304,177
LEAC Rate Component					
Current Fuel Cost Portion of LEAC	¢/kWh	15.52	12.58	14.99	14.26
Other Charges					
Regulatory Costs (Dkt 289)	¢/kWh	0.03	0.03	0.03	0.03
Renewable Energy Cost	¢/kWh	0.25	0.25	0.25	0.25
Ultra Pure Water Charge	¢/kWh	0.35	0.36	0.36	0.36
Plant Repair RO Contract	¢/kWh	0.05	0.05	0.05	0.05
Total Other Charges	¢/kWh	0.69	0.69	0.69	0.69
LEAC Rate Before Deferred Fuel Amortization	¢/kWh	16.2059	13.2689	15.6768	14.9417
WAPA LEAC Requested Rate	¢/kWh	16.40	16.40	16.40	16.40
Contribution to Recovery of Deferred Fuel Balance (Credit for Prior Period Over Recovery)	¢/kWh	(0.19)	3.13	0.72	1.46
Deferred Fuel Balance Amortization Period	Months		24	97	48

- The Commission has also required in prior orders that starting in July 2019 the fuel expense requested by WAPA in its petition shall be reviewed against a expense determined by having the WAPA system operate on 95% propane as well as having the initial three new Wartsila units in operation.⁹ Although required to do so, WAPA did not provide the computations required in the Commission’s order. This is discussed later in this report. The Commission order required providing the Commission the information requested and stopped short of requiring that the calculation be used in the determination of the LEAC to

⁹ Order 52/2018.

be implemented. The impact of the requirements of the Commission’s order, were they to be implemented, would be to reduce the current fuel component of the LEAC rate to 13.73¢/kWh and LEAC rate to 14.41¢/kwh in this proceeding as follows:

Jul - Dec 2020						
	Units	Current as Approved	Proposed LEAC	Updated Fuel Prices	Corrected Line Losses	95% Propane
		Jan - Jun 2020	Jul - Dec 2020	Jul - Dec 2020	Jul - Dec 2020	Jul - Dec 2020
Retail Energy Sales						
Computed	MWh	251,391	252,447	252,447	265,400	265,400
Costs to be Recovered						
Current Fuel Cost Portion of LEAC	\$	39,014,913	31,763,398	37,842,164	37,837,157	36,433,690
Other Charges						
Regulatory Costs (Dkt 289)	\$	84,000	84,000	84,000	84,000	84,000
Renewable Energy Cost	\$	624,102	625,152	625,152	625,152	625,152
Ultra Pure Water Charge	\$	890,358	897,488	897,488	897,488	897,488
Plant Repair RO Contract	\$	126,871	126,871	126,871	126,871	126,871
Total Other Charges	\$	1,725,331	1,733,510	1,733,510	1,733,510	1,733,510
Total Costs to be Recovered	\$	40,740,244	35,230,417	41,309,184	41,304,177	39,900,709
LEAC Rate Component						
Current Fuel Cost Portion of LEAC	¢/kWh	15.52	12.58	14.99	14.26	13.73
Other Charges						
Regulatory Costs (Dkt 289)	¢/kWh	0.03	0.03	0.03	0.03	0.03
Renewable Energy Cost	¢/kWh	0.25	0.25	0.25	0.25	0.25
Ultra Pure Water Charge	¢/kWh	0.35	0.36	0.36	0.36	0.36
Plant Repair RO Contract	¢/kWh	0.05	0.05	0.05	0.05	0.05
Total Other Charges	¢/kWh	0.69	0.69	0.69	0.69	0.69
LEAC Rate Before Deferred Fuel Amortization	¢/kWh	16.2059	13.2689	15.6768	14.9417	14.4129
WAPA LEAC Requested Rate	¢/kWh	16.40	16.40	16.40	16.40	16.40
Contribution to Recovery of Deferred Fuel Balance (Credit for Prior Period Over Recovery)	¢/kWh	(0.19)	3.13	0.72	1.46	1.99
Deferred Fuel Balance Amortization Period	Months		24	97	48	36

Deferred Fuel

Deferred fuel is the second component comprising the LEAC rate. Since the LEAC rate is set on a projected basis there is a reconciliation process that takes place after the actual amount of fuel expense for the period projected is known and compared with the amounts billed on an actual basis for the projected period. The difference between the billed amount based on the projected LEAC rate and the fuel expense for the projected period is the amount recorded as deferred fuel. Based on the data in this proceeding staff believes that the DFB may not be an issue that needs to be dealt with in this proceeding based on the following.

1. In response to a data request, WAPA provided a DFB at March 31, 2020. Because WAPA billed for one period of greater than 30-days, billings exceeded fuel expense by over \$10 million reducing DFB further after CDL credits to \$20 million at March 31, 2020. It is our understanding, that WAPA is in the process of billing a second period at greater than 30-days, so it would be reasonable to expect that LEAC billings for the month of April will likely provide an additional billing to be applied to the DFB, perhaps this amount would result in another \$10 million additional similar to the previous billing for greater than 30-days.
2. WAPA has indicated in a May 19, 2020 letter to Director Cole that WAPA owes the gasoline tax fund an amount of \$6.358 million for fuel oil expense. This is the remaining “fuel oil” balance on the more than \$25 million that WAPA used from the gasoline tax fund for fuel oil and other purposes. WAPA owes the gasoline tax fund a total of \$10.1 million for the repayment of fuel oil and other expenses. It is our understanding that the gasoline tax funds cannot legally be used by WAPA to pay for fuel and other expenses not authorized by statute. The Commission should decide whether it is appropriate to reduce the deferred fuel balance by this net balance amount paid for fuel as it collects this amount from consumers while WAPA has not reimbursed the fund. We recommend that consumers not pay for fuel that has been paid for with funds in the gasoline tax fund. We recommend that WAPA also be required to explain its ability to violate a statute in using the funds for an unauthorized purpose.
3. Fuel expense of \$20.957 million for fuel purchased and expensed from Trafigura but not paid for by WAPA is also an issue. Through the LEAC process consumers have paid for, in LEAC rates the \$20.957 million for fuel obtained from Trafigura several years ago, but WAPA has not used the previously collected LEAC funds to pay its fuel supplier. Trafigura has obtained a judicial judgment against WAPA, which remains unsatisfied. Whatever the reasons for this management action of not paying for fuel purchased, we recommend that the Commission provide directions as to whether this should continue to be an obligation of consumers if it has not been paid and there is no definitive plan for payment. Staff recommends that until such time as there is more definitive data on the issue, that this be deducted from the deferred fuel balance. In the absence of this action consumers have funded WAPA with \$20.957 million of funds that it did not expend on fuel. Depending on Commission action this amount would be written off the deferred fuel balance if not permitted for recovery.

Based on the above Staff finds that there are potential offsets to the deferred fuel balance to totally eliminate the positive balance altogether as an expense element in the proposed LEAC rate. The table below shows the relevant deferred fuel amounts and the potential offsets:

<u>Item</u>	<u>Amount</u>
Deferred Fuel Balance at March 31, 2020	\$20,827,694
Less: Fuel Expense paid from Fuel Tax Funds	6,358,000
Less: Trafigura Non-payment	<u>20,957,000</u>
Remaining Deferred Fuel Balance	\$(6,487,306)

Based on the above we find that there is no support for deferred fuel component to use in the computation of the LEAC rate in the current proceeding.

Overall Recommendations

In making our overall recommendations in this proceeding we recommend that the LEAC rate be based on only the current fuel expense components as the deferred fuel portions have significant issues to be resolved by the Commission. It is our position that there is no deferred fuel balance that is appropriate to include in the LEAC rate at this time. By contrast WAPA recommends leaving the current LEAC rate of 16.3989¢/kWh unchanged. This rate is significantly greater than the projected expense of current fuel for the LEAC rate and therefore should be rejected.

Based on the above findings staff recommends the LEAC rate that the Commission adopt be based and set as follows:

1. For the LEAC rate period July – December 2020:
 - a. Fuel prices based on the updated futures prices on May 21, 22 & 26, 2020.
 - b. NRE set at 5.56% for St. Thomas and 21.5% for St. Croix on a one-time basis as a phase-in to a prudent level not to exceed 6.6% consistent with Commission Order 04/2005 beginning on January 1, 2021.
 - c. kWh sales as for WAPA to be 265,400 mWh consistent with the NRE levels above, and as submitted by WAPA in their revised filing.
 - d. Fuel expenses forecasted to be \$37,857,137 based on Staff's update of fuel prices.
 - e. Current fuel portion of the LEAC rate be equivalent to 14.26¢/kWh
 - f. No deferred fuel recovery portion of the LEAC rate.
 - g. LEAC rate for July – December 2020 be set at 14.9417¢/kWh
2. NRE levels for the purposes of inclusion by the Commission in future LEAC rates beginning with January 1, 2021 shall not exceed 6.6% pursuant to Commission Order 04/2005. For the July – December 2020 LEAC rate period an NRE level of 5.56% and 21.5% for St. Thomas and St. Croix, respectively, are implemented on a one-time phase-in basis.

3. We recommend that a very high priority be given to having WAPA provide a reconciliation of fuel expenses used for the determination of the LEAC rate with the fuel expense contained in the audit reports. This should be ordered by the Commission and provided back to the last reconciliation provided. WAPA should indicate when the audits for FY 2108 & FY 2019 will be provided.
4. Full reconciliation of the deferred fuel balance should not be deemed final until WAPA has received its audited annual financial statements covering the entire period and has provided a reconciliation between fuel expense used in the LEAC and fuel expense in the audited financials. In the meantime, the Commission should establish policies by which the reconciliation shall take place going forward. It is important to understand that very much integral to the discussion of deferred fuel is whether the actual fuel expenses are based on reasonable and prudent costs. Currently there is a continuing theme of WAPA's current generation being less efficient than optimal and in addition outages of equipment cause less efficient generation to be brought on line at a greater cost. Staff suggests that the Commission consider setting a maximum value on the heat rates that will govern baseload units and overall system performance to govern the fuel expense included in the LEAC rate. After the 24-months that WAPA says its new generation will be online the maximum value heat rate should be the guaranteed heat rate for the new generation. In the interim the maximum value should be an appropriate meld of heat rates that currently exist or could be procured in this timeframe. We recommend that WAPA be required to provide a position for such a heat rate maximum value for the setting of LEAC rates beginning January 2021 by October 1, 2020 with the next LEAC filing.

APPENDIX 1 - OVERVIEW OF WAPA'S LEAC FILING

WAPA is requesting that the current LEAC rate remain unchanged at 16.3989 ¢/kWh for the period July 2020 through December 2020. WAPA states in its LEAC transmittal letter that it is willing to accept the last LEAC rate, although the calculation of the LEAC based on the normal protocol, including amortization of deferred fuel as computed by WAPA over a 12-month period as calculated by WAPA is higher at 19.83 ¢/kWh as shown below.

Table A-1 - Electric LEAC Rate Components			Semi-Annual Analysis		
Line No.	Units	Historical	Current as Approved	Proposed LEAC	
		Jul - Dec 2019	Jan - Jun 2020	Jul - Dec 2020	
LEAC Rate Component					
1	Current Fuel Cost Portion of LEAC	¢/kWh	15.20	15.52	12.58
Other Charges					
2	Regulatory Costs (Dkt 289)	¢/kWh	0.00	0.03	0.03
3	P&I on New 4-Yr GO Note	¢/kWh	0.00	0.00	0.00
4	Hedge Fund Program Costs	¢/kWh	0.00	0.00	0.00
5	Hedge Fund Developmental Costs	¢/kWh	0.00	0.00	0.00
6	Outstanding Regulatory Costs	¢/kWh	0.00	0.00	0.00
7	Renewable Energy Cost	¢/kWh	0.25	0.25	0.25
8	Ultra Pure Water Charge	¢/kWh	0.35	0.35	0.36
9	Plant Repair RO Contract	¢/kWh	0.05	0.05	0.05
10	Total Other Charges	¢/kWh	0.65	0.69	0.69
11	Normalized Recovery of Deferred Fuel Balance (Credit for Prior Period Over Recovery)	¢/kWh	(3.41)	(0.19)	6.56
12	Charge for Prior Period Under Recovery	¢/kWh			
13	Total LEAC Rate	¢/kWh	19.26	16.40	19.83
14	Total LEAC Rate	\$/kWh	0.192569	0.163989	0.198283

Source: WAPA transmittal letter & Schedule A

LEAC Rate Forecast Assumptions as Filed (WAPA)

In a review of key forecast assumptions used by WAPA for the period July 2020 through December 2020 used to determine the LEAC rate, PUC staff notes that WAPA has included in its assumption the following:

- kWh sales of 252,447 are slightly above the WAPA LEAC filing for the current period (January 2020 through June 2020.)

- Proposed fuel expenses of \$31,763¹⁰ million for the LEAC period July – December 2020 represents a decrease of \$7.25 million from the assumption used for the current LEAC rate (January 2020 through June 2020.) This reduced fuel expense projection of \$7M should be available either to reduce the LEAC rate or as WAPA proposes to apply to deferred fuel expenses without increasing the current LEAC rate for the July – December 2020 period.
- Based on the assumptions for fuel expenses and the kWh sales projected for July through December 2020 the current fuel portion of the LEAC is reduced from 15.52 ¢/kWh to 12.58 ¢/kWh – a reduction of 2.94 ¢/kWh.
- WAPA projects deferred fuel of \$31.7 million on June 30, 2020 and shows this balance amortized over a twelve-month period in the determination of a proposed LEAC rate based on existing LEAC protocol. Even though WAPA’s Table 1 shows a “Proposed” LEAC of 19.83 ¢/kWh, WAPA specifically requests that the LEAC rate be maintained at 16.3989 ¢/kWh, which will provide WAPA a partial deferred fuel recovery of 3.82 ¢/kWh or approximately a \$9.6 million over the July – December 2020 period
- Projected fuel prices in WAPA’s filing as submitted are based upon CME three-day average of futures prices on March 25th through 27, 2020 for the period July – December 2020. Fuel prices have been very volatile and currently are substantially higher from the assumptions used by WAPA. It has been the accepted practice of Staff to include the latest available prices at the time of the Staff filing of its LEAC report for the Commission’s consideration and is included in our recommendations.
- NRE comprised of physical line losses and unaccounted for energy are assumed by WAPA for the period July 2020 through December 2020 for the system and on a 12-month moving average (consistent with the previously applied LEAC rate protocol) are 18.62%, up significantly from 7.62% assumed for the current period (January 2020 through June 2020) and Commission Order 04/2005 that established a target of 6.6% for LEAC rate proceedings. There is no reasonable explanation or justification for the current estimate to be used or accepted by the Commission in determining the LEAC rate for July – December 2020. Staff believes that this is an error of customers not being billed and will be fixed when the AMI system is operating as it should. This therefore does not require a physical fix to the transmission and distribution system primarily but rather a billing system fix.
- For the period assumes overall electric power production of 16% from fuel oil, and 84% from propane on an MMBTU. The forecasted mix of generation by island for the period July – December 2020 on an MMBTU basis is as follows:
 - St. Thomas
 - Unit 15 - 95% propane from July through October, 2020. No generation in November and December
 - Unit 23 - 100% Fuel Oil
 - Unit 27 - 100% Fuel Oil from July to October, with 95% propane in November and December 2020.
 - Wartisila units - 100% Propane for entire period

¹⁰ See Table Semi-Annual analysis on page 6, line 2.

- New leased generation units - 95% Propane for November and December.

For STT/STJ this translates to 24% of generation from fuel oil and 76% of generation from propane

- St. Croix
 - Unit 17 - 95% Propane
 - Unit 19 - 100% Fuel oil; however there is no operation in July 2020
 - Unit 20 - 95% Propane
 - Aggreko units - 100% Propane

For STX this translates to 7% of generation from fuel oil and 93% of generation from propane

The following sections provide Staff observations and analysis concerning the WAPA filing and compliance with prior Commission Orders, and recommendations related to establishment of the LEAC rate for the period from July 1, 2020 through December 31, 2020.

STAFF OBSERVATIONS AND ANALYSIS OF THE WAPA FILING

Contained below is the PSC Staff review of a number of factors we recommend that the Commission consider in its deliberation of our findings and recommendations. Many of these factors result in changes to the assumptions and conclusions contained in the LEAC rate filing.

Update of Fuel Prices

PSC Staff has updated the forecasted fuel prices for No. 2 Oil and LPG contained in WAPA's filing for the months of July through December 2020, using data for May 21st, 22nd, and 26th, 2020, the most recent available. This is a well-established Commission practices followed in LEAC deliberations. In general, while No. 2 Oil prices have remained approximately the same or slightly lower than those in the WAPA filing, there was a significant increase in CME futures for LPG pricing from April 23rd through 25th used in the WAPA filing.

The overall impact of those updated fuel prices on WAPA's filing is to increase the current fuel expense component of the LEAC rate from \$31.76 million to \$35.97 million – an increase of 13.22%. As indicated above it is established Commission policy that the LEAC rate should be based on the most recent futures data available, covering the LEAC period, at the time of the Commission's decision-making. We remind the Commission that the price paid for fuel is but one determinate of the overall fuel expense that determines the LEAC rate. Other significant factors include production and delivery system efficiencies. For instance, production efficiency determines the amount of fuel projected to be used and takes into consideration the efficiency of WAPA's generation facilities which continue to be significantly below the efficiency that could have and should have been achieved. Delivery efficiency, characterized as non-revenue electricity, also contributes to the fuel expense to be recovered from consumers. Poor efficiencies as exhibited by a high value of non-revenue electricity – the difference between power produced and power sold to consumers – will result in higher fuel expense.

Resource Dispatching

Unit Dispatch as provided in the LEAC filing is prepared on an amorphous basis that is only vaguely defined and does not utilize the sophisticated computer software purchased by WAPA for the purposes of performing economic dispatching, fuel planning, resource planning and other critical functions. WAPA is well overdue to be preparing its LEAC rate filing using this software and providing with its filings the output so as to allow the Commission to better understand the development and regulation of the LEAC rate. WAPA should be required with its October 1, 2020 filing to use this software and to provide to the Commission this output – this is an existing MFR requirement.

Non-Revenue Electricity Correction

As initially submitted by WAPA in its LEAC rate petition, non-revenue electricity values for the system for the period July – December 2020 were presented as 18.62%, up significantly from the 7.62% used for the current period.¹¹ The higher the percentage associated with non-revenue electricity the greater the amount of fuel necessary to produce the sales and the higher the LEAC rate. The technical loss component of non-revenue electricity is associated with the physical operations of the WAPA delivery system and is largely unavoidable. Based on previous evidence WAPA has demonstrated that it has effectively minimized on St. Thomas this loss component of non-revenue electricity to about 5.5%. This calls into question non-electric revenue associated with other losses that are entirely within the control of WAPA and can be and should be reduced to as close to zero as possible.

- Non-revenue electricity, as filed initially by WAPA, was comprised of 13.85% for St. Thomas and 25.62% for St. Croix
- Industry standards are in the range of 5%.¹²
- St. Thomas pre-2017 storms was operating at a non-revenue electricity level in the range of 6% or less, and now has a new efficient delivery system.
- St. Croix in the two-years prior to the 2017 storms was trending at levels of less than 8%, and like St. Thomas since 2017 a significant portion of its delivery system has been replaced, which should contribute to low delivery system technical losses.
- If overall WAPA non-revenue electricity values were reduced to an industry appropriate number of 5%, the LEAC rate would be correspondingly significantly lower.

After review with WAPA of its initial filing, it was determined that the non-revenue electricity levels for both St. Thomas and St. Croix, as filed in this proceeding, were filed incorrectly using a 6-month rolling average instead of the 12-month rolling average required by the LEAC rate

¹¹ Non-revenue electricity is the difference between the energy leaving WAPA power plants and the energy sold to consumers. Components of non-revenue electricity include technical physical line losses and non-technical losses. Physical or technical line losses are associated with conductor losses, dielectric losses, reactive current losses, and sheath losses and transformer losses are characterized as load and non-load losses. Non-technical losses principally include timing differences between production and sales meters, meter reading errors, billing settlements, customer database errors, metering accuracy, unmetered accounts, and theft.

¹² U.S. Energy Information Administration (EIA) estimates that electricity transmission and distribution (T&D) losses average for the period 2014 – 2018 about 5%. <https://www.eia.gov/tools/faqs/faq.php?id=105&t=3>

minimum filing requirements (MFR's) protocol. WAPA resubmitted the schedules in this proceeding to comply with the MFR protocol and in response to discovery, which resulted in a significant correction for St Thomas and only a modest correction in non-revenue electricity values for St. Croix. These revisions are shown below.

- St. Thomas at 5.56% instead of 13.85%
- St. Croix at 21.25% instead of 25.62%

As previously discussed we have indicated that it would be appropriate to have normal NRE values for each island. STT reasonably has a normal level of NRE. STX should really have a similar level. This would be appropriate. However, we have recommended that the Commission consider for STX be permitted a NRE level as filed for this LEAC period on a one time basis as a phase-in to an appropriate level no greater than 6.6% by January 1, 2021 as required by Commission order 4/2005.

APPENDIX 2 – WAPA LEAC FILING COMPLIANCE

In PSC Order 52/2018, the Commission ordered that future LEAC petitions beginning January 1, 2019 be filed based upon the use of LPG as the predominant source (95%) of fuel on a MMBTU basis. The order requires that the filing contain calculations based on using LPG at no less than the 95% level. This is a computational requirement and is irrespective of whether WAPA has the facilities capable to meet the 95% requirement. We have reviewed the data provided in the LEAC rate petition and have concluded that WAPA did not meet the computational requirement of this order in its latest filing of the July – December 2020 LEAC petition or its previous two LEAC rate petitions.

Provided below is a discussion of the computational deficiencies contained in the current LEAC rate filing, and a preliminary calculation of the LEAC rate differential that would have been applicable had WAPA filed its July – December 2020 LEAC rate petition in compliance with order 52/2018.

In its current LEAC filing, WAPA is assuming the use of fuel oil for three units not computationally in compliance with Order 52/2018.

- St. Thomas
 - Unit 23—WAPA assumes that this unit will be run 96 hours per month using fuel oil, with an average fuel expense of between 15¢/kWh and 16 ¢/kWh. However, historically, this unit cost has been between 22 and 24¢/kWh.
 - Unit 27—WAPA assumes that this unit will be run on 100% fuel oil from July through October 2020, with a 95% compliance on LPG beginning in November.
 - All other units are being used in compliance with the Commission order
- St. Croix
 - Unit 19 is assumed to be run 96 hours per month on fuel oil with an average fuel expense of 24.5 and 26.3 ¢/kWh.

In response to Staff RFI 2, WAPA filed a new Schedule A providing a recalculation in accordance with the Commission Order 52/2018 and a Staff Request. A review of the new Attachment A indicates that WAPA did prepare a calculation as required by the Commission order, but also pointed out that the Commission deferred beginning the calculation from beginning in January 2019 to July 2019 due to a delay in certain LPG facilities coming on-line. Our review of the revised Attachment A reveals that the calculation was not prepared in compliance with the Commission Order 52/2018. The calculation showed that WAPA did not achieve the 95% level for LPG except for a few periods because the generation mix that existed at the time could not meet the 95% LPG level. We point out again that we had specifically discussed that being physically able to generate 95% of sales on generation was not a requirement for the calculation. Again, WAPA has frustrated the Commission's Order to produce the required information.

APPENDIX 3 - OVERVIEW OF DEFERRED FUEL ACCOUNT

The LEAC is a tool established by the Commission many years ago in recognition of the need to flow through changes in the price of fuel and purchased power expense over which WAPA has little or no control in an efficient regulatory review process without the need for a full rate proceeding. Similar rate mechanisms are used by utilities and regulatory agencies to allow for the periodic adjustment of the fuel component of rates charged to consumers. Currently in the VI the changes are made semi-annually subject to the review and approval of the Commission. There are several goals of the LEAC rate; although its primary purpose is to allow the utility to collect its prudently incurred fuel expenses (and no more) from its consumers. The LEAC rate is determined based on:

- (i.) a forecast of prudent fuel expense for the forthcoming 6-months and,
- (ii.) consideration of variances from previous forecasts due to factors not within the control of WAPA, such as the commodity price of fuel.

These variances are reconciled to the previously forecasted amounts and trued-up in the next LEAC rate proceeding. As a reference point the current annualized fuel expense sought by WAPA in the current LEAC for the fiscal year beginning July 1, 2020 is approximately \$64 million on an annual basis.

For each six-month LEAC period, the difference between the fuel expense forecasted to determine the LEAC rate and the actual fuel expense incurred for the LEAC period will either increase or decrease the DFB. To the extent the actual fuel expense experienced exceeds the forecasted expense, the DFB will be positive and to the extent forecasted fuel expenses were less than actual fuel expense, the DFB will be negative. The process for WAPA to reconcile any existing DFB is to include those expenses in the determination of the next LEAC rate. If the DFB is reasonable and resulted from events not within the control of WAPA, the Commission typically allows the net DFB to be included in the computation of the LEAC rate and the expense amortized. The amortization of the DFB is a method by which any over-or under-collection of those fuel expense can be recovered by WAPA or returned to the consumers over a period of time to allow for a smooth transition in rates to the current level of fuel expense.

The most prudent amortization period should match the time period over which the under-or over-recovery occurred. Ideally, the DFB should range slightly above or slightly below zero if the projected expenses are reasonably accurate. However, as has been the experience, there has been great price volatility in the world fuel markets and such volatility exists currently. In addition, the projection of fuel expense also critically depends on the availability and efficiency of the power generation resources used to supply power and energy. This is another area in which there has been significant variance between the operating scenarios forecast by WAPA and what actually occurred. In a large number of instances, the actual equipment used to generate electricity has been significantly less efficient than the equipment originally forecast to generate electricity and later became available.

Other than forced outage situations not caused by deferred maintenance, the availability of generating equipment is within WAPA's control and a standard to permit the expense of less efficient generation should be set rather than permitting an automatic pass through of the expenses of the less efficient units. Summarizing the principal factors contributing to WAPA's DFB include both factors not within WAPA's control and those factors within WAPA's control. The principal factor not within WAPA's is the world market price of fuel and what WAPA must pay its various fuel suppliers. The principal factors either totally or partially within WAPA's control include, but are not limited to, any failure to dispatch its power production resources in the most efficient (prudent) manner possible, the unavailability of efficient resources (caused by unforced or prolonged maintenance outages), excessive NRE and/or station and other WAPA uses,

Currently, WAPA is not held accountable for those factors within its control and the existing LEAC rate process simply passes these controllable expenses onto consumers. Some method of accountability should be interjected into the process. For instance, there are regulatory commissions that set benchmarks for the determining if a controllable expense should be determined to be prudent and allowed for inclusion in the deferred fuel balance. Examples include the establishment of maximum heat rate values and unit availability criteria.

As a reference point, WAPA's purported DFB was approximately \$88 Million on January 1, 2020. This current deferred fuel account (before application of the CDL offset) is 138% of WAPA's annual fuel expense. In other words, the actual expense of fuel for the three prior LEAC periods has been \$88 million more than WAPA's own original forecasts. This is not a normal circumstance. After reducing the balance by approximately \$55 Million for payments of fuel through Community Disaster Loans ("CDL") the net DFB proposed by WAPA is approximately \$34 Million (December 2019.) This CDL issue is discussed in more detail later.

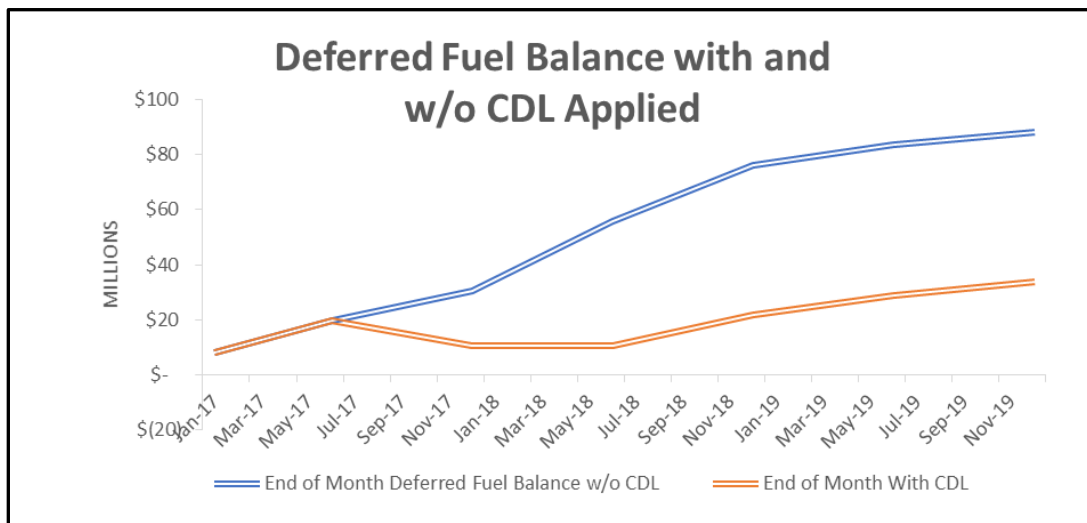
Current Status of the Deferred Fuel Balance

The current DFB as recorded on WAPA's books of accounts is projected to be at \$86.4 million as of June 30, 2020. After Hurricanes Irma & Maria, WAPA received emergency funds from FEMA to provide liquidity referred to as CDL funds. WAPA was required to use such funds for specified purposes and WAPA applied and received approval to use a portion of the funds to pay for fuel expenses. Since the CDL funds have a repayment schedule, which under normal circumstances have to be paid by WAPA ratepayers, the Commission reduced the DFB by the amount of CDL funds used to pay for fuel expenses in order to avoid double counting and double charging consumers. This has been the practice since the receipt of the CDL funds. For LEAC purposes the approximate \$55 Million of CDL funds have been credited to the projected DFB, leaving an unrecovered balance of \$31.7 million for which WAPA seeks some (partial) recovery in this LEAC proceeding. While WAPA has calculated a LEAC rate that would recover this net amount over a future 12-month period, WAPA is instead asking that the Commission approve leaving the LEAC rate at the current level which would effectively recover the computed balance of the DFB over 24 months. If the Commission agrees to continue the current LEAC rate, this effectively allows WAPA to recover approximately 3.13 ¢/kWh to apply to the DFB over the next LEAC period,

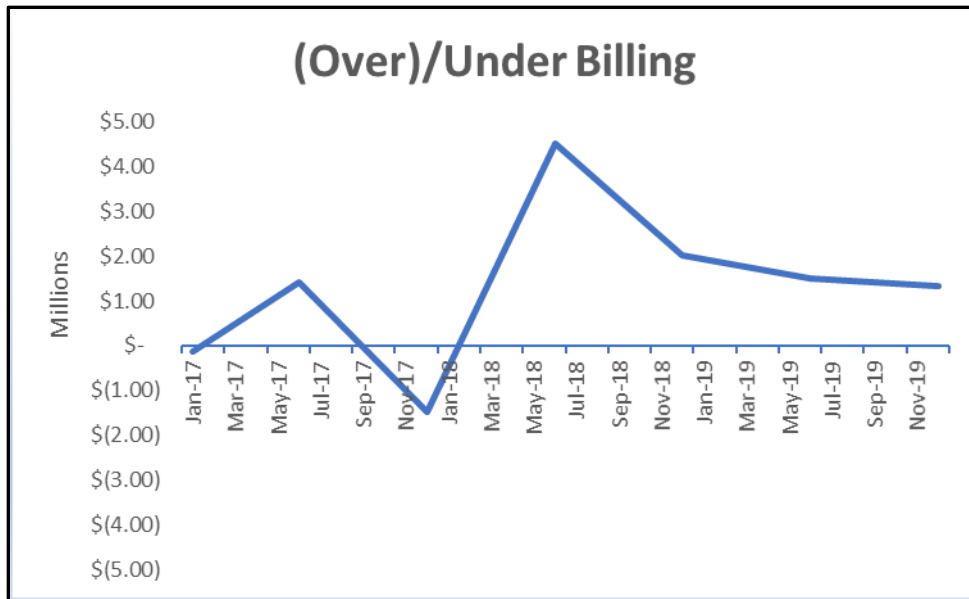
while the calculated recovery over a 12-month period would be 6.56 ¢/kWh based on the original fuel pricing levels in WAPA’s petition in this proceeding.

Analysis of Deferred Fuel Balance Accumulation

Staff has performed an initial analysis of the accumulation of the deferred fuel balance going back to December 2016. Provided below is a graph that shows the accumulation of the projected \$86 million of deferred fuel beginning January 2017.



Based upon a preliminary analysis, the LEAC reconciliation (Deferred Fuel Balance) process was performing as intended during the period January 2017 through November 2017, reducing the Deferred Fuel Balance each month bringing it closer to zero or slightly under-recovered. It is important to remember that Hurricanes Irma & Maria struck the VI in September 2017. Safety and recovery were the early primary activities while regulatory activity came to a halt. Beginning in December 2017 and continuing for almost every month subsequent, WAPA records indicate that LEAC revenues were insufficient to cover LEAC expenses; although, given the devastation there are questions regarding the accuracy of record keeping. The last audit completed by WAPA’s independent auditor was for FY 2017 (12-months ending June 2017.) Provided below is a graph that shows this consistent under billing that contributed to the LEAC being at its current level.



As can be seen, there are significant spikes occurring during this period and have been noted in previous LEAC filings. When questioned about these, WAPA attributed them to their failure to be able to generate bills in particular months and then catching up in later months. The overall accuracy of the current customer billing system as well as the accurate functioning of the Advanced Metering Infrastructure (“AMI”) system continues to be in question and likely limits the accuracy of available data. We understand WAPA has recently awarded a contract to Black & Veatch (“B&V”) to provide assistance in the successful re-implementation of the full AMI system and we understand that B&V is scheduled on the agenda to provide a report on their assistance to WAPA in the Commission Meeting on June 3, 2020. It is unclear whether the results of this assistance will provide useful data regarding deferred fuel and billing information for any of the historical period being discussed. For instance, how much of the historical NRE might be able to be reclassified as a retail sale and billed?

Further Analysis of the Deferred Fuel Balance

Reconciliation of the Deferred Fuel Balance

Staff undertook an analysis and reconciliation of the LEAC and Deferred Fuel Balance back to January 2017. On the expense side of the analysis Staff has been able to trace back all fuel expenses to internal (non-audited) financial statements and invoices as provided by WAPA.

On the revenue side, Staff has been able to trace kWh billed to WAPA Monthly Reports for billed kWh. However, staff has been unable to perform what we would consider a full analysis of LEAC Rate Revenues. As previously indicated none of these expenses and revenues have been part of an independent audit. In the past the Commission has required and WAPA has provided a reconciliation of the fuel expenses used in the determination of the LEAC rate with the fuel

expenses contained in audited financials. No such reconciliation has been provided by WAPA for years and the most recent audited statements that WAPA has are for FY 2017. Audited statements would typically not only prove out the revenue and expense numbers for fuel, but also detail any adjustments such as year-end adjustments for fuel inventories, which could impact LEAC fuel expense. We recommend that a very high priority be given to having WAPA provide a reconciliation of fuel expenses used for the determination of the LEAC rate with the fuel expense contained in the audit reports. This should be provided back to the last reconciliation provided. We are unaware as to when the audits for FY 2108 & FY 2019 will be provided.

Contributing Factors to the Deferred Fuel Balance Buildup

Increases to the DFB can be the result of any number of factors, but in most scenarios where a forecast is involved there are usually two primary variances that can affect the outcome

- **Expense Variance**—Actual fuel expenses significantly deviated from forecasted fuel expenses. This analysis is straight forward and Staff has performed this analysis, which has led to significant policy implications. Part of the difference is caused by the actual price paid of fuel being different from the prices included in the original fuel expense forecast. Fuel expense differences of this nature for fuel used is generally not within the control of WAPA. Therefore, these type of expense variances should be recovered in the DFB reconciliation process in the determination of the LEAC rate.

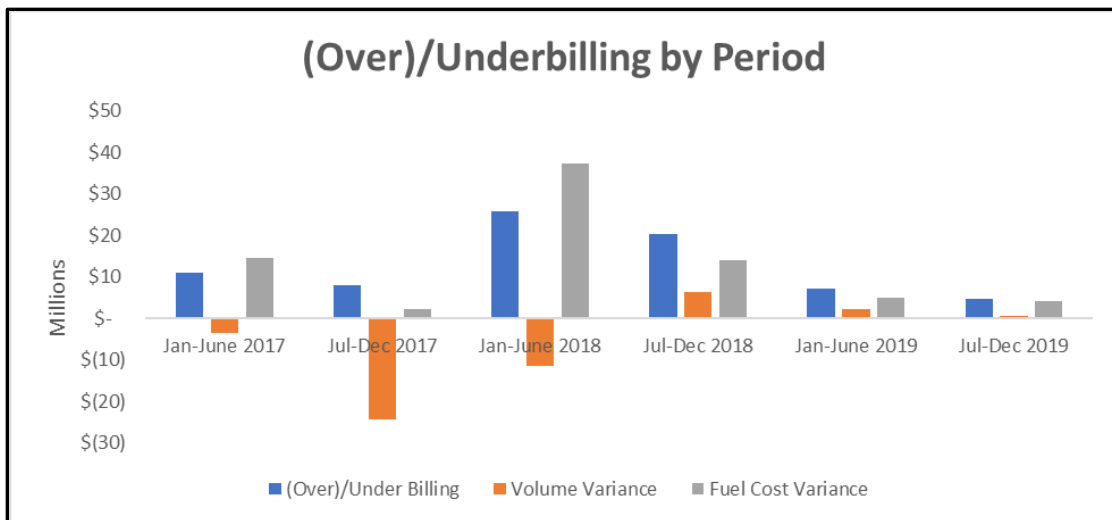
The more important expense variance, and often larger component of the fuel expense variance, is the difference in expense caused by the use and availability of efficient generating resources. In some cases, equipment projected to operate suffers a forced outage and is replaced by a less efficient piece of equipment with an adverse impact on fuel expense. In other circumstances there could be equipment forecast to come into service after scheduled or routine maintenance that is delayed. There could be new generating equipment that is efficient and scheduled to come on-line that has its in-service date delayed. Each of these situations required analysis to determine whether there is an impact on deferred fuel. In many cases as seen in the recent past (i.e., delay of in-service dates for STT Wartsila and STX Aggreko units and availability of prior HRSG operations) there is a huge impact on the overall fuel expense experienced by WAPA – in some cases extending over years. The implementation of efficient and reliable generation resources by WAPA has been an issue of concern to the Commission over many years. While there are many examples of this including implementing the results of a Condition Assessment Study done in 2006 – we look to the results of the 2015-16 Management Audit study which recommended the implementation of efficient generation resources guided by undertaking an Integrated Resource Plan (“IRP”) and 2019 IRP update. The cost savings of the management audit recommendation was computed to be approximately \$50 million annually. The value of the savings has been borne out, but to date WAPA has only purchased 20 MW of propane-only generation on STT and leased 20 MW of propane generation on STX. The full value of the annual \$50 Million of savings from 2016 has been lost - with the important and unacceptable result that the extra expense – tens of

millions of dollars – have been and continue to be passed onto VI residences and businesses all impacting the struggling VI economy.

- **Volume Variance**—Forecasted sales tend to be above actual kWh sales. This situation may contribute to an underbilling for the fuel expense incurred. Staff has performed this analysis. While, we have insufficient data to pinpoint the root causes we have significant concerns that underbilling has occurred due to problems primarily in the billing process and/or to a lesser degree through theft or other unauthorized use. This concern is based on the fact that the non-revenue electricity component (sometimes referred to as line losses and non-technical losses) of WAPA energy balance are very high – well above a typical electric utility. WAPA has belatedly taken initial steps to address this problem currently by awarding a contract to B&V to correct issues with the AMI system and billing; however, the results of this contract will not be known until later in the year. It is expected that this work will identify and rectify the billing discrepancies in St. Croix that have led to a current NRE value of 21.25%

As part of the reconciliation of the DFB and analysis of how the buildup occurred, Staff was able to perform an overall assessment of each forecast that was filed with the Commission and compared it to actual results for the forecasted period. Provided below is a graphic that shows over and under billing of LEAC and breaks out the components between sale volume variances and fuel expense variances.

The blue column represents (over)/under billing for the six-month period, the orange column represents the variance in revenues, and the gray column represents the variance in fuel expenses.

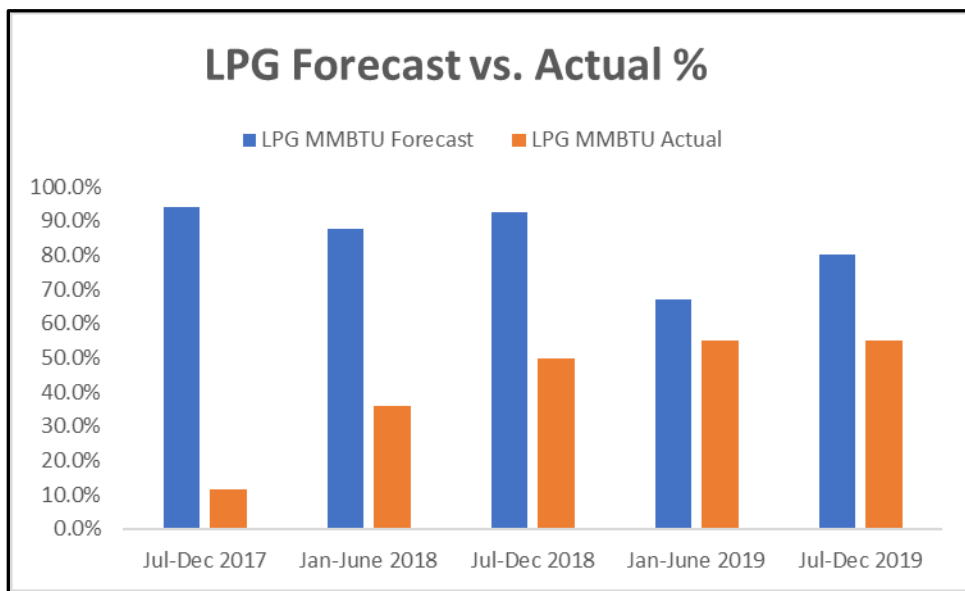


As can be seen from this graphic, in every case WAPA has underestimated the fuel expenses, even in periods where the kilowatt hour sales were significantly lower. Much of this can be attributed to the delays experienced in getting more efficient LPG fired units on-line than was anticipated at

the time of each filing. The last quarter of calendar year 2017 and first half of 2018 are a result of the hurricanes, and it is interesting to note that the variances are more reasonable for the two most recent filings before the current filing – January through June 2019 and July through December 2019.

Primary Contributing Factor for Fuel Expense Variance

Provided below is a comparison by filing period which shows the forecast of fuel mix. As can be seen, forecasts of LPG expenses as a percentage of total fuel expenses have been significantly higher than actual percentages. While the last two periods have been closer together, obviously, the delay in getting LPG fueled facilities online has been a contributing factor.



The actual data supporting this graph is provided below. As WAPA is able to bring more LPG fired generating assets on-line, not only will overall expenses be reduced due to more efficient generation, but there should be more stability in matching forecasts for fuel with actual fuel expense.

Jul-Dec 2017	Jan-June 2018	Jul-Dec 2018	Jan-June 2019	Jul-Dec 2019
95.2%	86%	72.7%	67.0%	50%
9.8%	32%	44.4%	45.9%	41.5%

Analysis of Community Disaster Loans

Staff has performed an analysis of the amounts submitted and received from FEMA for the CDL funds. We have been able to reconcile all expenses and reimbursements for fuel and purchased power insuring that LEAC related expenses and base rate related expenses were appropriately treated given the movement in January 2018 of certain LEAC related expenses to base rates. Based on our analysis these expenses moved to base rates have not been included as CDL reimbursed expenses.

Treatment of Fuel Tax Revenues

WAPA has; indicated that while it did use approximately \$24.113 million of Fuel Tax revenues to pay for fuel, it has since repaid the amount of \$17.755 million and still owes the Fuel Tax Fund approximately \$6.358 million for fuel. WAPA has not stated how it intends to repay the amounts improperly diverted from the Fuel Tax Fund or on what authority it used the funds in apparent violation of a statute We have indicated that since it was used to pay for fuel then consumers should not be required to pay for these amounts and the DFB should be reduced by \$6.358 million. In the event it is belatedly paid back then WAPA can petition to have the appropriate amount restored to the deferred fuel account.
