#### BEFORE THE STATE CORPORATION COMMISSION OF THE STATE OF KANSAS

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In the Matter of the Joint Application of Westar Energy, Inc. and Kansas Gas and Electric Company for Approval to Make Certain Changes in their Charges for Electric Services.

Docket No. 18-WSEE-328-RTS

## TESTIMONY IN OPPOSITION TO NON-UNANIMOUS STIPULATION AND AGREEMENT

#### AND EXHIBITS

#### OF MADELINE YOZWIAK

#### ON BEHALF OF SIERRA CLUB AND VOTE SOLAR

JULY 18, 2018

1	Q.	Please state your name and business address.
2	A.	My name is Madeline Yozwiak. My business address is 360 22 <sup>nd</sup> Street, Suite 730,
3		Oakland, CA 94612.
4	Q.	On whose behalf are you submitting this testimony?
5	A.	I am submitting this testimony on behalf of Sierra Club and Vote Solar.
6	Q.	Did you previously provide direct testimony, including exhibits, and cross-
7		answering testimony in this case on behalf of Sierra Club and Vote Solar?
8	A.	Yes, I did. I discussed my background in my direct testimony, and I also included a
9		summary of my background as Exhibit MY-1.
10	Q.	Have you reviewed the Non-Unanimous Stipulation and Agreement ("Settlement")
11		filed with the Kansas Corporation Commission ("Commission") on July 16, 2018?
12	A.	Yes, I have.
13	Q.	What is the purpose of your testimony?
14	A.	The purpose of my testimony is to provide and explain Sierra Club and Vote Solar's
15		position with respect to the Settlement, which they did not join.
16	Q.	Do the Sierra Club and Vote Solar support the Settlement?
17	А.	No. They filed an objection and are submitting testimony in opposition.
18	Q.	Please summarize why Sierra Club and Vote Solar object to Settlement?
19	A.	I will speak to Sierra Club and Vote Solar's objections related to rate design and revenue
20		allocation issues concerning customers with distributed generation ("DG"). Another
21		witness will provide additional reasons for Sierra Club's objections. As to the rate design
22		and revenue allocation to customers with DG, Sierra Club and Vote Solar object to the
23		Settlement because it imposes rates and charges for the Residential DG ("RS-DG") class

1		that (1) are not cost-based; not just and reasonable; and that are unreasonably
2		discriminatory and unduly preferential; (2) use the fact that RS-DG customers use
3		renewable energy sources to self-generate as a basis to impose higher rates and charges;
4		and (3) subject RS-DG customers to prejudice, discrimination, and disadvantage
5		compared to rates and charges levied on other customers.
6	Q.	Please summarize the revenue allocation to the RS-DG class presented in the
7		Settlement, and how it compares to the revenue allocation to the Residential ("RS")
8		class in the Settlement.
9	A.	The Settlement stipulates a base rate revenue decrease of \$66 million across all Westar
10		Energy, Inc. and Kansas Gas and Electric Company (collectively, "Westar" or
11		"Company") customers. <sup>1</sup> Of this, the RS-DG class is allocated a \$5,000 decrease in base
12		rate revenues. <sup>2</sup> This is equivalent to a 2.97% reduction relative to current base rate
13		revenue. <sup>3</sup> In contrast, the RS class receives a \$25.8 million decrease in base rate
14		revenues, or a 4.38% reduction from current levels. <sup>4</sup> This means that the RS-DG class
15		receive disproportionately less benefit from the revenue reduction (2.97% decrease) than
16		their peers without renewable energy (4.38% decrease).

<sup>&</sup>lt;sup>1</sup> Settlement, Appendix C.

 $<sup>^{2}</sup>$  Id.

<sup>&</sup>lt;sup>3</sup> The Settlement Billing Determinants, provided in Appendix E of the Settlement, do not provide enough detail to calculate base rate revenue on current rates, in order to determine the percentage change in revenue. As a result, to derive this estimated percentage, I divided the \$5,000 RS-DG allocated revenue decrease by both Staff's estimate of the RS-DG class base rate revenue (\$167,993, *see* Staff's Errata to Testimony of Staff Witness Robert H. Glass, p. 20:1 (Table 2) (June 19, 2018) ("Glass First Errata")) and the Company's estimate of the same (\$169,170.49, *see* Proof of Revenue file provided in Westar Response to Sierra Club Request 1-36, which is attached as Exhibit MY-2 to my direct testimony). The results are 2.98% and 2.96%, respectively. I average these two values to arrive at 2.97%.

<sup>&</sup>lt;sup>4</sup> Settlement, Appendix C. 4.38% is the average of the \$25.8 million decrease divided by Staff's estimation of the RS class base rate revenue (\$592,904,806, *see* Glass First Errata, p. 20:1 (Table 2)) and the Company's (\$586,624,724.74, *see* Proof of Revenue file provided in Westar Response to Sierra Club Request 1-36, which is attached as Exhibit MY-2 to my direct testimony). *See supra* 3 for further context.

1	Q.	Is the disproportionate revenue allocation to the RS-DG class, relative to the RS
2		class in the Settlement, justified by cost recovery?
3	A.	No. As I demonstrated in my direct testimony, the RS-DG class already over-recovers its
4		share of costs on current rates, while the RS class under-recovers. <sup>5</sup>
5	Q.	Has that conclusion changed since your direct testimony?
6	A.	No. Company Witness Faruqui asserts in his reply testimony that the Proof of Revenue
7		analysis includes adjustments that are inappropriate to use within the Class Cost of
8		Service Study ("CCOSS"), and that it is inconsistent to compare a revenue figure from
9		the former to a cost figure from the latter. <sup>6</sup> However, the necessary adjustment I highlight
10		in my testimony that the Company includes in their Proof of Revenue analysis, but
11		excludes from their CCOSS, is not the number of customers in the RS-DG class, as Dr.
12		Faruqui implies, <sup>7</sup> but the total <i>load</i> from the class as a whole. As such, it is an appropriate
13		and crucial adjustment to include when analyzing the expected revenue from the class. <sup>8</sup>
14		Nevertheless, to address Dr. Faruqui's concern regarding consistency, I adjusted the
15		Company's CCOSS with the adjusted load, used within the Proof of Revenue, as an
16		input. The result is a nominal difference to the cost allocated to the RS-DG class,9 and
17		does not change the conclusion that the RS-DG class over-recovers its share of cost on
18		current rates.

<sup>&</sup>lt;sup>5</sup> Direct Testimony of Madeline Yozwiak, Section IV.A (June 11, 2018) ("Yozwiak Direct").

<sup>&</sup>lt;sup>6</sup> Rebuttal Testimony of Ahmad Faruqui, pp. 2-3 (July 3, 2018) ("Faruqui Rebuttal").

<sup>&</sup>lt;sup>7</sup> *Id.* at 2:13-15.

<sup>&</sup>lt;sup>8</sup> Yozwiak Direct. pp. 21-22; Cross-Answering Testimony of Madeline Yozwiak, pp. 5-6.

<sup>&</sup>lt;sup>9</sup> I adjusted the Company's "kWh-Billed" allocator to use the adjusted annual load for each class as used within the Proof of Revenue Analysis. This affected the "kWh-PROC", "kWh-Trans", "kWh-PRI", and "kWH-SEC" allocators. The resulting RS-DG revenue requirement increases from \$217.688 (\$1,392 per customer) to \$228,642 (\$1,462 per customer), or a difference of \$70 per customer. Because the Company's estimation of current total revenue from the RS-DG class, inclusive of the same adjustments, is \$244,709 (\$1,564 per customer), it indicates that the RS-DG class still over-recovers its share of costs, even under this assessment.

1		In addition, I note that Staff's CCOSS similarly demonstrated that the RS-DG class has a
2		relative rate of return ("ROR") of 1.29, meaning Westar already over-recovers from the
3		RS-DG class's cost under the current rates. <sup>10</sup> In contrast, the RS class under-recovers its
4		share of cost: Staff determined that the RS class has a relative ROR of 0.91. <sup>11</sup>
5	Q.	What revenue allocation would be cost-based?
6	A.	Because the RS-DG class over-recovers, while the RS class under-recovers, a cost-based
7		allocation would allocate more of the Settlement revenue decrease to RS-DG class than
8		to RS. Instead, the Settlement does the opposite by providing a greater proportional
9		reduction in base rates to RS than to RS-DG, thereby exacerbating the extent of over-
10		recovery from the RS-DG class.
11	Q.	Would allocating revenue to the RS-DG class, such that its class ROR equaled the
11 12	Q.	Would allocating revenue to the RS-DG class, such that its class ROR equaled the system average, alleviate the problem?
	<b>Q.</b> A.	
12	-	system average, alleviate the problem?
12 13	-	system average, alleviate the problem? Not entirely. Because the RS class relative ROR is less than 1, there is a structural cross-
12 13 14	-	system average, alleviate the problem? Not entirely. Because the RS class relative ROR is less than 1, there is a structural cross-subsidy from all non-residential customer classes to the RS class. <sup>12</sup> The revenue
12 13 14 15	-	system average, alleviate the problem? Not entirely. Because the RS class relative ROR is less than 1, there is a structural cross-subsidy from all non-residential customer classes to the RS class. <sup>12</sup> The revenue allocation with the Settlement does not attempt to increase the RS class revenue relative
12 13 14 15 16	-	system average, alleviate the problem? Not entirely. Because the RS class relative ROR is less than 1, there is a structural cross-subsidy from all non-residential customer classes to the RS class. <sup>12</sup> The revenue allocation with the Settlement does not attempt to increase the RS class revenue relative to other classes, and thus continues this inherent cross-subsidy to the RS class. An RS-

<sup>&</sup>lt;sup>10</sup> Staff's Second Errata to Testimony of Staff Witness Dorothy Myrick, p. 27:8 (Table 2) (July 5, 2018) ("Myrick Second Errata"). Relative ROR is defined as the class ROR divided by the system average ROR. As Dr. Myrick explains in her testimony, a relative ROR above 1 indicates that a class over-collects its share of cost. *See* Direct Testimony of Dorothy J. Myrick, p. 8:5-12 (June 12, 2018) ("Myrick Direct").

<sup>&</sup>lt;sup>11</sup> Myrick Second Errata, p. 27:8 (Table 2).

<sup>&</sup>lt;sup>12</sup> Myrick Second Errata, p. 27:8 (Table 2); Direct Testimony of Richard Amen, p. 27:8 (Table 2) (Feb. 1, 2018) ("Amen Direct").

1		part of the larger RS class because of their use of renewable resources is discriminatory,
2		unduly preferential, and a disadvantage.
3	Q.	Do you have other concerns related to Westar's over-recovery of costs from the RS-
4		DG class?
5	A.	Yes. I have three concerns related to CCOSS methodology, as I elaborated in my direct
6		testimony, <sup>13</sup> which do not appear to have been corrected through the Settlement. First, it
7		is inappropriate to treat exports from DG customers as cost-causing loads in the
8		development of CCOSS allocators. Exports rarely, if ever, leave the secondary system,
9		and, therefore, do not reach the cost-causing components that are allocated on demand.
10		Even if they do leave the secondary system, DG exports are consumed by another
11		customer within a short distance and displace load that would have otherwise flowed to
12		the ultimate consumer. Therefore, DG exports act as negative load, reducing the costs
13		further up the system.
14		Second, distribution system costs that are allocated on the basis of each class's non-
15		coincident peak demand ("NCP") should use the combined NCP of the RS and RS-DG
16		class at the time of the RS class peak. The RS class drives the loading on the distribution
17		equipment costs being allocated, and it is inappropriate to allocate costs to the RS-DG
18		class on the basis of an NCP that occurs at a different time of day, in a different season
19		than the far more significant residential class.
20		Third, there is no value given to exports from DG customers throughout the CCOSS or
21		Proof of Revenue analyses conducted by the Company and Staff in this case. For

<sup>&</sup>lt;sup>13</sup> Yozwiak Direct, pp. 23-30.

1		example, the RS-DG class load profile, used within the Company's CCOSS, shows the
2		Company received a total of 1,256 MWh of exports from the class over the course of the
3		test year. Using a proxy value of \$0.022/kWh,14 this amounts to an estimated value of
4		exports of \$27,632 in the test year period. The value of exports, in other words, is not
5		trivial, and should not be treated as zero
6	Q.	RS-DG customers currently take service on the two-part Residential Standard
7		Service tariff. Will they have access to this tariff under the Settlement?
8	A.	No. The Settlement imposes the Company's proposed mandatory three-part rate design
9		structure on RS-DG customers. <sup>15</sup> This tariff imposes a demand charge based on a
10		monthly maximum 60-minute peak demand during a weekday afternoon 5-hour period.
11		Table 2 compares the current Residential Standard Service tariff; the Settlement
12		Residential Standard Service tariff; and the three-part tariff on which RS-DG customers
13		will be obligated to take service under the Settlement. It shows that while the Settlement
14		clearly benefits residential customers without renewable generation by only lowering
15		energy charges, those with renewable generation receive a reduction in energy rates but
16		are also subject to a new, mandatory, and unfamiliar demand charge that, as discussed in
17		my direct testimony, does not reflect cost causation. <sup>16</sup>
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<sup>&</sup>lt;sup>14</sup> Excess compensation value used in Faruqui Workpapers provided in response to Seirra Club DR 1-44, "Sierra Club Price Response Analysis.R". Note that this proxy analysis actually undervalues the exports because (1) it uses DG class net exports so is reduced by any consumption by other DG customers during the hour, (2) uses only an energy value without any value for reduced losses or capacity, and (3) is a system average rather than a marginal cost during the peak daytime hours when exports occur, which are likely higher

<sup>&</sup>lt;sup>15</sup> Settlement, p. 13.
<sup>16</sup> Yozwiak Direct, Section IV.C.

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<b>Table 1:</b> Comparison of charges in the Current Residential Standard Service,
Settlement Residential Standard Service, and Settlement three-part RS-DG tariffs <sup>17</sup>

	Current Residential Standard Service	Settlement Residential Standard Service	Settlement three- part RS-DG
Fixed (\$/mo)			-
All months	\$14.50	\$14.50	\$14.50
Energy (\$/kWh)			
Winter – Block 1	\$0.76833	\$0.073569	\$0.045941
Winter – Block 2	\$0.76833	\$0.073569	\$0.045941
Winter – Block 3	\$0.62804	\$0.060209	\$0.045941
Summer – Block 1	\$0.76833	\$0.073569	\$0.045941
Summer – Block 2	\$0.76833	\$0.073569	\$0.045941
Summer – Block 3	\$0.84752	\$0.081250	\$0.045941
Demand (\$/kW)			
Winter	\$ -	\$ -	\$3.00
Summer	\$ -	\$ -	\$9.00

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4	Q.	Would the rates and charges imposed through the Settlement charge RS-DG
5		customers higher amounts as compared to their non-DG counterparts in the RS
6		class?
7	А	Yes. Under the Settlement, RS-DG customers would pay more under the three-part RS-
8		DG tariff than they would under the Residential Standard Service tarifffor the same
9		consumption of grid-supplied electricity, as I detail below. Moreover, the Settlement
10		would result in a larger portion of revenue (rates and charges) being recovered from RS-
11		DG customers than RS customers, as a percentage of their cost of service. RS-DG
12		customers already pay more than RS customers, as a percentage of cost of service, and
13		the disproportionate allocation of base revenue decrease under the Settlement to RS than
14		RS-DG exacerbates that over-recovery by RS-DG. <sup>18</sup>

 <sup>&</sup>lt;sup>17</sup> Settlement, Appendix E.
 <sup>18</sup> See Yozwiak Direct, Section IV.A; see also Myrick Direct, p. 27.

1		Finally, the specific demand charge bill component of the RS-DG tariff would go from
2		zero under current rates (i.e., there is no demand charge) to \$9 and \$3 per kW for summer
3		and non-summer periods, respectively, for DG customers, but would continue to be zero
4		for RS customers.
5	Q.	What is the basis of the imposition of higher rates and charges for RS-DG customers
6		through the Settlement?
7	A.	Under the Settlement, RS-DG customers would pay higher rates and charges because
8		these customers use renewable resources. As I explained in my direct testimony, whether
9		the RS-DG or RS rates apply to a residential customer depends exclusively on whether
10		she uses distributed renewable energy resources to self-generate part of her electricity
11		needs. <sup>19</sup> The RS-DG customers, who use renewable energy resources, would be charged
12		more through the Settlement's three-part tariff than customers on the Residential
13		Standard Service rate for the same use of grid-supplied electricity. The average customer
14		in the RS-DG class will pay \$XX per year on the three-part RS-DG rate within the
15		Settlement. <sup>20</sup> The same usage charged under the RS Standard tariff would be charged
16		1,044 per year. <sup>21</sup> This difference of $12.51$ per year (1.2%) represents the higher rates
17		and charges imposed for the same usage because of the customer's use of renewable
18		resources to self-generate.

<sup>20</sup> The billing determinants provided in Appendix E of the Settlement did not provide enough detail to calculate annual revenue on the RS-DG and Residential Standard Service tariffs. Instead, because the adjusted annual energy determinant aligned with the Company's analysis in direct testimony, I used the Company's detailed billing determinants, provided in the Proof of Revenue analysis in response to Sierra Club Request 1-36, to determine annual revenue. *See* Westar Response to Sierra Club Request 1-36 (Exh. MY-2).

<sup>&</sup>lt;sup>19</sup> Yozwiak Direct, p. 5 ("In its Joint Application, for the first time, Westar proposes rates and a rate structure for the RS-DG class that differs from the rates and rate structure for the RS class, which RS-DG customers would otherwise take service under but for their use of distributed renewable energy generation.").

<sup>&</sup>lt;sup>21</sup> Calculated using the Company's detailed billing determinants, provided in the Proof of Revenue analysis in response to Sierra Club Request 1-36. *See supra* note 20.

# Q. Are there any other prejudices or disadvantages resulting from the Settlement for customers who use renewable resources to self-generate some of their electricity needs?

4 A. Yes. First, while residential customers without renewable energy have the *option* to take 5 service on a voluntary, three-part rate—the Residential Peak Efficiency Rate tariff, which 6 charges that mirror the mandatory RS-DG rate, another voluntary rate, or the default RS 7 rates—residential customers with renewable energy have no such freedom. Customers 8 who generate with renewable resources must take service under the three-part RS-DG 9 tariff. This restricted choice disadvantages a customer with renewable energy, because 10 they do not have the ability to consider a rate plan that may better meet their needs. 11 Additionally, under the Settlement, customers without renewable resource generation who voluntarily opt for a three-part rate will be provided an opportunity to switch to 12 13 another rate if the three-part tariff proves to be less advantageous than anticipated. This 14 option is not provided to RS-DG customers who do not wish to take service under a 15 three-part rate. Second, a significant portion of a RS-DG customer's bill will now be collected through 16 17 the demand charge based on the customer's single hour of maximum usage during a five-18 hour period on non-holiday weekdays—a charge with which the customers in the class have no experience, as recognized by CURB witnesses Harden and Kalcic.<sup>22</sup>. Excluding 19 20 the portion of revenue that is collected through the fixed charge, 36% of the average RS-DG customer's remaining bill will be collected through the demand charge.<sup>23</sup> Because 21

<sup>&</sup>lt;sup>22</sup> Harden Direct, p. 18:9-16; Kalcic, p. 18:6-8.

<sup>&</sup>lt;sup>23</sup> Calculated using the Company's billing determinants, as provided in the Proof of Revenue analysis in response to Sierra Club Request 1-36. *See* Westar Response to Sierra Club Request 1-36 (Exh. MY-2).

1		the demand charge within the RS-DG tariff is assessed on a single hour during a 5 hour
2		peak window on weekdays, customers must monitor and control their coincident usage
3		each hour over a total of 1,256 hours throughout the year. This presents, at a minimum, a
4		learning curve for RS-DG customers. Additionally, as explained in my prior testimony,
5		the peak demand charge is going to be harder for customers to respond to than the current
6		two-part RS Standard rate because reducing charges under the peak demand charge
7		requires control of time and coincidence of electricity consumption during a 5 hour
8		window of certain days during the week, whereas a two-part rate, or alternative three-part
9		rates, require control overall longer periods, smoothing any errant use or uncontrollable
10		events. <sup>24</sup>
11	Q.	Has the Commission previously addressed tariffs that charge customers higher rates
11	V	has the Commission previously addressed tarms that charge customers ingher rates
11	ų.	and charges because of their use of renewable resources?
	Q. A.	
12		and charges because of their use of renewable resources?
12 13		and charges because of their use of renewable resources? Yes. In a prior case, Docket No. 05-AQLG-1056-COM, the Commission rejected a
12 13 14		and charges because of their use of renewable resources? Yes. In a prior case, Docket No. 05-AQLG-1056-COM, the Commission rejected a natural gas tariff that would have prohibited customers from offsetting more than 25% of
12 13 14 15		and charges because of their use of renewable resources? Yes. In a prior case, Docket No. 05-AQLG-1056-COM, the Commission rejected a natural gas tariff that would have prohibited customers from offsetting more than 25% of the prior year's peak day heating requirements. While the Commission did not
12 13 14 15 16		and charges because of their use of renewable resources? Yes. In a prior case, Docket No. 05-AQLG-1056-COM, the Commission rejected a natural gas tariff that would have prohibited customers from offsetting more than 25% of the prior year's peak day heating requirements. While the Commission did not specifically single out customers who offset heating needs with renewable resources,
12 13 14 15 16 17		and charges because of their use of renewable resources? Yes. In a prior case, Docket No. 05-AQLG-1056-COM, the Commission rejected a natural gas tariff that would have prohibited customers from offsetting more than 25% of the prior year's peak day heating requirements. While the Commission did not specifically single out customers who offset heating needs with renewable resources, Commission Staff concluded that the tariff is prejudicial to customers who heat with
12 13 14 15 16 17 18		and charges because of their use of renewable resources? Yes. In a prior case, Docket No. 05-AQLG-1056-COM, the Commission rejected a natural gas tariff that would have prohibited customers from offsetting more than 25% of the prior year's peak day heating requirements. While the Commission did not specifically single out customers who offset heating needs with renewable resources, Commission Staff concluded that the tariff is prejudicial to customers who heat with wood, pellets, corn, and other renewable resources because they are prohibited from
12 13 14 15 16 17 18 19		and charges because of their use of renewable resources? Yes. In a prior case, Docket No. 05-AQLG-1056-COM, the Commission rejected a natural gas tariff that would have prohibited customers from offsetting more than 25% of the prior year's peak day heating requirements. While the Commission did not specifically single out customers who offset heating needs with renewable resources, Commission Staff concluded that the tariff is prejudicial to customers who heat with wood, pellets, corn, and other renewable resources because they are prohibited from using those resources to offset more than a portion of their heating needs. I am attaching

#### 22 Q. Is the design of the three-part RS-DG tariff within the Settlement cost-based?

<sup>&</sup>lt;sup>24</sup> Yozwiak Direct, Section V.

1	A.	No. First, as I mentioned earlier, evidence in this case (including Staff's CCOSS)
2		supports the conclusion that the RS-DG class over-collects its allocated share of revenue
3		on <i>current</i> tariffs. <sup>25</sup> This fact undermines a "cost-based" justification for imposing a new
4		mandatory rate structure that can better collect cost, because the RS-DG class already
5		collects its share of costs on the current, two-part, RS Standard tariff.
6		Second, the <i>structure</i> of the proposed demand charge does not connect the "demand" that
7		causes costs in the CCOSS and the "demand" that incurs charges in the rate design, nor
8		the amount of cost causation in the CCOSS (the level of contribution to class demands
9		that are allocated costs) and the amount the customer will pay incharges under the rate
10		design. The demand costs are allocated based on five peak hours: those within Westar's
11		four coincident peak periods as well as the hour of each class's non-coincident peak
12		demand. A customer's demand costs depend on his or her demands during those hours.
13		His or her demand charges, under the Settlement, depend on individual peak demands
14		during the period of 2:00 pm to 7:00 pm on weekdays, 52 weeks per year. Moreover, the
15		Company allocates distribution demand costs to the RS-DG class based on a class NCP
16		load that occurred on January 5 at 7:00 p.m. Not only is that outside the higher, \$9/kW,
17		summer demand period in the Settlement's RS-DG rate design, but outside the peak
18		period altogether. There is simply no connection made in the record between a
19		customer's contribution to class costs based on his demand during the five cost-causing
20		hours in the CCOSS and his charges under the Settlement based on the monthly
21		maximum during 12 of 1,265 hours. A customer with high demand during the system
22		and class coincident peaks may under-collect, and a customer with low use during those

<sup>&</sup>lt;sup>25</sup> See generally Yozwiak Direct, pp. 12-23 (Section IV.A); Myrick Direct, Exhibit DJM-E2.

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1		coincident peaks—but with a high single hour demand during some other hour—may
2		over-collect.
3	Q.	Even if the RS-DG three-part rate design was cost-based, it is non-discriminatory
4		and non-prejudicial?
5	A.	No. Even the three-part rate design in the Settlement did a better job of collecting costs
6		from low load factor customers (whose total energy use was disproportionately low
7		compared to their contribution to the class loads used to allocate costs in the CCOSS), it
8		is applied only to the RS-DG class. Low load factor customers also exist in the RS class
9		(and probably more often in a class of over 600,000 customers than the 156 RS-DG class
10		members). However, the Settlement only applies a mandatory three-part rate to customers
11		in the RS-DG class, and those customers are only in the class because they use of
12		renewable resources to self-generate electricity.

#### 13 Q. Please summarize your position on the Settlement.

14 A. The Settlement imposes higher rates and charges, and otherwise prejudices, customers in 15 the RS-DG class because of their use of renewable resources to self-generate some of their electricity needs. The RS-DG class receives a disproportionately lower share of the 16 17 revenue reduction than their peers in the RS class-despite evidence that the RS-DG class over-earns for Westar on current rates, relative to other classes. The tariff results in 18 19 higher charges for RS-DG customers than if they had retained access to the RS Standard 20 rate and deprives them of the benefits inherent in the two-part RS rate. The Settlement 21 also forces RS-DG customers onto a mandatory, three-part tariff, while other members of 22 the RS class retain the option to take service on such a rate; and, if they do, are allowed to opt-out after the fact if they are dissatisfied with the rate. The peak period demand charge 23

1		in the proposed three-part RS-DG rate is unfamiliar to residential customers and requires
2		more deliberate and constant attention to electricity use to achieve bill savings than the
3		current two-part Residential Standard Service rate. The particular three-part RS-DG rate
4		imposed through the Settlement is not cost-based. There is no connection between the
5		timing and level of demands that cause costs as well as the timing and level of the
6		charges imposed. And, even if the Settlement's three-part rate design was better at
7		collecting costs, the decision to apply it only to RS-DG customers because of their use of
8		renewable resources to self-generate is, itself, a discrimination, prejudice and
9		disadvantage.
10		The Commission has stated that it "will give due weight to any testimony addressing the
11		questions of whether Westar's proposed rate design for DG customers in this docket will
12		result in just and reasonable rates for such customers or will subject such customers to
13		higher rates or charges or any other prejudice or disadvantage." <sup>26</sup> Based on the terms of
14		the Settlement agreement, I do not find the proposed mandatory, three-part RS-DG tariff
15		to be just and reasonable. Instead, I find the proposal severely prejudiced against RS-DG
16		customers and results in higher charges and rates, without the evidence to support that
17		such a dramatic change for these customers is warranted.
18	Q.	Does this conclude your testimony?

19 A. Yes.

 $<sup>^{26}</sup>$  Commission, Order on Westar's Motion to Strike Portions of Sierra Club's and Vote Solar's Testimony, ¶ 10 (July 10, 2018).

#### BEFORE THE STATE CORPORATION COMMISSION OF THE STATE OF KANSAS

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In the Matter of the Joint Application of Westar Energy, Inc. and Kansas Gas and Electric Company for Approval to Make Certain Changes in their Charges for Electric Services.

Docket No. 18-WSEE-328-RTS

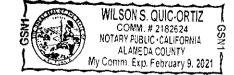
#### **AFFIDAVIT OF MADELINE YOZWIAK**

STATE OF CALIFORNIA ) ) ss COUNTY OF ALAMEDA )

I, Madeline Yozwiak, of lawful age and being duly sworn, state and affirm the following: that the foregoing prepared testimony in question and answer format constitutes my Testimony in Opposition to Non-Unanimous Stipulation and Agreement in the above-captioned proceeding; that the answers set forth therein were given by me and that I have knowledge of the matters set forth in such answers; and that the answers contained therein are true and correct to the best of my information, knowledge, and belief.

SUBSCRIBED AND SWORN before me this 18 day of July, 2018.

Notary Public



My commission expires: 02/04/2021 Exhibit MY-7 Staff's Report and Recommendation (December 5, 2005) Docket No. 05-AQLG-1056-COM

Docket No. 18-WSEE-328-RTS Exhibit MY-7 Page 1 of 32 Name 35. Composition and a vehicle of the second strength of

#### BEFORE THE STATE CORPORATION COMMISSION OF THE STATE OF KANSAS

DEC 0 5 2005

In the Matter of the Complaint Against Aquila, Respondent by James H. Thorp, III Complaint as to Unjust and Unreasonable Estimated Billing for Heating Sean Sent at End of March 2005 Without Letter or Telephone Call From Utility Company Despite its Knowledge No Later Than November 10, 2004 of Meter Malfunctioning Since August 9, 2004.

Susan Talefy Docket Room

Docket No. 05-AQLG-1056-COM

#### **REPORT AND RECOMMENDATION**

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COMES NOW, the Staff of the State Corporation Commission of the State of Kansas (Staff and Commission respectively) and submits this Report and Recommendation.

#### I. INTRODUCTION

1. This docket is the result of a Complaint filed with the Commission involving a bill for natural gas service based on estimated usage. Estimation of gas usage was necessary because the meter was broken. The use of estimates in billing is often a source of disputes between customers and utilities.

2. In this docket, the estimates of the utility were challenged as inaccurate due to the installation of a wood burning stove by the Complainant. It is important that estimates comport with actual usage to the extent possible. It must be noted that it is inherently subjective to determine how much gas was used when a meter is not functioning. Although use estimates are valid in certain situations, it would be patently unfair to charge someone for gas they did not use. An unfair estimation can result in a violation of K.S.A. 66-1,202. In this docket, Staff attempts to reach a resolution to the dispute through technical and legal analysis. After a full examination of the facts, Staff recommends a small reduction in the amount due.

3. There is also a question concerning some of the billing and collection practices of Aquila raised by the Complainant. Staff has some concerns and recommendations set out below in this regard. Additionally, there is an Aquila tariff provision that is in conflict with Kansas law. Therefore staff recommends that the Commission order Aquila to take some corrective actions, including filing a tariff revision.

#### II. BACKGROUND

4. On May 20, 2005, James H. Thorp (Complainant) filed a Complaint alleging that Aquila, Inc., d/b/a Aquila Networks – KGO (Aquila) unfairly charged them and that certain Aquila practices were also unfair.

5. On June 15, 2005, Aquila filed an Answer to the allegations and requested that the Commission deny the relief sought by the Complainant.

6. On August 25, 2005, the Complainant filed a Motion to Amend the Complaint, together with an Amended Complaint. The Commission subsequently served the Amended Complaint after Staff review pursuant to K.A.R. 82-1-220.

7. On September 6, 2005, Aquila filed an Answer to the Amended Complaint.Aquila again requested that the Complaint be denied

#### III. LEGAL STANDARDS

8. K.S.A. 66-1,202 requires that all natural gas public utilities charge only just and reasonable rates for efficient and sufficient service.

9. Section I(C) of the Commission's Billing Standards allows utilities to charge for service based on estimates in certain circumstances and according to certain guidelines. Utilities are allowed to charge for service based on estimates where a meter reading cannot be taken

because of a broken meter. Billing Standards Sect. I(C)(1)(e). Utilities rendering an estimated bill must specify on the bill that the usage is estimated. Billing Standards Sect. I(C)(3)(e).

10. Aquila's tariffs also allow it to charge for estimated usage. General Rules, Regulations, Terms, and Conditions (GRRTC), Sect. 9.2-e. Aquila's tariffs also require the term "Estimated" to be placed on any estimated billing. GRRTC, Sect. 4.2-b.

11. K.S.A. 66-117d prohibits electric and gas utilities from charging higher rates for customers using renewable resources. Additionally, utilities cannot subject any customer to any other form of prejudice or disadvantage based on that customer's use of a renewable resource.

#### IV. ANALYSIS

Staff has conducted a technical review of probable gas used by the Complainant.
 Staff has also made some policy recommendations. Staff's analysis is attached hereto as
 Attachment "A."

13. In its Answer, Aquila admitted that it failed to provide the word "Estimated" on its bill in violation of both its tariff and the billing standards. A bill for gas service that is based on usage estimates cannot be collected until the Customer is given notice that the bill is based on an estimation. In the future, Aquila needs to clearly indicate reliance on estimation by placing the word "Estimated" on its bill. By indicating to the Customer that the bill is estimated, the Customer is given an opportunity to question the usage estimated by the Company. In this case, the fact that the bill was based on estimated usage was eventually communicated to the Customer. Staff recommends that the Commission admonish Aquila to ensure that the word "Estimated" be placed on bills in the future as applicable.

14. In general, estimated billings are a just and reasonable means of collecting costs from customers for whom billing information is lost or unattainable. *See* Billing Standards, Sect.

I(C). In Kansas gas service pricing is cost-based and set by a ratemaking proceeding. One main purpose of such a proceeding is to allow Utilities the opportunity to recover all fair and reasonable costs in providing natural gas service. Fuel costs not recovered by the PGA (purchased gas adjustment) are a major expense paid by a utility. Utilities are encouraged, where possible, to identify and recover costs from the customer that created them rather than put such costs upon the entire customer base generally. In the case of a faulty or non-registering meter, when a customer used gas but no information exists as to actual usage, estimated billings are reasonable in order to charge the customer for the gas used. However, when there is a good indication that estimated usage goes beyond the amount of gas actually consumed, the estimated charges can be unreasonable.

15. In the present case, the Customer asserted that that the estimated usage was incorrect due to the installation of a wood burning stove. The customer also admitted using gas, and claimed such use was supplemental. In response to these claims, Aquila initially asserted a section of its tariff restricting the use of alternative heating sources. GRRTC, Sect. 2.2-b (3). This section has no provisions regarding the effect of its violation. In no event is it reasonable to conclude that someone who violates this rule must pay the utility for gas that they *should have used*. Additionally, as explained by Staff in the attached technical memorandum (Exhibit A), there are practical problems with determining when a violation of this section has occurred. The most serious defect, however, is that the section violates K.S.A. 66-117d.

16. The tariff asserted is clearly in violation of K.S.A. 66-117d because it is prejudicial to, and imposes a disadvantage upon, customers using renewable resources. Wood, corn pellets, wood pellets and other biomass products are obviously derived from plants that can be re-grown and, therefore, constitute renewable resources. The tariff section asserted by Aquila

is unlawful and needs to be corrected. If Aquila is targeting the use of electric heat pumps in order to mitigate exacerbation of interstate pipeline capacity costs associated with winter gas use peaking, it can resubmit a tariff that contains a provision that does not prevent the use of renewable resources by customers. Additionally, for most customers, daily peaking information is not available, and Aquila must, therefore, submit some other method for determining if someone violates such a rule.

17. In general, a utility should not shut-off someone when the amount they are attempting to collect from a customer is subject to a legitimate dispute before the Commission. In this case, Aquila admits sending shut-off notices to the customer after the Complaint was filed and pending. Such actions can be highly prejudicial to the adjudication of a complaint docket. In this case, no harm came of the shut-off notices. However, the Complainant's spouse in this docket is an attorney and was able to correctly assert to Staff and Aquila that the shut-off notices were in violation of the Billing Standards. Had the customer been less able to understand their rights, the shut-off notices could have been interpreted as retaliation for the Complaint. It is quite possible that such notices could unjustly persuade a customer to prematurely drop their formal complaint. Complaint dockets are not only important to customers, but to the Commission as well. Complaints aid the Commission in understanding the actual implementation of tariffs and other utility practices. In this case, Staff believes Aquila's explanation that the notices were sent unintentionally, and, therefore, does not recommend the remedial measures requested by the Complainant be ordered.

18. The Complainant requests that the Commission issue a fine against Aquila. The Commission lacks jurisdiction to assess fines in the manner requested by the Complainant. Civil penalties are provided for in K.S.A. 66-138 and K.S.A. 66-177 for violations of the 1911 Kansas

Public Utilities Act and related statutes and regulations. In this case, Staff has not found anything that would warrant requesting the collection of a civil penalty by the Attorney General or Douglas County Attorney.

19. The Complainant also requests that the Commission order training and other remedial action designed to ensure future compliance. Staff recognizes that the errant shut-off notices were improper, but also is concerned that excessive costs imposed on the utility will ultimately be shifted back to the ratepayer with little benefit. Staff does not recommend any such remedial action at this time. If several complaints emerge and indicate a pattern, Staff may at that time recommend appropriate remedial action. Staff recommends that the Commission admonish the utility for the errant notices, but require no remedial training or change in the notification practices.

20. The Complainant requested that the Commission order Aquila to correct any negative credit history resulting from the disputed matter. Staff recommends that the Commission order Aquila to correct any negative credit information reported to any credit reporting agency or similar service to the extent applicable.

21. In the Attachment Memorandum, Staff discussed the 25% reduction in the estimated bill as conceded to by Aquila. That reduction appeared to be an initial concession rather than a settlement offer. However, Staff notes that this concession offered by Aquila, and its rejection as inadequate by the Complainant, should not be held against either party.

#### V. CONCLUSION

22. Staff recommends that the Commission rule as follows (organization is set out to mirror Complainants requested relief):

(a) Reduce the estimated billing by \$174.07 according the Staff's recommendation.

(b) Aquila must take corrective action for any negative credit history reported, if any such reporting has occurred.

(c) Deny the request for revision of notification procedures for malfunctioning meters.

(d) Order Aquila to update the Companies General Rules, Regulations, Terms, and Conditions, Section 2.2-b (3) to reflect the obligations placed on it by Kansas Law.

(e) Deny request to institute training requirements.

(f) Deny request to fine Aquila.

23. Staff additionally recommends that the Commission admonish Aquila to place the word "Estimated" on all applicable billings, and to refrain from sending shut off notices for matters the subject of a pending Commission Complaint proceeding.

WHEREFORE, Staff recommends that the Commission issue an order granting relief in part and denying relief in part as set forth in paragraph 22 and 23 above.

Respectfully submitted,

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Matthew R. Tomc, #21643 Assistant General Counsel Kansas Corporation Commission 1500 SW Arrowhead Rd. Topeka, KS 66604 (785) 271-3279 (telephone) (785) 271-3167 (telecopy) Attorney for Staff

#### **VERIFICATION**

STATE OF KANSAS ) ) ss: COUNTY OF SHAWNEE )

Matthew R. Tomc, being duly sworn upon his oath deposes and states that he is an attorney for the Kansas Corporation Commission Staff, that he has read and is familiar with the foregoing Report and Recommendation and that the statements contained therein are true and correct to the best of his knowledge, information and belief.

Matthew R. Tomc, #21643 Assistant General Counsel The State Corporation Commission of the State of Kansas

Subscribed and sworn to before me this Anday of Dicentel 4, 2005.



aumgartner Notary Public

My Appointment expires:

Jarch 5, 20016

#### CERTIFICATE OF SERVICE

Docket No. 18-WSEE-328-RTS Exhibit MY-7 Page 9 of 32

#### 05-AQLG-1056-COM

I, the undersigned, hereby certify that a true and correct copy of the above and foregoing Report and Recommendation was placed in the United States mail, postage prepaid, or hand-delivered this 5th day of December, 2005, to the following:

JAMES G. FLAHERTY, ATTORNEY ANDERSON & BYRD, L.L.P. 216 SOUTH HICKORY PO BOX 17 OTTAWA, KS 66067 Fax: 785-242-1279 jflaherty@abrfh.com

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MARGARET THORP, ATTORNEY MARGARET THORP 700 MASSACHUSETTS, SUITE 206 LAWRENCE, KS 66044 Fax: 785-749-2393 MAURICE L. ARNALL, MANAGER AQUILA, INC. D/B/A AQUILA NETWORKS - WPK / AQUILA NETWORKS - KGO 10700 EAST 350 HWY PO BOX 11739 KANSAS CITY, MO 64138 Fax: 816-737-7505 maurice.arnall@aquila.com

JAMES H. THORP, III 2424 ORCHARD LANE LAWRENCE, KS 66049

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### MEMORANDUM

November 21, 2005

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In the Matter of the Complaint Against Aquila, Respondent by James H. Thorp, III Complainant as to Unjust and Unreasonable Estimated Billing for Heating Season Sent at End of March 2005 Without Letter or Telephone Call From Utility Company Despite its Knowledge No Later Than November 10, 2004 of Meter Malfunction Since August 9, 2004.

Docket No. 05-AQLG-1056-COM

- To: Chair Moline Commissioner Krehbiel Commissioner Moffet
- From: Thomas B. DeBaun Senior Energy Engineer Utilities Division

DATE SUBMITTED TO LEGAL:

DATE SUBMITTED TO COMMISSIONERS:

#### Executive Summary

Due to a non-registering gas meter Aquila, Inc., d/b/a Aquila Networks - KGO ("Aquila", "Company") delivered an unknown quantity of natural gas to a residential customer over a period of several months, including much of last year's heating season. The Complainant was re-billed based on Aquila's estimates of usage. The Complainant disputed the amount and usage reflected in the re-billing and, in the process, has encountered what he believes are procedural and tariff irregularities requiring Commission action. The matter is complicated by the fact that

Docket No. 18-WSEE-328-RTS AHachmen Fage 10 7 2

CORPORATION COMMISSION

KATHLEEN SEBELIUS, GOVERNOR BRIAN J. MOLINE, CHAIR ROBERT E. KREHBIEL, COMMISSIONER MICHAEL C. MOFFET, COMMISSIONER

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the Complainant installed and operated a wood burning stove during much of the time when the gas meter was recording zero usage.

Staff will recommend an additional credit to the Complainant's account and believes all additional charges, such as late fees or other penalties, related to the subject recalculated billing have been credited off of the customer's account.

Subject to interpretation by the Commission Legal Staff in its *Report and Recommendation to the Commission*, Utilities Staff offers comment favoring the revision of paragraph 2.2-b (3), "Conditions of Service" in the Company's <u>General Rules, Regulations,</u> <u>Terms and Conditions</u> ("GT&C").

Finally, Staff does not recommend a requirement for additional training by Aquila or the imposition of a fine as requested by the Complainant.

#### **Background**

On May 20, 2005, James H. Thorp, III ("Complainant", "Customer"), 2424 Orchard Lane, Lawrence, Kansas filed with the Kansas Corporation Commission ("Commission") a *Formal Complaint* ("Complaint") against Aquila. Complainant disputed estimated billing of natural gas service between August 2004 and March 2005, alleged inadequate customer notification procedures in the event of meter failures, and sought revision of Aquila tariffs pertaining to primary versus supplemental heating sources, as well as, other relief.

Aquila filed its *Answer* to the Complaint on June 15, 2005. The *Answer* requested the Commission deny the complaint.

Staff sent data requests to the Complainant on July 25, 2005, requesting additional information about the efficiency and other specifications for the Complainant's wood stove, as well as, details regarding the wood fuel supply. Responses to those requests were received on August 8, 2005.

On August 25, 2005 the Complainant filed a *Motion to Amend Complaint* and an *Amended Formal Complainant* ("Amended Complaint"). The Amended Complaint included all of the issues in the original complaint filed in May, <u>plus</u> additional accusations about the Company's policy directing the shut-off of gas prior to an order from the Commission in a

formal complaint proceeding. The *Amended Complaint* also asserts the Commission should fine Aquila based on the alleged violations of the <u>Commission Billing Standards</u> ("<del>Billing</del> <u>Standards</u>")<sup>1</sup>.

An Answer to Amended Complaint was filed by Aquila on September 6, 2005. Aquila admitted unintentional errors by the Company related to issuing shut-off notices to the Complainant, apologized to the Complainant and the Commission for the errors, and again requested the Commission deny the complaint.

#### Complainant Issues

On pages 6 and 7 of the *Amended Complaint*, Complainant requests explanation by the Company, as well as, Commission action regarding the following issues, paraphrased here by Staff:

- a) ADDITIONAL ACCOUNT ADJUSTMENT: The estimated billing of Aquila to complainant be amended to equal twenty-five (25%) of the previous year's use for estimated usage of gas service during the months of September, October, November, December, January, and the first half of the month of February;
- b) CHARGES/CREDIT RATING: Any and all interest, late charges, collection fees, and penalties of any nature or description imposed or sought to be imposed by Aquila upon Complainant be eliminated and any adverse credit comments be expunged from all records;
- c) INTERNAL PROCEDURES: Require all notifications to gas customers from Aquila regarding "non-registering" or otherwise malfunctioning meters be made in writing and promptly mailed to customers no later than ten (10) days after the discovery of same;
- d) TARIFF REVISION: The portion of the tariff of Aquila mandating use of the company's gas supply for peak day heating at least to the extent of seventy-five

Kansas Corporation Commission, Electric, Natural Gas and Water Billing Standards, July 9, 2002.

percent (75%) of the previous year's usage (Commission file number 193787-U, filed and issued November 25, 1996, effective December 1, 1996)<sup>2</sup> be terminated so that Complainant and any other members of the general public be allowed to use alternate energy sources, especially renewable energy sources, to the greatest extent possible, without being unfairly billed for Aquila gas not used;

- e) TRAINING REQUIREMENTS: Require the company to institute employee training in the practical application of billing practices in accordance with the <u>Kansas</u> <u>Corporation Commission Electric</u>, <u>Natural Gas and Water Billing Standards</u>;
- f) FINE: Aquila should be fined in an amount sufficient to insure future compliance with the <u>Billing Standards</u>. The amount of the fine should be distributed promptly to one or more consumer protection organizations that assist consumers in legal actions against Kansas utility companies on the condition that the funds be used for such purposes. The subject organizations would be chosen by Complainant and the Commission.

#### <u>Analysis</u>

#### a. ADDITIONAL ACCOUNT ADJUSTMENTS

Aquila's meter for this residence apparently ceased registering somewhere around July 14, 2004, and was not replaced until March 15, 2005. Aquila sent a letter, dated March 28, 2005, to the Complainant with a bill for \$917.92, which reflected an estimated 892 therms<sup>3</sup> of gas use from August 9, 2004 to March 10, 2005<sup>4</sup>. According to Aquila, the re-billed usage was based on consumption recorded during the same time frame in the prior year, with an adjustment for weather variations between the two years. The initial re-billing reflected approximately 84% of

<sup>&</sup>lt;sup>2</sup> The order referenced here by the Complainant was supersede in Aquila's <u>General Rule, Regulations, Terms and</u> <u>Conditions</u>, paragraph 2.2-b (3) in Docket No. 05-AQLG-367-RTS, although the content of the provision remains identical to the previous U-193787, which was in effect at the time of the disputed billing.

<sup>&</sup>lt;sup>3</sup> Therm: A unit of heating value equivalent to 100,000 Btu. <u>http://www.aga.org/Natural Gas Glossary (T)</u>

<sup>&</sup>lt;sup>4</sup> "Amended Complaint", attachment to Exhibit A, Aquila letter dated March 28, 2005 Re: Account Number 30933189645

the usage recorded in the prior year<sup>5</sup>. Staff believes Aquila had no knowledge of the Complainant's new wood stove at the time of this bill and that it was lower than needed to reflect weather differences alone.

A credit was made to Complainant's account on April 11, 2004, following a number of telephone conversations between the parties, including the Complainant, Aquila, and the Commission's Public Affairs and Consumer Protection Division (PCAP). The \$114.76 credit was developed in consideration of possible heating contribution from the wood stove and reflected a 25% reduction in the <u>dollar</u> amounts from the initial estimates billed for December 13, 2004 and January 12, 2005, only. Applying this credit, the resulting re-bill totaled **\$803.16**, with estimated use of 785 therms (**74%** of the prior year's use).<sup>6</sup>

Staff does not necessarily subscribe to the methodologies employed or estimated usage amounts developed by Aquila.

"Complainant estimates that, because of using the wood-stove primarily for heating the gas usage was **at most twenty-five percent (25%)**<sup>7</sup> of the previous years usage during the entire heating season until the middle of February 2005"<sup>8</sup>. Without providing conclusive evidence to support this position, Complainant offers statements such as "...burning nearly three cords of hardwood"...<sup>9</sup> and "Complainant installed an efficient soapstone wood-burning stove...<sup>"10</sup> to provide credibility to his argument. Generic terms, such as, "well-seasoned hardwood", "not as well-seasoned", "mixed hardwoods", and "cord" appear in the *Complaint* to describe various attributes of the firewood burned, without additional clarification.

Staff finds the Complainant's estimate to be speculative and based more on expectations than specific detail.

Natural gas is a commodity subject to standardized values for pressure, temperature, volume, moisture content (dry) and energy content, as well as, metering accuracy within plus 1%

<sup>&</sup>lt;sup>5</sup> See email adjustment reconciliation provided to Staff, (date)

<sup>&</sup>lt;sup>6</sup> See Staff Exhibit TBD-1, attached to this Memorandum

<sup>&</sup>lt;sup>7</sup> Emphasis added

<sup>&</sup>lt;sup>8</sup> Amended Complaint, p.4, ¶13

<sup>&</sup>lt;sup>9</sup> Amended, p.2,¶2

<sup>&</sup>lt;sup>10</sup> Complaint, Exhibit A, p.1 "Late summer 2004"

and minus 2%. Aquila meters natural gas on the basis of thousands of cubic feet (Mcf) and bills are expressed as "therms". One therm will provide 100,000 Btu<sup>11</sup> of energy when it is burned. The Btu quantity per unit of natural gas is continuously evaluated by gas utilities. These evaluations are used to calculate monthly compensations that result in a standard thermal value billed to the customer and are reported to the Commission monthly. Aquila's monthly adjustment for heat content is shown on customer statements as a "Btu factor".

In contrast, firewood is procured from unregulated business entities or through personal manual labor. Firewood <u>should</u> be measured and sold in "cords", a bulk volumetric unit defined as "128 cubic feet (exactly)"<sup>12</sup> and typically described as wood neatly stacked four feet high, four feet wide and eight feet long (4'x4'x8') although any configuration that contains 128 cubic feet (128 cu ft) is technically a cord (Examples: 2-foot cut lengths, stacked 4-feet high, in a row 16-feet long; or, a cone-shaped wood pile approximately 4-feet high and 14' in diameter). A cord of firewood contains approximately 80 cubic feet of actual wood product and 48 cubic feet (38%) airspace<sup>13</sup>. In response to a staff data request, Complainant stated the "purchased firewood was measured by supplier" and "delivered piled in backyard or on backyard patio, next to wood pile". In Staff's opinion, a purchased "cord" of wood is accepted as an approximation only if not restacked upon receipt.

The value of firewood as an energy source is the actual heat content of one cord of wood, not the volumetric quantity. Firewood quality is highly dependent on the species and moisture content. Freshly cut wood from a living tree has a moisture content of 50% or more ("green"), and firewood commonly described as "seasoned" is air-dried to a moisture content of 20% or less<sup>14</sup>. A cord of seasoned red oak contains approximately 25.3 million Btu (MMBtu) in available heat energy, while a cord of seasoned cottonwood has only 16.1 MMBtu.<sup>15</sup> "Green" red oak will yield approximately 15.8 MMBtu per cord of useable energy and cottonwood, 10.1

<sup>&</sup>lt;sup>11</sup> British thermal unit (Btu): The amount of energy required to raise the temperature of one pound of water from 59 to 60°F at one atmosphere of pressure. [Roughly equivalent to burning one kitchen match. (DOE – Glossary)]

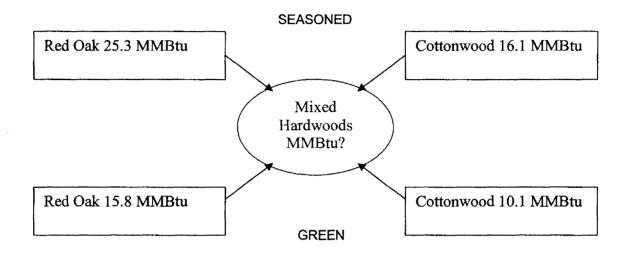
 <sup>&</sup>lt;sup>12</sup> NIST Handbook 44 – 2000 Edition, Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices, National Institute of Standards and Technology, p. C-17
 <sup>13</sup> "Basic Wood Energy Information", J. Zerbe and R. Bergman, p. 6, USDA Forest Products Laboratory, Madison,

<sup>&</sup>lt;sup>13</sup> "Basic Wood Energy Information", J. Zerbe and R. Bergman, p. 6, USDA Forest Products Laboratory, Madison, WI (May 2004)

<sup>&</sup>lt;sup>14</sup> "Basic Wood Energy Information", J. Zerbe and R. Bergman, Ibid. p.5

<sup>&</sup>lt;sup>15</sup> "Wood Fuel for Heating", G5450, J.P. Slusher, University of Missouri Extension, (Revised August 2005)

MMBtu per cord<sup>16</sup>. Green wood produces less useable heat because as much as 50% of the energy (by weight) is consumed in boiling off the water before combustion can occur<sup>17</sup>. The water vapor simply goes out the flue. Also, "seasoned" wood is not a finished product. Its relatively low moisture content must be maintained by protection from precipitation or moisture from soil, and it should be stored in a manner that maximizes air circulation.



Unlike natural gas, and for obvious reasons, firewood marketed for domestic use is subject to no universal quality standards and is seldom sold or purchased based on anything other than general characterizations regarding moisture content and quantity, and with no technical information regarding the actual heat content. As a consequence, the heating value of firewood is simply experienced as it is burned, absent any scientific measurement at any point in the process.

A further complication in attempting to model the impact of the Complainant's wood stove arises simply from the fact that simultaneous with the operation of the wood stove, the Complainant left the thermostat settings for his <u>gas furnace</u> at temperatures many people would consider normal (68°F daytime / 65°F night<sup>18</sup>). If the objective of operating a wood stove is to reduce natural gas consumption, gas thermostat settings (if gas furnace is used at all) should be

<sup>&</sup>lt;sup>16</sup> "TechLine, Fuel Value Calculator", p.3, USDA Forest Products Laboratory, Madison, WI (July 2004)

<sup>&</sup>lt;sup>17</sup> "Wood, An Alternative Source for Home Heating", C-640, Kansas State University, Cooperative Extension Service, Manhattan, KS (Revised 1990)

<sup>&</sup>lt;sup>18</sup> KCC/PACP, Electronic Complaint file, Complaint ID# 66634, 4/8/2005 entry, R.Perske

set low enough that decreasing output from a wood stove can be sensed. The sensation of "feeling cold" is a fundamental signal to the operator of a manually-controlled wood stove to add more wood. After an eight-hour, all night burn, refueling a 50,000 Btu/hr woodstove in the morning in a house that is already 65°F could incorrectly reinforce a conclusion that a wood stove provided the majority of the heat.

Most <u>gas furnaces</u> will burn at a constant Btu per hour (Btu/hr) rate as long as the ambient air temperature is below the thermostat settings, and will <u>automatically shut-off</u> when slight temperature overruns of the thermostat setting are reached. A wood stove has primarily a fuel-dependent heating cycle and will burn according to the fuel supply and the availability of combustion air. With no thermostat to set an upper limit of heat output, a wood stove will continue to burn (waste) fuel and produce ambient air temperatures higher than needed. Moderation of this overheating effect can be accomplished slowly by reducing the amount of air or fuel, or more commonly, by opening doors and windows.

Information regarding the amount of firewood inventoried at any point in time and the timing of its use is somewhat sketchy in the *Complaint*. However, in Complainant's Exhibit A, usage during the Fall of 2004 is described as follows:

"Fall 2004 - We burn hardwoods in our woodstove virtually continuously, relying on it for our main source of heat, the coals usually lasting through the night, and adding more logs in the morning, at lunchtime, and throughout the evenings. We buy another cord of hardwoods and rarely use the gas furnace. Because we are using the woodstove, our gas bills are small. (We pay all bills as billed, by due dates.)"

Burning wood with the stated schedule (one for an "overnight burn", plus additions during the day) and given the firebox capacity of 2.0 cubic feet<sup>19</sup>, this stove could burn a cord of wood every 21 days<sup>20</sup>, irregardless of the heating value of the wood. According to Exhibit 1 of the *Complaint*, the woodstove had been used "virtually continuously" before November, during which only 8-percent of the heating season had occurred (see TBD-2). Complainant's exhibit

<sup>&</sup>lt;sup>19</sup> <u>Owner's Manual, Installation and Operating Instructions</u>, Homestead Wood Stove, Model No. 8570-4110H, p.6, Revised 5/23/03

<sup>&</sup>lt;sup>20</sup> 128 ft<sup>3</sup>/cord  $\div$  (2.0 ft<sup>3</sup>/load x 3 loads/day) = 21 Days/cord

seems to suggest the initial one and one-half cord of firewood was largely depleted by the end of October, since a cord of wood was purchased during that month, leaving only 1.5 cords (of the three cords reportedly burned) for the remaining 92% of the heating season through February 10, 2005.

During the past two years, the only accurate record of heat energy use for the subject residence was the gas metered prior to August 2004 and after March 15, 2005. Staff Exhibit TBD-1 utilizes historical gas consumption records in combination with National Weather Service (NWS) climatological data to develop a weather-compensated estimate of gas use for heating purposes during the period when gas use was not recorded. A monthly base level of gas consumption for non-space heating use (pilot-lights, water-heating, kitchen stove) is not subject to weather adjustment in the Exhibit. Staff estimates total gas use of 969 therms for the period subject to re-billing, excluding any heating contribution from the new soapstone wood stove.

In Staff Exhibit TBD-2, heating degree-day  $(HDD)^{21}$  records are listed for every day from September 1, 2004 (first heating degree-day recorded by the NWS for the 2004-05 heating season), through February 10, 2005 (about the time the Complainant indicates the <u>gas</u> heating system became the primary source of heat). The exhibit develops "snapshots" of estimated daily gas usage and equivalent wood energy values for green<sup>22</sup> ash firewood (a mid-range MMBtu/cord species) at 20% and 30% moisture content. Daily gas and firewood estimates are calculated based on daily percentages of the heating degree days (September – February) times the 706 therms staff estimated for heating during the period.

Exhibit TBD-2 is somewhat rigorous and is included with this memorandum primarily for reference purposes. It is important to note that it would be impossible to heat the house with a point-source wood stove to the same comfort level as a central gas system using only the wood equivalent quantities expressed in "cords per day" or "cumulative cords required" in the spreadsheet. This has to do with the absence of a thermostat to control the heat output of a wood stove and, apparently, no air circulation method to move heat away from the stove surfaces and distribute it to other areas of the living space. It also has to do with the fact that in the more

<sup>&</sup>lt;sup>21</sup> Heating Degree-Day - The number of degree-days in a 24-hour day is determined by the difference between 65°F and the average of the high and low temperature for a specific day.

<sup>&</sup>lt;sup>22</sup> As used here, "green" refers to a common variety of ash tree, not moisture content.

moderate days of the heating season, it is difficult to build a fire in a wood stove that would require only a fractional load of wood in the firebox at exactly the time the heat is needed. The on/off capability of the gas burner in a forced air furnace is very efficient at controlling the amount of fuel input in concert with the need for heat. While the "thermal efficiency" of the wood stove and the gas furnace are likely to be similar, assuming the stove manufacturer's reported 74% efficiency is correct, the overall "system efficiencies" are different. For illustration, one could conceivably build a bonfire with three cords of wood burned all at one time and it would have a fairly high thermal efficiency (get most of the available energy out of the wood), while the system efficiency would be extremely low over the course of a heating season.

Even with the preceding information considered, it remains undeniable that the Complainant's wood stove, operated in the manner described in the *Complaint*, should have made a substantial energy contribution toward heating the household. The owner's manual for the stove states that temperatures at the top center of the stove could be 300-400°F on a low burn, and as high as 600°F on a high burn. Any heating device operating at temperatures in this range in anyone's living room would contribute significantly to the space-heating requirements of a home.

Neither the Complainant nor Aquila can provide a truly accurate basis for their respective positions. After considerable review of statements, known facts, and reasonable possibilities, Staff believes it is likely that the Complainant's wood stove may have contributed as much as one-half of the heat energy used in the subject house during the period in question. Staff proposes to split in half (50-50%) Staff's 706-therm heating estimate for the months the wood stove was reportedly used (September 2004 through mid-February 2005).

With analysis presented in Exhibit TBD-1, Staff estimates a total use of 969 therms for the entire period of the rebilling, absent the wood stove. Staff believes use during the final month of the period (Feb/Mar, 3/10/05 reading date) does not fall within the significant wooduse time-frame described by the Complainant and therefore the last month does not warrant adjustment for contribution from the wood stove. Reducing Staff's estimated monthly gas use

for heating (August 2004 - February 10, 2005) by 50%, results in an adjusted total use of 616 therms<sup>23</sup> for the entire rebilling period.

Aquila's initial estimate of gas use for the period of re-billing was 77 therms <u>less</u> than Staff's estimate. Staff considers this difference as an initial concession (credit) to the customer. The credit in April 2005 reduced the consumption estimate by an additional 107 therms. Staff's recommends a final adjustment for 169 therms at \$1.03 per therm resulting in an additional **\$174.07** credit to the customer's account. Staff's cumulative estimate for "therms" contributed by the wood stove is 353 therms. (See Exhibit TBD-1, "ADJUSTMENTS")

#### b. CHARGES/CREDIT RATING

The Complainant requests action by the Commission to insure that all interest, penalties, late charges, or collection fees "imposed or sought to be imposed by Aquila be eliminated; and any adverse credit comments be expunged from all records"<sup>24</sup>.

On August 18, 2005, Staff was assured by Aquila Business Operations personnel that "late fees" specifically related to Aquila's final re-bill of \$803.16 in April 2005 have been removed from Complainant's account, pending the Commission *Order* in this complaint.

Staff reviewed several Complainant, Company, and Commission documents during its investigation of this complaint, but certainly not "all records". None of the records reviewed by staff have contained adverse comment regarding the Complainant's creditworthiness. Because "all records" is such an inclusive phrase, Staff believes an absolute assurance regarding all matters of record may be beyond the purview of the Commission.

#### c. INTERNAL PROCEDURES

Complainant is very dissatisfied with the timeliness of, and procedures employed in, Aquila's communications with customers in the event of malfunctioning or non-registering meters. In particular, Complainant seeks revision to Company notification procedures to the extent that use of "door tags" be abandoned in favor of notification "...made in writing and promptly mailed to customers no later than ten (10) day after discovery...".<sup>25</sup>

 $<sup>^{23}</sup>$  969 therms – (706 therms x 50%) = 616 therms

<sup>&</sup>lt;sup>24</sup> Amended Complaint, p.6, item (b)

<sup>&</sup>lt;sup>25</sup> Amended Complaint, p.6, item (c)

In its *Answer*, Aquila's explanation for the procedure of employing door tags is as follows:

"Mr. VanZuiden explained Aquila always uses door tags rather than call or write the customer because the phone numbers Aquila has listed on accounts are not always accurate, and from past experience, Aquila has learned that people typically disregard mailings that are not bills. Tagging doors has always received and continues to receive the best response."

While use of a door tag in this complaint did not achieve the intended result from the standpoint of either party, a door tag is literally "in writing" and, either mail or hand delivery produce the same result, the notification arrives at a premise. In addition, physical delivery of a door tag allows the Company one final opportunity to verify the operational status of the meter before involving a customer.

Staff is reluctant to recommend the Commission order the Company to alter existing procedures for this activity. In Staff's experience, Aquila (or any other utility) is not likely to utilize any labor intensive business practice <u>unless</u> there is absolutely no alternative, less expensive means to accomplish the same task with the desired degree of success.

## d. TARIFF REVISIONS

In the initial *Complaint* ( $\P$ 12), the Complainant comments on a conversation with Mr. VanZuiden of Aquila on April 10, 2005, to wit:

"He provided copies of two tariffs about estimating meter readings and the maximum amount of non-gas heating allowed to gas customers (See "Exhibit B" attached hereto); he admitted he did not know how Aquila customers are supposed to know about the 75% required usage."<sup>26</sup>

Aquila does not agree with, deny, or otherwise acknowledge in any manner the above concern in its *Answer*.

In a phone conversation with Ms. Thorp on August 17, 2005, Staff verified that it was her understanding from conversations with the Company that Aquila's tariff requires any

<sup>&</sup>lt;sup>26</sup> Staff emphasis added

customer to obtain 75% of their heating energy from the Company. In Aquila's <u>General Rules</u>, <u>Regulations</u>, <u>Terms and Conditions</u> in effect at the time of the disputed bills (and in the superseding tariff effective May 4, 2005), Section 2.2-b (3) regarding "Conditions of Service" reads as follows:

(3) To install no alternate principal source of space heating, other than solar, which does not provide 100% of peak day heating requirements. However, supplemental heating devices such as small electric space heaters, fireplaces, wood stoves, etc., which supply minor amounts of energy, may be used provided such devices do not account for more that 25% of the total peak day requirements.

It must be noted that utilities are required operate on the basis of Commission approved tariffs and, in this complaint, it seems to have been Aquila's intention to do so with regard to the application of the above paragraph. However, subject to interpretation by Commission Legal Staff, the Utilities Staff believes it would be appropriate to update, revise, or rescind this paragraph in Aquila's GT&C for the following reasons:

- 1. The paragraph may be in violation of K.S.A. 66-117d, which addresses in part any practice resulting in prejudice or disadvantage to customers on account of the use of renewable energy sources.
- 2. The language is ambiguous. Aquila does not prove the customer-installed, "alternate principle source" of space heating in this complaint <u>does not</u> provide 100% of the peak day heating requirements.
- 3. Neither Aquila nor its customers can readily determine an individual customer's <u>peak day</u> heating requirement because meters are read monthly, not daily.
- 4. Applying the 25% maximum for supplemental heating to <u>cumulative</u> natural gas use over the course of a heating season, rather than <u>peak day</u> heating requirement, appears to be a misuse of the tariff. If it is Aquila's intention that all customers who utilize supplemental heating devices categorically agree to pay for a minimum of 75% of the prior year's gas volume, this intention should be more clearly stated in the tariff.
- 5. There is no universal methodology for determining the heating capability of wood stoves therefore the Company has no clear-cut way to determine whether a wood stove is an "alternate principal source" or "supplemental heating device".

6. Section 2.2-b (3) does not specify the consequence to an existing customer who installs a supplemental heating device that supplies, for example, 50% of the peak day requirement instead of the 25% limit stated in the tariff.

## e. TRAINING REQUIREMENTS

Complainant requests the Commission order Aquila to "institute initial and frequent periodic training for current employees to learn proper billing practices in accordance with the Billing Standards".<sup>27</sup>

New employees ("new hires") on Aquila's customer service staff receive 44 hours of training covering billing, metering, and payment methods alone. This equates to 3080 hours of training for Aquila's 70 new hires at the Company's Raytown, Missouri Call Center in 2004. In addition, ongoing training for all customer service agents (CSAs) utilizes a Customer Resolution Management tool to track errors and identify coaching opportunities, trends, and training needs; includes call monitoring to evaluate individual agent communication skills and measure adherence to business rules; and provides weekly updates regarding changes to business rules and/or process improvements.<sup>28</sup>

Are the above training measures 100% fail safe? No. However, in response to instances cited by the Complainant, specific instruction was provided directly to the individual Aquila employees/departments involved regarding cessation of collection activity and shut-off notices in the instance of formal complaints filed by customers.<sup>29</sup> In Staff's experience, personalized instruction following the mishandling of a specific situation is usually very effective.

In light of Aquila's existing training emphasis for CSAs, Staff contends the arguments presented by the Complainant do not warrant Commission intervention in the matter of training requirements.

<sup>&</sup>lt;sup>27</sup> Amended Complaint, p.6, item(e).

<sup>&</sup>lt;sup>28</sup> Electronic correspondence to Staff from Robin Souder, Aquila Call Center Director, Raytown, MO, 11/15/05

<sup>&</sup>lt;sup>29</sup> Answer to Amended Complaint, ¶2,3,6,7

## f. FINE

Aquila erred on two occasions approximately one month apart by sending "Shut-Off Notices" to the customer in June and July 2005, while the original *Complaint* was under investigation. In its *Answer to Amended Complaint* (¶7), Aquila admitted failure to adhere to the relevant provision of the <u>Billing Standards<sup>30</sup></u> and apologized to the Complainant and the Commission for same. The Company maintained the error was unintentional.

Complainant also cites an instance of collection activity initiated by the Company on March 23, 2005 (a Monday), apparently as evidence of Aquila "...deliberately and repeatedly flouting the Kansas Corporation Commission rules on billing practices..." Staff observes the original *Complaint* was filed at the Commission only three days earlier, on Friday, May 20, so it is not remarkable that this instance of collection activity was initiated due to the short time frame involved. A call from the Complainant to the Company was necessary to resolve the issue on March 31, but apparently by that time the existence of the *Complaint* had been duly noted by the Company.<sup>31</sup>

Given the Complainant's expressed dissatisfaction with Aquila's billing estimates, it is understandable that ensuing collection activities were extremely annoying. However disturbing the Company's improper actions may have been, Staff finds no evidence to support the contention that they were of a flagrant nature, demonstrate an intention to operate outside of existing guidelines, or harm the customer. Also, some activities cited by the Complainant, such as procedures for estimating usage and re-billing, simply were not violations of the <u>Commission Billing Standards</u>.

The costs of Commission activities related to the consideration of any formal complaint are paid by the effected utility and its ratepayers. The Utilities Staff investigation of this complaint has been extensive and Staff does not favor imposing any additional cost to the Company or its ratepayers.

Finally, Staff believes Complainant's suggestion that he be allowed to designate a third party to receive the proceeds of a fine would be an improper delegation of Commission authority.

<sup>&</sup>lt;sup>30</sup> Commission Billing Standards, Section IV (B)(4)

<sup>&</sup>lt;sup>31</sup> Aquila's Answer to Amended Complaint,  $\P 2$ .

## **Conclusion**

As the result of a delayed replacement of its gas meter for the subject residence, Aquila was required to estimate monthly billings for an entire heating season. Based upon available information combined with plausible assumptions, Staff produced its own estimate of the space heating requirement for the residence. In addition, Staff intended to illustrate the impossibility of producing a precise split between the relative space heating contributions of two heating sources operated simultaneously. Staff believes the proposed 50-50% allocation of gas and wood used for heating is reasonable.

In the "Analysis" of this complaint, Staff also attempted to respond to the Complainant's concerns about relevant credit information, Aquila's procedures for customer notification of malfunctioning gas meters, tariff revisions, training requirements, and fine proposal.

## Recommendations

Staff recommends the following Commission actions:

- a. Order an additional \$174.07 credit to the Complainant's account with Aquila, Inc., d/b/a Aquila Networks KGO
- b. (See Commission Legal Staff Report and Recommendation, re: Credit Records)
- c. Deny request for revision of notification procedures for malfunctioning meters.
- d. Order Aquila to update the Company's <u>General Rules, Regulations, Terms and</u> <u>Conditions</u>, Section 2.2–b (3) to reflect current Kansas Statute(s).
- e. Deny request to institute (additional) training requirements.
- f. Deny request to fine Aquila.

cc: D. Low L. Holloway S. Cunningham M. Tomc S. Duffy M. Petty

### Aquila/Thorp Complaint 2424 Orchard Lane Lawrence, Kansas

1	Δαυί	la's P	Rilling Adjus	tme	ents and Usa	ne Estimate	20	1000			KCC Staff	f Estimates		
┝─┼	A		B		C	E			F	G	H	1	J	к –
2		1			2004-05		2003-04	4. Ug-	2003-04	2003-04	2004-05	2004-05	2004-05	2004-05
3						Rebill	Actual		Monthly	Monthly	Monthly	Monthly	Monthly	w/50% Cr.
4	Billing		Original		Rebill	Usage	Usage		Domestic <sup>1</sup>	Heating	Domestic <sup>1</sup>	Heating <sup>2</sup>	Total Use	Aug-Feb 10
5	Date		Bill		Amount	(therms)	(therms)		(therms)	(therms)	(therms)	(therms)	(therms)	Heating
6	7/14/2004	\$	23.65	\$				1	1					
7	8/12/2004	\$	7.14	\$	12.49	5	12		12	0	12	0	12	12
8	9/13/2004	\$	7.14	\$	16.38	9	13		12	1	12	$\int 1$	13	12
9	10/12/2004	\$	7.14	\$	13.85	7	15		12	3	12	3	15	13
10	11/10/2004	\$	7.14	\$	67.88	62	42		12	30	12	27	39	26
11	12/13/2004	\$	7.14	\$	181.88	167	173	4	12	161	12	145	157	84
12	1/12/2005	\$	7.14	\$	277.15	262	279		12	267	12	240	252	132
13	2/10/2005	\$	7.14	\$	205.58	197	335		12	323	12	291	303	157
14	3/14/2005	\$	7.14	\$	192.69	183	197		12	185	12	167	179	179
15	Sub-totals			\$	967.90	892	1066		96	970	96	873	969	616
	Credit 7 mo. x			\$	(49.98)									
	3/29/05 First A			\$	917.92	892								
	Credit 25% x E			\$	(114.76)	(107)		- (-) (-)	Staff estimate			heating co	ntribution fr	
	4/11/05 Adjust	ted bil	ll/therms	\$	803.16	785			wood stove 8	/12/04-2/10	/05			616
20								Υ <sub>με</sub>						
21				-22		i di talifa di					20 St.			
22							ADJUS	STN	MENTS		•	•		
23														
24	01.55	.1.1.1	N 1. N			Therms			Credited The	ms	706 T	herms		
	Staff estimate					969			2 <b></b>	(	Estimate	d heating		
	Diff. between :					(77)	-		(77)		use subje	ect to 50%		
	Aquila 3/29 es					892			(407)		(353	therm)		
	Aquila 4/11 se					(107)	-		(107)	\	adjustmer	nt for wood		
	Aqula 4/11 esi <b>Staff recomm</b>					785 (169)			(169)					
	Staff estimated					616	Total therm cre	- dit		-				
	Stan estimated	น เบเล		SIOV	e	010		Jun	. (353)					
32 33				Sta	aff recomme	ndad additid	onal credit	_	169 Therms	x \$1 02/T	herm =	\$ 174.07	۱	
						nueu auulli			103 111011115	×φ1.03/1		φ 11 <del>4</del> .01	]	
34	· · · · · · · · · · · · · · · · · · ·	<i></i>												

Notes:

1) Domestic (non-space heating) use = Average of July, August, September 2003 billings (non-heating months) = 12 Therms/mo.

2) 2003-04 usage reduced by 10% due to fewer heating-degree days in same period of 2004-05.

3) Months with 50% estimated wood contribution to heating. A total 353 therm reduction.

4) Staff total 969 - Aquila total 892 = 77 therms

STAFF EXHIBIT TBD-1 Page 1 of 1 T. DeBaun KCC Utilities 11/17/2005

[			Heating					20% MC Ast	firewood		lo,	ventory		30% MC Ash	firewood		In vento	rv
			Percent of		Staff		Loads1	Cds/day	Cumulative	Cords	Wood	Daily	Loads <sup>1</sup>	Cds/day	Cumulative	Cords	Wood	Daily
		Actual	Heating thru	%	Est. Therm	MMBtu	per	23.6	cords	Required	Purchases	Balance	per	20.7	cords	Required	Purchases <sup>3</sup>	Balance
Line	Date	TOP HDD	Feb. 10, 2005	Seas.	per day	per day	day	MMBtu/cd	Required	per billing pd.	(cords)	(cords)	Day	MMBtu/cd	Required	per billing pd.	(cords)	(cords)
5	9/8/2004²	1	0.03	0.0	0.23	0.023	0.1	0.001	0.001	per en g pe	- (60/10/	1,499	0.1	0.001	0.001		(00.00)	1.499
6	9/9/04	0	0.00	0.0	0.00	0.023	0.0	0.000	1			1,499	0.0	0.000	0.001			1.499
7	9/10/04	0	0.00	0.0	0.00	0.000	0.0		<u> </u>	a david da e e Red free a com		1						
			· · · · · · · · · · · · · · · · · · ·					0.000				1,499	0.0	0.000	0.001			1.499
8	9/11/04	0	0.00	0.0	0.00	0.000	0.0	0.000		- <u>Alianti u</u>		1.499	0.0	0.000	0.001			1.499
10	9/12/04 9/13/04	0	0.00	0.0	0.00	0.000	0.0	0.000	1			1.499	0.0	0.000	0.001			1.499
			0.00	0.0	0.00	0.000	0.0	0.000		0.001		1.499	0.0	0.000	0.001	0.001	<u> </u>	1.499
11	9/14/04	0	0.00	0.0	0.00	0.000	0.0	0.000				1,499	0.0	0.000	0.001		ļ	1.499
12	9/15/04	0	0.00	0.0	0.00	0.000	0.0	0.000	0.001			1.499		0.000	0.001		<u> </u>	1.499
13	9/16/04	0	0.00	0.0	0.00	0.000	0.0	0.000	0.001			1.499	0.0	0.000	0.001			1.499
14	9/17/04	2	0.06	0.1	0.45	0.045	0.1	0.002	0.003			1.497	0.1	0.002	0.003			1.497
15	9/18/04	0	0.00	0.1	0.00	0.000	0.0	0.000	0.003			1.497	0.0	0.000	0.003			1.497
16	9/19/04	0	0.00	0.1	0.00	0.000	0.0	0.000	0.003			1.497	0.0	0.000	0.003			1.497
17	9/20/04	0	0.00	0.1	0.00	0.000	0.0	0.000	0.003			1.497	0.0	0.000	0.003			1.497
18	9/21/04	0	0.00	0.1	0.00	0.000	0.0	0.000	0.003			1.497	0.0	0.000	0.003			1.497
19	9/22/04	0	0.00	0.1	0.00	0.000	0.0	0.000	0.003			1.497	0.0	0.000	0.003			1.497
20	9/23/04	0	0.00	0.1	0.00	0.000	0.0	0.000	0.003			1.497	0.0	0.000	0.003			1.497
21	9/24/04	0	0.00	0.1	0.00	0.000	0.0	0.000	0.003			1.497	0.0	0.000	0.003			1.497
22	9/25/04	0	0.00	0.1	0.00	0.000	0.0	0.000				1.497	0.0	0.000	0.003	······································		1.497
23	9/26/04	0	0.00	0.1	0.00	0.000	0.0	0.000	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			1.497	0.0	0.000	0.003			1.497
24	9/27/04	0	0.00	0.1	0.00	0.000	0.0	0.000	1			1.497	0.0	0.000	0.003			1.497
25	9/28/04	3	0,10	0.2	0.68	0.068	0.2	0.003	1	1		1.494	0.2	0.003	0.006		1	1.494
26	9/29/04	6	0.19	0.4	1.35	0.135	0.4	0.006				1.488	· · · · ·	0.007	0.013		<b></b>	1.487
27	9/30/04	0	0.00	0.4	0.00	0.000	0.0	0.000	foreign and the second second	1		1.488	1	0.000	0.013			1.487
28	10/1/04	9	0.29	0.7	2.03	0.203	0.6	0.009	0.020			1.480	0.6	0.010	0.023			1.477
29	10/2/04	16	0.51	1.2	3.61	0.361	1.0	0.015	0.035			1.465	1.1	0.017	0.040			1.460
30	10/3/04	5	0.16	1.3	1.13	0.113	0.3	0.005	0.040			1.460	0.3	0.005	0.046			1.454
31	10/4/04	9	0.29	1.6	2.03	0.203	0.6	0.009	0.049	lang sa tang sa		1,451	0.6	0.010	0.055		<u> </u>	1.445
32	10/5/04	9	0.29	1.9	2.03	0.203	0.6	0.009	0.057			1.443	0.6	0.010	0.065			1.435
33	10/6/04	3	0.10	2.0	0.68	0.068	0.2	0.003		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1.440		0.003	0.069		ļ	1.431
34	10/7/04	0	0.00	2.0	0.00	0.000	0.0	0.000	1			1.440		0.000	0.069		Ì	1.431
35	10/8/04	0	0.00	2.0	0.00	0.000	0.0	0.000	1			1.440		0.000	0.069			1.431
36	10/9/04	3	0.10	2.1	0.68	0.068	0.2	0.003				1.437	0.2	0.003	0.072		<u> </u>	1.428
37	10/10/04	3	0.10	2.2	0.68	0.068	0.2	0.003				1.434		0.003	0.075		1	1.425
38	10/11/04	10	0.32	2.5	2.26	0.226	0.6	0.010			a Maria Mariana I.	1.424		0.011	0.086			1.414
<u> </u>	10/12/04	10	0.32	2.8	2.26	0.226	0.6	0.010		And and a second se		1.415	<u> </u>	0.011	0.097	0.0958	<u> </u>	1.403
40	10/13/04	8	0.26	3.1	1.81	0.181	0.5	0.008		the second se		1,407	+	0.009	0.106			1.394
41	10/14/04 10/15/04	18 14	0.58	3.7	4.06	0.406	1.1	0.017				1.390		0.020	0.125		<u> </u>	1.375
L_42	10/15/04	14	0.45	4.1	3.16	0.316	0.9	0.013	0.123			1.377	1.0	0.015	0.140	I		1.360

Heating values reference: "Wood for Fuel Heating" John P. Slusher University of Missouri Extension (rev. 8/2/05)

-			Heating					20% MC Asl	n firewood		in	ventory	[	30% MC Ash	firewood		In vento	ry
			Percent of		Staff		Loads <sup>1</sup>	Cds/day	Cumulative	Cords	Wood	Daily	Loads <sup>1</sup>	Cds/day	Cumulative	Cords	Wood	Daily
		Actual	Heating thru	%	Est. Therm	MMBtu	per	23.6	cords	Required	Purchases <sup>a</sup>	Balance	per	20.7	cords	Required	Purchases <sup>3</sup>	Balance
Line	Date	TOP HDD	Feb. 10, 2005	Seas.	per day	per day	day	MMBtu/cd	Required	per billing pd.	(cords)	(cords)	Day	MMBtu/cd	Required	per billing pd.	(cords)	(cords)
43	10/16/04	17	0.54	4.7	3.84	0.384	1.0	0.016	0.140			1,360	1.2	0.019	0.159			1.341
44	10/17/04	10	0.32	5.0	2.26	0.226	0.6	0.010	0.149			1.351	0.7	0.011	0.170			1.330
45	10/18/04	9	0.29	5.3	2.03	0.203	0.6	0.009	0.158			1.342	0.6	0.010	0.180		1	1.320
46	10/19/04	11	0.35	5.6	2.48	0.248	0.7	0.011	0.168			1.332	0.8	0.012	0.192			1.308
47	10/20/04	11	0.35	6.0	2.48	0.248	0.7	0.011	0.179			1.321	0.8	0.012	0.204			1.296
48	10/21/04	4	0.13	6.1	0.90	0.090	0.2	0.004	0.183			1.317	0.3	0.004	0.208			1.292
49	10/22/04	0	0.00	6.1	0.00	0.000	0.0	0.000	0.183			1.317	0.0	0.000	0.208			1.292
50	10/23/04	8	0.26	6.4	1.81	0.181	0.5	0.008	0.190			1.310	0.6	0.009	0.217			1.283
51	10/24/04	7	0.22	6.6	1.58	0.158	0.4	0.007	0.197			1.303	0.5	0.008	0.224			1.276
52	10/25/04	6	0.19	6.8	1.35	0.135	0.4	0.006	0.203			1.297	0.4	0.007	0.231	• • • • • • • • • • • • • • • • • • • •		1.269
53	10/26/04	0	0.00	6.8	0.00	0.000	0.0	0.000	0.203			1.297	0.0	0.000	0.231			1.269
54	10/27/04	1	0.03	6.8	0.23	0.023	0.1	0.001	0.204			1.296	0.1	0.001	0.232	·		1.268
55	10/28/04	0	0.00	6.8	0.00	0.000	0.0	0.000	0.204			1.296	0.0	0.000	0.232			1.268
56	10/29/04	0	0.00	6.8	0.00	0.000	0.0	0.000	0.204			1.296	0.0	0.000	0.232			1.268
57	10/30/04	10	0.32	7.1	2.26	0.226	0.6	0.010	0.213			1.287	0.7	0.011	0.243			1.257
58	10/31/04	11	0.35	7.5	2.48	0.248	0.7	0.011	0.224		1.000	2.276	0.8	0.012	0.255		1.000	2.245
59	11/1/04	10	0.32	7.8	2.26	0.226	0.6	0.010	0.233			2.267	0.7	0.011	0.266			2.234
60	11/2/04	17	0.54	8.3	3.84	0.384	1.0	0.016	0.250			2.250	1.2	0.019	0.284			2.216
61	11/3/04	19	0.61	9.0	4.29	0.429	1.2	0.018	0.268			2.232	1.3	0.021	0.305			2.195
62	11/4/04	19	0.61	9.6	4.29	0.429	1.2	0.018	0.286			2.214	1.3	0.021	0.326	-		2.174
63	11/5/04	17	0.54	10.1	3.84	0.384	1.0	0.016	0.302			2.198	1.2	0.019	0.344			2.156
64	11/6/04	7	0.22	_10.3	1.58	0.158	0.4	0.007	0.309			2.191	0.5	0.008	0.352			2.148
65	11/7/04	13	0.42	10.7	2.94	0.294	0.8	0.012	0.321			2.179	0.9	0.014	0.366			2.134
66	11/8/04	17	0.54	11.3	3.84	0.384	1.0	0.016	0.338			2.162	1.2	0.019	0.384			2.116
67	11/9/04	11	0.35	11.6	2.48	0.248	0.7	0.011	0.348			2.152	0.8	0.012	0.396			2.104
68	11/10/04	15	0.48	12.1	3.39	0.339	0.9	0.014	0.362	0.277		2.138	1.0	0.016	0.413	0.316		2.087
69	11/11/04	22	0.70	12.8	4.97	0.497	1.3	0.021	0.383			2.117	1.5	0.024	0.437			2.063
70	11/12/04	25	0.80	13.6	5.65	0.565	1.5	0.024	0.407			2.093	1.7	0.027	0.464			2.036
71	11/13/04	25	0.80	14.4	5.65	0.565	1.5	0.024	0.431			2.069	1.7	0.027	0.491			2.009
72	11/14/04	21	0.67	15.1	4.74	0.474	1.3	0.020	0.451			2.049	1.5	0.023	0.514			1.986
73	11/15/04	15	0.48	15.6	3.39	0.339	0.9	0.014	0.466			2.034	1.0	0.016	0.530			1.970
74	11/16/04	6	0.19	15.8	1.35	0.135	0.4	0.006	0.471			2.029	0.4	0.007	0.537			1.963
75	11/17/04	3	0.10	15.9	0.68	0.068	0.2	0.003	0.474			2.026	0.2	0.003	0.540			1.960
76	11/18/04	9	0.29	16.1	2.03	0.203	0.6	0.009	0.483			2.017	0.6	0.010	0.550			1.950
77	11/19/04	13	0.42	16.6	2.94	0.294	0.8	0.012	0.495			2.005	0.9	0.014	0.564			1.936
78	11/20/04	18	0.58	17.1	4.06	0.406	1.1	0.017	0.513			1.987	1.3	0.020	0.584			1.916
79	11/21/04	25	0.80	17.9	5.65	0.565	1.5	0.024	0.536			1.964	1.7	0.027	0.611			1.889
80	11/22/04	22	0.70	18.6	4.97	0.497	1.3	0.021	0.557			1.943	1.5	0.024	0.635			1.865
81	11/23/04	25	0.80	19.4	5.65	0.565	1.5	0.024	0.581			1.919	1.7	0.027	0.662			1.838
82	11/24/04	30	0.96	20.4	6.77	0.677	1.8	0.029	0.610			1.890	2.1	0.033	0.695			1.805

			Heating					20% MC Ast				ventory		30% MC Ash	firewood		In vento	TV I
i i i i i i i i i i i i i i i i i i i			Percent of		Staff		Loads <sup>1</sup>	Cds/day	Cumulative	Cords	Wood	Daily	Loads <sup>1</sup>	Cds/day	Cumulative	Cords	Wood	Daily
		Actual	Heating thru	%	Est. Therm	MMBtu	рег	23.6	cords	Regulred	Purchases	Balance	per	20.7	cords	Required	Purchases <sup>3</sup>	Balance
Line	Date	TOP HDD	Feb. 10, 2005	Seas.	per day	per day	day	MMBtu/cd	Required	per billing pd.	(cords)	(cords)	Day	MMBtu/cd	Required	per billing pd.	(cords)	(cords)
83	11/25/04	25	0.80	21.2	5.65	0.565	1.5	0.024	0.634		and Carlotters	1.866	1.7	0.027	0,722	,		1.778
84	11/26/04	16	0.51	21.7	3.61	0.361	1.0	0.015				1.851	1.1	0.027	0.739			1.761
85	11/27/04	27	0.86	22.6	6.10	0.610	1.7	0.026				1.825	1.9	0.029	0.769		<u> </u>	1.731
86	11/28/04	34	1.09	23.7	7.68	0.768	2.1	0.033				1.792	2.4	0.037	0.806		<u> </u>	1.694
87	11/29/04	31	0,99	24.7	7.00	0.700	1.9					1.763	2.2	0.034	0.839			1.661
88	11/30/04	34	1.09	25.7	7.68	0.768	2.1		0.770			1.730	2.4	0.037	0.876			1.624
89	12/1/04	32	1.02	26.8	7.23	0.723	2.0		0.800			1.700	2.2	0.035	0.911			1.589
90	12/2/04	30	0.96	27.7	6.77	0.677	1.8		0.829			1.671	2.1	0.033	0.944			1.556
91	12/3/04	31	0.99	28.7	7.00	0.700	.1.9	0.030	0.859			1.641	2.2	0.034	0.978			1.522
92	12/4/04	22	0.70	29.4	4.97	0.497	1.3	0.021	0.880			1.620	1.5	0.024	1.002			1.498
93	12/5/04	28	0.90	30.3	6.32	0.632	1.7	0.027	0.906			1.594	2.0	0.030	1.032			1.468
94	12/6/04	19	0.61	30.9	4.29	0.429	1.2	0.018	0.925		. in its	1.575	1.3	0.021	1.053			1.447
95	12/7/04	27	0.86	31.8	6.10	0.610	1.7	0.026	0.950		hina at	1.550	1.9	0.029	1.082			1.418
96	12/8/04	22	0.70	32.5	4.97	0.497	1.3	0.021	0.971			1.529	1.5	0.024	1.106			1.394
97	12/9/04	22	0.70	33.2	4.97	0.497	1.3	0.021	0.993			1.507	1.5	0.024	1.130			1.370
98	12/10/04	28	0.90	34.1	6.32	0.632	1.7	0.027	1.019			1.481	2.0	0.030	1.161			1.339
99	12/11/04	28	0.90	35.0	6.32	0.632	1.7	0.027	1.046			1.454	2.0	0.030	1,191			1.309
100	12/12/04	21	0.67	35.7	4.74	0.474	1.3	0.020	1.066			1.434	1.5	0.023	1.214			1.286
101	12/13/04	36	1.15	36.8	8.13	0.813	2.2	0.034	1.101	0.738		1.399	2.5	0.039	1. <b>253</b>	0.918		1.247
102	12/14/04	41	1.31	38.1	9.26	0.926	2.5	0.039	1.140			1.360	2.9	0.045	1.298			1.202
103	12/15/04	30	0.96	39.1	6.77	0.677	1.8	0.029	1.168			1.332	2,1	0.033	1.331			1.169
104	12/16/04	27	0.86	39.9	6.10	0.610	1.7	0.026	1.194			1.306	1.9	0.029	1.360		<u> </u>	1.140
105	12/17/04	27	0.86	40.8	6.10	0.610	1.7	0.026	1,220			1.280	1.9	0.029	1.389		<u> </u>	1.111
106	12/18/04	24	0.77	41.6	5.42	0.542	1.5		1.243			1.257	1.7	0.026	1.416			1.084
107	12/19/04	47	1.50	43.1	10.61	1.061	2.9	0.045	1.288			1.212	3.3	0.051	1.467		<u> </u>	1.033
108	12/20/04	27	0.86	43.9	6.10	0.610	1.7	0.026				1.186	1.9	0.029	1.496			1.004
109	12/21/04	37	1.18	45.1	8.35	0.835	2.3		1			1.151	2.6	0.040	1.536	L		0.964
110	12/22/04	50	1.60	46.7	11.29	1.129	3.1	0.048				1.103	3.5	0.054	1.591			0.909
111	12/23/04	54	1.73	48.4	12.19	1.219	3.3	0.052	1.449			1.051	3.8	0.059	1.650		<u> </u>	0.850
112	12/24/04	51	1.63	50.1	11.52	1.152	3.1	0.049				1.003	3.6	0.056	1.705		ļ	0.795
113	12/25/04	29	0.93	51.0	6.55	0.655	1.8	a second seco				0.975	2.0	0.032	1.737		<u> </u>	0.763
114	12/26/04	32	1.02	52.0	7.23	0.723	2.0		1.556			0.944	2.2	0.035	1.772	<u> </u>	<u> </u>	0.728
115	12/27/04	25	0.80	52.8	5.65	0.565	1.5		1.580		<u></u>	0.920	1.7	0.027	1.799		<u> </u>	0.701
116	12/28/04	20	0.64	53.5	4.52	0.452	1.2		h			0.901	1.4	0.022	1.821			0.679
117	12/29/04	24	0.77	54.2	5.42	0.542	1.5	1.14				0.878	1.7	0.026	1.847		<u> </u>	0.653
118	12/30/04	2	0.06	54.3	0.45	0.045	0.1	0.002	1.624			0.876	0.1	0.002	1.849		·	0.651
119	12/31/04	18	0.58	54.9	4.06	0.406	1.1				la nors de la constat. La constat	0.859	1.3	0.020	1.869	<u> </u>	<u> </u>	0.631
120	1/1/05	8	0.26	55.1	1.81	0.181	0.5	the second s				0.852	0.6	0.009	1.877			0.623
121	1/2/05	26	0.83	56.0	5.87	0.587	1.6					0.827	1.8	0.028	1.906	<u> </u>		0.594
122	1/3/05	34	1.09	57.0	7.68	0.768	2.1	0.033	1.706		1.000	1.794	2.4	0.037	1.943		1.000	1

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entory	In vento		firewood	30% MC Ash		ventory	In		n firewood	20% MC As					Heating			
Daily	Wood	Cords	Cumulative	Cds/day	Loads <sup>1</sup>	Daily	Wood	Cords	Cumulative	Cds/day	Loads <sup>1</sup>	· · · · · · · · · · · · · · · · · · ·	Staff		Percent of			
es <sup>3</sup> Balance	Purchases <sup>3</sup>	Required	cords	20.7	per	Balance	Purchases <sup>3</sup>	Required	cords	23.6	per	MMBtu	Est. Therm	%	Heating thru	Actual		
	(cords)	per billing pd.	Required	MMBtu/cd	Day	(cords)	(cords)	per billing pd.	Required	MMBtu/cd	day	perday	per day	Seas.	Feb. 10, 2005	TOP HDD	Date	Line
1.51	· · · · · · · · · · · · · · · · · · ·		1.983	0.040	2.6	1.759			1.741	0.035	2.3	0.835	8.35	58.2	1.18	37	1/4/05	123
1.46		*=*	2.035	0.052	3.3	1.713				0.046	2.9	1.084	10.84	59.8	1.54	48	1/5/05	124
1.40			2.094	0.059	3.8	1.661				0.052	3.3	1.219	12.19	61.5	1.73	54	1/6/05	125
1.35	<u>†</u>		2.141	0.047	3.0	1.620				0.041	2.6	0.971	9.71	62.9	1.38	43	1/7/05	126
1.31	1		2.186	0.046	2.9	1.580			1.920	0.040	2.6	0.948	9.48	64.2	1.34	42	1/8/05	127
1.28	1		2.218	0.032	2.0	1.552			1.948	0.028	1.8	0.655	6.55	65.1	0.93	29	1/9/05	128
1.24			2.258	0.040	2.6	1.517			1.983	0.035	2.3	0.835	8.35	66.3	1.18	37	1/10/05	129
1.19			2.301	0.042	2.7	1.480		e dina tan	2.020	0.037	2.4	0.881	<b>8.8</b> 1	67.6	1.25	39	1/11/05	130
1.16		1.085	2.338	0.037	2.4	1.447		0.952	2.053	0.033	2.1	0.768	7.68	68.7	1.09	34	1/12/05	131
1.11			2.389	0.051	3.3	1.402			2.098	0.045	2.9	1.061	10.61	70.2	1.50	47	1/13/05	132
1.05			2.449	0.060	3.8	1.350			2.150	0.053	3.4	1.242	12.42	71.9	1.76	55	1/14/05	133
0.99			2.508	0.059	3.8	1.298			2.202	0.052	3.3	1.219	12.19	73.6	1.73	54	1/15/05	134
0.93			2.565	0.058	3.7	1.247			2.253	0.051	3.2	1.197	11.97	75.3	1.69	53	1/16/05	135
0.88			2.612	0.047	3.0	1.206			2.294	0.041	2.6	0.971	9.71	76.7	1.38	43	1/17/05	136
0.84	1		2.651	0.039	2.5	1.172	. 4.1		2.328	0.034	2.2	0.813	8.13	77.9	1.15	36	1/18/05	137
0.82			2.679	0.027	1.7	1.148			2.352	0.024	1.5	0.565	5.65	78.7	0.80	25	1/19/05	138
0.80			2.700	0.022	1.4	1.129			2.371	0.019	1.2	0.452	4.52	79.3	0.64	20	1/20/05	139
0.76			2.734	0.034	2.2	1.099			2,401	0.030	1.9	0.700	7.00	80.3	0.99	31	1/21/05	140
0.72			2.778	0.044	2.8	1.061			2.439	0.038	2.4	0.903	9.03	81.6	1.28	40	1/22/05	141
0.67			2.825	0.047	3.0	1.020			2.480	0.041	2.6	0.971	9.71	83.0	1.38	43	1/23/05	142
0.65			2.850	0.025	1.6	0.998			2.502	0.022	1.4	0.519	5.19	83.7	0.74	23	1/24/05	143
0.62			2.874	0.024	1.5	0.977			2.523	0.021	1.3	0.497	4.97	<b>84.4</b>	0.70	22	1/25/05	144
0.59			2.903	0.029	1.9	0.951			2.549	0.026	1.7	0.610	6.10	85.3	0.86	27	1/26/05	145
0.56			2.938	0.035	2.2	0.920			2.580	0.031	2.0	0.723	7.23	86.3	1.02	32	1/27/05	146
0.52			2.972	0.034	2.2	0.891			2.609	0.030	1.9	0.700	7.00	87.3	0.99	31	1/28/05	147
0.49			3.006	0.035	2.2	0.860			2.640	0.031	2.0	0.723	7.23	88.3	1.02	32	1/29/05	148
0.46			3.039	0.033	2.1	0,831			2.669	0.029	1.8	0.677	6.77	89.3	0.96	30	1/30/05	149
0.42			3.072	0.033	2.1	0.803			2.697	0.029	1.8	0.677	6.77	90.2	0.96	30	1/31/05	150
0.39			3.102	0.030	2.0	0.776			2.724	0.027	1.7	0.632	6.32	91.1	0.90	28	2/1/05	151
0.36	<u> </u>		3.135	0.033	2.1	0.747				0.029	1.8	0.677	6.77	92.1	0.96	30	2/2/05	152
0.33	<b></b>		3.162	0.027	1.7	0.723			2.777	0.024	1.5	0.565	5.65	92.9	0.80	25	2/3/05	153
0.31	<b> </b>		3.183	0.021	1.3	0.705			2.795	0.018	1.2	0.429	4.29	93.5	0.61	19	2/4/05	154
0.29	ļ		3.201	0.019	1.2	0.689			2.811	0.016	1.0	0.384	3.84	94.0	0.54	17	2/5/05	155
0.27	<u> </u>		3.225	0.024	1.5	0,668			2.832	0.021	1.3	0.497	4.97	94.7	0.70	22	2/6/05	156
0.23	<u> </u>		3.265	0.039	2.5	0.633			2.867	0.034	2.2	0.813	8.13	95.9	1.15	36	2/7/05	157
0.18	ļ		3.312	0.048	3.1	0.591			2.909	0.042	2.7	0.994	9.94	97.3	1.41	44	2/8/05	158
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Heating values reference: "Wood for Fuel Heating" John P. Slusher University of Missouri Extension (rev. 8/2/05)

			Heating					20% MC Ast	1 firewood		In	ventory		30% MC Ash	firewood		In vento	rv
$\square$			Percent of		Staff		Loads <sup>1</sup>	Cds/day	Cumulative	Cords	Wood	Daily	Loads <sup>1</sup>	Cds/day	Cumulative	Cords	Wood	Daily
		Actual	Heating thru	%	Est. Therm	MMBtu	per	23.6	cords	Required	Purchases <sup>3</sup>	Balance	per	20.7	cords	Required	Purchases <sup>a</sup>	Balance
Line	Date	TOP HDD	Feb. 10, 2005	Seas.	per day	per day	day	MMBtu/cd	Required	per billing pd.	(cords)	(cords)	Day	MMBtu/cd	Required	per billing pd.	(cords)	(cords)
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198	3/19/05	24																
199																		

			Heating					20% MC Ast	1 firewood		In	ventory		30% MC Ash	firewood		In vento	iry
			Percent of		Staff		Loads <sup>1</sup>	Cds/day	Cumulative	Cords	Wood	Daily	Loads'	Cds/day	Cumulative	Cords	Wood	Daily
		Actual	Heating thru	%	Est. Therm	MMBtu	per	23.6	cords	Required	Purchases <sup>3</sup>	Balance	per	20.7	cords	Required	Purchases <sup>3</sup>	Balance
Line	Date	TOP HDD	Feb. 10, 2005	Seas.	perday	per day	day	MMBtu/cd	Required	per billing pd.	(cords)	(cords)	Day	MMBtu/cd	Required	per billing pd.	(cords)	(cords)

Footnotes:

<sup>1</sup>Loads per day - Based on Homestead Wood Stove, Model No. 8570-4110 H, 2.0 cubic foot firebox capacity, which will hold 0.016 cord of wood.

The value represents the number of times per day firebox would need to be filled and the contents completely burned.

(2.0 cu. fl/id x 23.6 MMBtu/cd)/128 cu. ft/cd = .369 MMBtu/load

\*First heating degree day recorded by NWS for 2004-05 heating season.

<sup>3</sup>Purchase dates are approximated based on "Complaint", Exhibit A

Exhibit MY-8 Commission Order (January 20, 2006) Docket No. 05-AQLG-1056-COM Docket No. 18-WSEE-328-RTS Exhibit MY-8 Page 1 of 7

2006.01.20 11:40:37 Kansas Corporation Commission /S/ Susan K. Duffy

## THE STATE CORPORATION COMMISSION OF THE STATE OF KANSAS

Before Commissioners:	Brian J. Moline, Chair
	Robert E. Krehbiel
	Michael C. Moffet

In the Matter of the Complaint Against Aquila, ) Respondent by James H. Thorp, III Complaint ) as to Unjust and Unreasonable Estimated ) ) Billing for Heating Season Sent at End of Docket No. 05-AOLG-1056-COM March 2005 Without Letter or Telephone Call ) From Utility Company Despite its Knowledge ) No Later Than November 10, 2004 of Meter ) Malfunctioning Since August 9, 2004. )

## ORDER

NOW, the above-captioned matter comes before the State Corporation Commission of the State of Kansas (Commission). Having examined its files and records, and being duly advised in the premises, the Commission finds and concludes as follows:

## I. Procedural History

1. On May 20, 2005, James H. Thorp (Complainant) filed a Complaint alleging that Aquila, Inc., d/b/a Aquila Networks – KGO (Aquila) unfairly charged him for natural gas service, and that certain other Aquila billing and collection practices were improper. The Complainant is a residential customer. The Commission subsequently served the Complaint after Staff review pursuant to K.A.R. 82-1-220.

2. On June 15, 2005, Aquila filed an Answer to the allegations and requested that the Commission deny relief sought by the Complainant.

3. On August 25, 2005, the Complainant filed a Motion to Amend the Complaint, together with an Amended Complaint. The Commission subsequently served the Amended Complaint after Staff review pursuant to K.A.R. 82-1-220.

4. On September 6, 2005, Aquila filed an Answer to the Amended Complaint. Aquila again requested that the Complaint be denied.

5. On December 5, 2005, the Commission Staff (Staff) filed a Report and Recommendation containing an analysis of the Complaint. Staff recommended that the relief requested by the Complainant be granted in part and denied in part.

6. On December 16, 2005, the Complainant filed a Response to Staff's Report and Recommendation, arguing that certain aspects of Staff's analysis were flawed, and other portions needed clarification. The Complainant also further articulated his concerns about Aquila's collection practices.

7. On December 16, 2005, Aquila filed a Response to Staff's Report and Recommendation, agreeing with most of Staff's conclusions. Aquila objected to a portion of the Report and Recommendation that asked the Commission to require Aquila to place the word "Estimated" on all estimated bills, including bills generated after a meter failure is discovered.

8. On December 22, 2005, Aquila filed a Reply to the Complainant's response concerning the application of late fees. Aquila acknowledged that the late fees were applied improperly and explained that this was an error.

9. On December 23, 2005, Staff filed a Reply to the Response of Aquila, arguing that notification of customers concerning estimated bills was mandated by the Billing Standards.

10. On December 30, 2005, the Complainant filed a Reply stating that an incorrect alteration had been made to the Complainant's bill and subsequently had been reversed.

11. On January 5, 2006, Aquila filed a Reply indicating that it again had made some billing errors relating to the disputed amount in this docket.

## II. Analysis

12. There are three main issues in this docket: (1) The amount billed for gas service during the 2004-2005 heating season, (2) the fairness of Aquila's billing and collection practices, and (3) the legality of certain tariff provisions in light of K.S.A. 66-117d.

13. Aquila has stated it has no objection to the majority of Staff's conclusions and recommendations, including those regarding the amount of refund. Additionally, Aquila has agreed to file a revised tariff within thirty (30) days of the date of this Order to comply with K.S.A. 66-117d. Response of Aquila to Staff's Report and Recommendation, 1-2.

14. The Complainant expressed disagreement with Staff's technical analysis related to the amount of natural gas used during the past heating season. The Complainant argued that Staff's analysis is not accurate regarding the efficiency of his wood-burning stove, and that the recommendations of Staff did not sufficiently resolve the dispute. Complainant's Response to Staff Report and Recommendation, 4.

15. Determining the efficiency and heat output of the Complainants stove is a complicated, technical, and inherently subjective matter. The Commission concludes that the analysis provided by Staff in its Report and Recommendation and attached memorandum is well-reasoned and provides the most reliable indication of usage presented in this docket. Adjustment to the estimated usage was appropriately determined by Staff and recovery should be granted accordingly.

16. The Complainant argues that Aquila should revise its billing practices in several ways, citing the unfairness of the practices he experienced. Staff concluded that the perception

of unfairness in this docket was the result of several atypical errors, and recommended that Aquila should not be required to alter its notification practices or take any other similar corrective action. The Commission concludes that the disconnection notices sent and late fees applied in this docket were not the result of intentional conduct. The Commission agrees with Staff's analysis, and concludes that Aquila made several missteps in attempting to hold the disputed amount separate from on-going billing. The Commission concludes that the problems with the notices and late fees were mistakes, but cautions Aquila to take extra care to avoid any notice of disconnection or assessment of late fees on disputed portions of bills. As Staff noted, shut-off notices sent to a customer who has filed a proper Complaint and has paid current charges minus the disputed amount could be perceived as intimidation. The Commission is concerned that such notices could interfere with the adjudication of a Complaint before the Commission in a manner that would be highly prejudicial to a complaining party.

17. Staff recommended that Aquila be admonished to place the word "Estimated" on all bills based on estimated usage. Report and Recommendation, 7. In Response, Aquila argued that use of the word "Estimated" as a notice requirement only applied to certain limited circumstances, and should not be applied to what it classifies as "adjustments for measurement errors." Response of Aquila to Staff's Report and Recommendation, 2-3. Staff countered that Aquila's arguments were at odds with the clear language of the Billing Standards, and stated that when a utility uses historical figures to generate a bill for natural gas service, an estimate has occurred. Staff, therefore, did not accept the distinction offered by Aquila. Reply of Commission Staff to Response of Aquila, 2.

18. When no actual usage can be established due to the unexpected failure of a meter, Aquila is entitled to use an estimated figure to bill for the gas likely used according to its tariff.

Billing Standards, Sect. I(C). The Commission does not agree that when a meter failure necessitates an estimated usage calculation, the rule pertaining to estimated billing does not apply. Aquila must comply with the clear language Section I(A)(1)(a) of the Billing Standards. The Commission agrees with Staff, and concludes that Aquila must place the word "Estimated" on all bills generated from usage estimates made necessary by meter failures. The Commission agrees with Staff that additional remedies requested by the Complainant relating to billing and collection practices are not warranted at this time.

19. K.S.A. 66-117d prohibits the use of a customer's consumption of renewable energy resources to the disadvantage of that customer. Staff recommended that Aquila be ordered to revise its tariffs, and Aquila agreed. Report and Recommendation, 4-5; Response of Aquila to Staff's Report and Recommendation, 1. The Commission concludes that Aquila should file a revised tariff 30 days from the date of this Order.

20. The Complainant also claims that improper late fees were also applied to his bill. Reply of Complainant to Response of Aquila, 3. The Commission concludes that Aquila should reverse all late fees assessed upon the disputed amount. There is also some confusion regarding how to apply Staff's estimated use adjustment. The Commission concludes, based on Staff's Report and Recommendation, that \$174.07 should be deducted from the disputed portion of the bill, in addition to the 25% already deducted by Aquila.

## III. Conclusion

21. The Commission concludes that the relief should be granted in part and denied in part according to Staff's recommendation with the additional provision regarding late fees. The Commission concludes that Aquila should take the following corrective actions:

(a) Credit the Complainant's account balance an additional \$174.07 according to Staff's recommendation;

(b) Take corrective action for any negative credit history reported, if any such reporting has occurred;

(d) Remove any late fees applied to the disputed amount.

(e) Update the provisions in the General Rules, Regulations, Terms, and Conditions,Section 2.2-b (3) to reflect the obligations placed on it by Kansas Law within 30 daysfrom the date of this order.

22. Aquila is admonished for sending shut-off notices to a customer while a complaint was pending and all portions of the bill were current with the exception of the disputed amount. Additionally, Aquila must include the word "Estimated" on all estimated bills. The Commission concludes that the relief provided above is sufficient and any other requested relief should be denied.

## IT IS, THEREFORE, BY THE COMMISSION ORDERED THAT:

A. Aquila must take corrective action according to paragraph 21 and 22 above.

B. A party may file a petition for reconsideration of this Order within 15 days of the date of this Order. If service is by mail, 3 additional days may be added to the 15-day time limit to petition for reconsideration.

C. The Commission retains jurisdiction over the subject matter and parties for the purpose of entering such further orders as it may deem necessary.

## BY THE COMMISSION IT IS SO ORDERED.

Moline, Chr.; Krehbiel, Com.; Moffet, Com.

JAN 2 0 2006

# **ORDER MAILED**

JAN 2 0 2006

Sucen That Executive Director

Susan K. Duffy Executive Director

MRT/mjc

## **CERTIFICATE OF SERVICE**

I hereby certify that on this 18<sup>th</sup> day of July 2018, a true and correct copy of the above and foregoing Testimony in Opposition to Non-Unanimous Stipulation and Agreement of Madeline Yozwiak on Behalf of Sierra Club and Vote Solar, was electronically delivered to the following individuals:

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