MINUTES OF THE House COMMITTEE ON Energy and Natural Resources	•
The meeting was called to order byRepresentative David J. Heinemann	at
	ol.
All members were present except:	

April 20,

Approved ___

1983

Date

Committee staff present:

Ramon Powers, Research Department Theresa Kiernan, Revisor of Statutes' Office La Nelle Frey, Secretary to the Committee

Conferees appearing before the committee:

Representative Keith Farrar. Charles Perry. Gary Hoffsommer, Technical Systems Engineers. William Brown, The Kansas Power and Light Company. Harold Shoaf, Kansas Electric Cooperatives, Inc.

Representative Ron Fox made a motion that the bill relating to the regulation of falconry be introduced as a committee bill and that it be referred back to the committee for hearing and action. Representative Keith Farrar seconded the motion. The motion was unanimously passed.

HB 2082 - An act concerning contracts for parallel generation services between public utilities and their customers.

Representative Keith Farrar, sponsor of \underline{HB} 2082, testified in support of the proposed legislation. He said passage of \underline{HB} 2082 would establish a "net energy billing" method for parallel generation units with a generating capacity of 20-kilowatts or less. He stated that he felt this billing method most accurately reflects the true economics of most alternative energy devices in that they reduce, but do not eliminate, the net demand on an electric utility's system (see attachment 1).

Charles Perry, owner of a small parallel generation unit, testified in support of \underline{HB} 2082. He told committee members that he owns a small wind generator that is connected with The Kansas Power and Light Company's (KPL) system. He said a two-meter billing system, which is required by law, monitors his kilowatthour production and usage. One of the meters runs when his system produces surplus power, keeping track of how many kilowatthours KPL buys from him. The other meter runs when he has to buy power from KPL, keeping track of how many kilowatthours he buys from KPL. He noted that if \underline{HB} 2082 was enacted, it would allow utility customers who have parallel generating equipment to use a single, non-ratcheted meter for billing purposes. In his case, this non-ratcheted meter would run one direction when he used KPL power and back the other direction when he produced surplus power. The effect would be a net billing for the difference. At present, he said, the buyback rate KPL pays him is less per kilowatthour than what he must pay to KPL. He said he did not expect buyback rates to equal rates charged by utilities, but the rate should grow in proportion to rate increases granted to utilities.

Gary Hoffsommer, Technical Systems Engineers, spoke in support of HB 2082. He said that he sells wind generators, and has a wind generator connected with Kansas City Power and Light Company's (KCPL) system. He stated that KCPL had allowed him to "bank" with them, the surplus power he has generated until a buyback rate is established. He said he thought a reasonable buyback rate should be established which would encourage installation of parallel generation systems such as wind generators.

William Brown, vice-president of The Kansas Power and Light Company, testified in opposition to \underline{HB} 2082 on behalf of the Electric Companies Association of Kansas. He said they oppose \underline{HB} 2082 and consider it to be

CONTINUATION SHEET

MINUTES OF THE _	House C	COMMITTEE ON	Energy and Natural	Resources,
room 423-S Stateho	use, at <u>3:30</u>	X .Yn./p.m. on _	February 10	1983

unwise and unnecessary legislation for the following reasons: (1) the State Corporation Commission has rules and regulations that effectively provide for parallel generation service to utility customers; (2) the requirement to use single, nonratcheted metering for service to small customers creates a loss of data resulting in potential deterioration in utility operating efficiency; and (3) by requiring that all energy supplied by the customer to the utility up to the amount supplied by the utility to the customer be valued at the utility's retail rate, direct subsidy of small parallel generation customers by other utility customers occurs (see attachment 2).

Harold Shoaf, director of government relations and public affairs for the Kansas electric cooperatives, testified in opposition to $\underline{\text{HB 2082}}$. He said federal law dictated that regulating bodies in each state set forth rules for generation with a capacity of less than 100 kilowatts which would make the capacity of 20-kilowatts or less as stated in the bill inconsistent with federal law. He also said that the single non-ratcheted meter means that excess power generated by the customer would run the utility meter backwards and as a result the customer would receive credit at the prevailing retail utility rate. By paying the generator the retail utility rate, the utility would be paying the generator considerably more than avoided cost. He said this would result in the majority of the rural electric consumers subsidizing the few customers with alternative-energy-producing systems (see attachment 3).

A brief discussion followed each of the presentations of testimony on $\underline{\mathtt{HB}\ 2082}$.

There being no further business to come before the committee, the meeting adjourned at 4:30 p.m.

The next meeting of the committee will be held February 14, 1983.

Rep. David J. Heinemann, Chairman

Date Febr	uary 10,	1983
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<u>GUESTS</u>

HOUSE ENERGY AND NATURAL RESOURCES COMMITTEE

NAME	ADDRESS		ORGAN	IZATION	
JERRY JOONADO	TOPRICE		K	32	
D. WAYNE ZIMMERMAN	TOPEKA	THE	FIECTRIC CO	ASSOC.O	FKS
William E. Brown	Topeka	The Kan	pas fower a	I light Co) wyany
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Roy D. Shenkel	K.C.		A.	C. P. C.	
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Attachment 1/2-10-83 House Energy do Natural Resou es

STATE OF KANSAS

KEITH FARRAR
HEPRESENTATIVE, 124TH DISTRICT
STEVENS, GRANT, STANTON,
MORTON, HASKELL COUNTIES
STAR ROUTE
HUGOTON, KANSAS 67951



COMMITTEE ASSIGNMENTS
MEMBER WAYS AND MEANS
JOINT COMMITTEE ON STATE SUILDING
CONSTRUCTION
INCLINANCE

HOUSE OF REPRESENTATIVES

HB 2082

Energy and Natural Resources Committee
February 10, 1983

Mr. Chairman, Members of the Committee, HB 2082 establishes for those parallel generation units with a capacity of 20 kw or less the simplified net energy billing method. Wind electric systems fit into energy conservation in many ways similar to the solar water heater. They harness natural forces for use by the homeowner at the homeowners expense. Unlike the solar system however, a wind electric system can go beyond the confines of the homeowner's premises and directly inject an occasional surplus of energy into the electric utility system. Because the small wind system does not put out amounts of energy greatly in excess of the homeowner's demands, there is usually a net energy purchase from the utility, hence the term "net energy billing."

The "net energy billing system" is the most appropriate system for small wind electric plants (under 25 kw) because it most accurately reflects the true economics of most alternate energy conservation devices in that they reduce, but do not eliminate the net demand on the utility system. Under this system, the wind system owner uses first all his privately generated energy and then he draws any excess he needs from the utility. During the month, between meter readings, there may be several hours, or even days, when his machine backfeeds excess electricity into

the utilities system. This is simply a "loan" of surplus electricity that the homeowner will draw back during a calm period. The intent is again energy conservation and a reduction of the individuals demand on the utility.

The cost of the single meter system is less (it's already installed). The primary purpose of the wind machine is to reduce ones own load, not sell to the utility. Special meter arrangements are only needed by those actively trying to sell energy such as "wind farms" etc.

I believe we need to encourage the installing of wind energy systems, over a broad area, in order to establish the dependability of those systems. The utilities need the information on reliability, as well as the owner of the system. The only argument I have heard against the bill is that a portion of the electricity that is sold back to the utility would be subsidized by all the customers. I believe this would be minimal, and is one of the reasons the size of the generation equipment is limited to 20 kw and less. I feel the potential benefits to all the customers, by reducing the need for high price time of day rates or fuel adjustment rates as more parallel generation systems are added to the utility system, will more than offset any potential subsidy.

I also feel the passage of this bill would result in the units size being matched more closely to the owners needs, plus establishing a predictable value for all wind energy produced.

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Surplus electric power homeowner's problem

By NANCY D. BORST Capital-Journal state staff writer

AWRENCE — Charlie Perry knew he had a problem when the January 1979 electric bill for his rural home came to \$300.

"When you spend too much money on utilities, it's like pouring money down a rathole," says Perry, a hydrologist with the U.S. Geological Survey in Lawrence.

When he built the home in 1974, the power company told Perry he would get special rates if he used electricity as his sole power source. But the monthly bills were bomb-shells rather than savings.

So, after getting the \$300 bill, Perry purchased a wood burning stove and realized it was time to put to use his interest in an alternative source—wind power.

Since mid-January, three blades, each 23 feet in diameter, have rotated in the wind atop an 80-foot tower southeast of the Perry home, 10 miles south of Lawrence. A wind of 7 mph will start the generator, which reaches its maximum capacity of 10 kilowatt hours at a wind speed of 25 mph.

In its first few weeks of operation, the wind generator has produced 1,400 kwh of electricity. Perry estimates his house and farm use between 30 and 40 kwh hours a day.

But Perry still has what he considers a problem. His wind system sometimes produces surplus power, more than the Perry family can use. By law, Perry has to sell his surplus power back to Kansas Power and Light Co. He doesn't mind that, but he doesn't think the buyback rates are fair.

Under terms of a contract Perry signed with KPL, he can purchase power from the utility when his wind generator does not produce enough electricity. It costs Perry 5.3 cents for each kwh hour he buys from KPL.

However, when Perry's wind generator produces more power than he can use, KPL will buy the surplus at only 1.6 cents a kwh hour.

Hal Hudson, director of public affairs for KPL, says the company considers that a fair rate because the utility probably can produce the same power at less expense.

A two-meter billing system required by law depicts the discrepancy in rates.

As power comes down off Perry's wind generator, it passes into a synchronous invertor, which regulates the erratic voltage into a steady 60 cycle current that then passes into his home's breaker box.

Perry's sytem is not equipped to store excess power, so any surplus automatically flows out of the breaker box to a meter and back to KPL power lines.

One meter runs when Perry's system produces surplus power, thus keeping track of how many kwh at 1.6 cents an hour KPL buys from Perry. The other meter runs when Perry has to buy power from KPL, keeping track of how many kwh at 5.3 cents an hour Perry buys from KPL.

Perry hopes a bill now in the Kansas Legislature and a challenge of buyback rates will help him achieve a more equitable setup.

The bill, which has passed the House and is in the Senate Transportation and Utilities Committee, would allow utility customers who install parallel generating equipment to use a single, non-ratcheted meter for billing purposes.

Perry says a single meter would save him a lot of money. The meter would run one direction when Perry uses KPL power and back the other direction when he produces surplus power. The effect would be a net billing for the difference.

KPL opposes a single meter billing system, Hudson said.

Perry says the difference between two meters and one is significant and always will be as long as there is a difference in the rates. With the two-meter system, he figures it will take him 20 to 25 years to recoup his \$21,000 investment in his wind system, considering present buyback rates.

But with one meter, he figures he'll recoup his investment in only seven years.

Figured into recovering his investment are about \$5,500 in federal and state tax credits he can take for the wind generator. Perry said he also can depreciate the wind generator for tax purposes as a piece of farm machinery because it powers farm equipment.

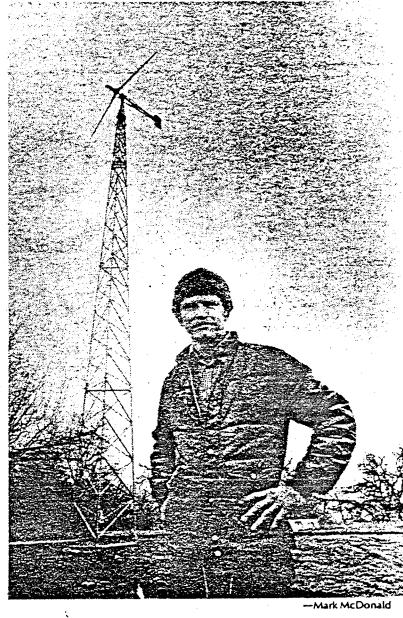
Here is the difference between two meters and one meter when the rate charged by the utility differs from the buyback paid by the utility.

For example, let's say Perry's system produces 150 kwh of electricity one day and none the next two. He uses 50 kwh each of the three days. That means he sold 100 kwh to KPL the first day and then bought back 100 kwh hours over the next two days.

With one meter, there would be no net amount owed either way for those three days. The meter swings 100 kwh one way and 100 back for a net of zero.

But with two meters and present rates, Perry would have sold \$1.60 in electricity to KPL the first day and bought \$5.30 back over the next two days, a loss of \$3.70 to Perry for the three days.

Plus, Perry always pays a minimum of \$9 a month to KPL - \$6



A wind generator atop an 88-foot tower can produce 18 kilowatt hours of electricity in a 25-mile-an-hour wind for Charlie Perry, who lives near Lawrence. But the rates at which he sells his surplus power to Kansas Power and Light leaves him disgruntled.

because he lives in the country and \$3 because he has a parallel genera-

Perry doesn't expect buyback rates to equal rates charged by the utility. But he does expect buyback rates to grow in proportion to rate increases granted to utilities. Perry plans to make that point to the Kansas Corporation Commission by challenging the 1.6 cent buyback rate.

Eva Powers, KCC attorney, said Perry's action probably would take the form of a protest, stating the buyback rates are unfair. The KCC heard evidence last April from persons who questioned the buyback rates, but Powers said there has been no final order yet.

The KCC could direct KPL to reconsider its buyback rate or the commission could set a new buyback rate, she said.

Hudson said the present rate was established in September 1979 by the KCC. KPL is opposed to a single meter billing system because it discriminates against other electric customers without wind generators, Hudson said.

He said surplus power from wind generators is not reliable and wher it is purchased for 1.6 cents a kwh the only savings to KPL is a de crease in coal being burned.

The net effect is usually a loss to KPL because KPL usually can produce the power cheaper itself. Other customers' bills are adjusted upward accordingly, he said.

Hudson said there are only six wind generator customers who have buyback contracts with KPL. Seven more contracts are pending. KPI serves 278,000 customers.

Despite the contention the buy back rates cause other customers to pay more, Hudson said, "The generators do not put enough power into our system to be worthwhile. We contend there is absolutely no reliability in that."

KPL will buy Perry's surplupower whenever it is produced Some states, such as Missouri, will contract to buy surplus power only at certain times of day

at certain times of day.

Hudson said, "Kansas Power and Light is not opposed to wind generators. It would be worth more to us it we could count on it."

TESTIMONY OF WILLIAM E. BROWN ON HOUSE BILL No. 2082

THE ELECTRIC COMPANIES ASSOCIATION OF KANSAS OPPOSES HOUSE BILL No. 2082 AND CONSIDERS IT TO BE UNWISE AND UNNECESSARY LEGISLATION FOR THE FOLLOWING REASONS:

House BILL No. 2082

- 1) THE STATE CORPORATION COMMISSION AFTER INVESTIGATION AND PUBLIC HEARINGS HAS ISSUED RULES AND REGULATIONS, THAT EFFECTIVELY PROVIDE FOR PARALLEL GENERATION SERVICE TO UTILITY CUSTOMERS IN COMPLIANCE WITH K.S.A. 66-1,184.
- 2) THE REQUIREMENT TO USE SINGLE NONRATCHETED METERING FOR SERVICE TO SMALL CUSTOMERS (THOSE WITH LESS THAN 20 KILOWATTS CAPACITY) CREATES A LOSS OF DATA RESULTING IN POTENTIAL DETERIORATION IN UTILITY OPERATING EFFICIENCY.
- 3) By REQUIRING THAT ALL ENERGY SUPPLIED BY THE CUSTOMER TO THE UTILITY UP TO THE AMOUNT SUPPLIED BY THE UTILITY TO THE CUSTOMER BE VALUED AT THE UTILITY'S RETAIL RATE, DIRECT SUBSIDY OF SMALL PARALLEL GENERATION CUSTOMERS BY OTHER UTILITY CUSTOMERS OCCURS.

STATEMENT OF
WILLIAM E. BROWN - VICE PRESIDENT
THE KANSAS POWER AND LIGHT COMPANY
ON
House Bill No. 2082

MR. CHAIRMAN, MEMBERS OF THE COMMITTEE:

I AM WILLIAM E. BROWN, VICE PRESIDENT OF THE KANSAS POWER AND LIGHT COMPANY AND I AM SPEAKING ON BEHALF OF THE ELECTRIC COMPANIES ASSOCIATION OF KANSAS.

I AM HERE TODAY TO SPEAK IN OPPOSITION TO HOUSE BILL No. 2082. WE ARE OPPOSED TO THIS BILL BECAUSE IT WILL SUBSIDIZE A FEW AND INCREASE THE RATES OF MANY AS I WILL EXPLAIN.

House Bill No. 2082 would amend K.S.A. 66-1,184 primarily by ADDING NEW REQUIREMENTS FOR THE RELATIONSHIP BETWEEN A UTILITY AND SMALL PARALLEL GENERATION CUSTOMERS WHOSE GENERATING CAPACITY IS 20 KILOWATTS OR LESS.

PARALLEL GENERATION, AS YOU KNOW, IS THE OPERATION OF CUSTOMER OWNED GENERATING SYSTEMS THAT OPERATE IN PARALLEL TO AND CONNECTED WITH THE UTILITY SYSTEM. THE MOST NOTABLE EXAMPLE IN KANSAS OF SMALL FACILITIES ARE THE CUSTOMER OWNED WIND GENERATORS, BUT THERE ARE SEVERAL OTHER POSSIBLE APPLICATIONS.

K.S.A. 66-1,184 ALREADY REQUIRES THAT UTILITIES CONNECT CUSTOMER GENERATING EQUIPMENT, AND THAT THE CUSTOMER BE PAID FAIR AND EQUITABLE COMPENSATION FOR ENERGY SUPPLIED TO THE UTILITY.

The State Corporation Commission in Docket No. 115,379-U has fully investigated and held public hearings on rules and regulations governing connections and on the rates that utilities should pay for excess energy supplied by a customer to a utility. These actions, completed in 1982 are now in effect and available to any customer in Kansas served by utilities under their jurisdiction.

THE RATES TO BE PAID FOR THE PURCHASE OF ENERGY FROM A CUSTOMER ARE ESTABLISHED ON THE ACTUAL COSTS THAT WILL BE AVOIDED BY EACH UTILITY. THEY VARY EACH MONTH TO TRACK THAT UTILITY'S ACTUAL COST OF FUEL SAVED BY RECEIVING POWER FROM A CUSTOMER AND INCLUDE A CAPACITY CREDIT AND ACCOUNT FOR REDUCTION IN LINE LOSSES. AS SUCH THEY PROVIDE "FAIR AND EQUITABLE" COMPENSATION TO A CUSTOMER.

Using a single "non-racheted meter" for service to these customers creates two immediate problems. First, by not being able to measure energy supplied to or taken from a utility system, the utility loses track of its energy resources and its resulting costs of operation. While the potential input from one wind generator may be relatively small, in the aggregate it may be significant. Such a loss of information might cause operating inefficiency or make planning decisions difficult. For these reasons alone we feel that it is essential that meters be installed that will measure the flow of energy both to and from the customer through the connection with the utility system.

SECOND, AND MORE IMPORTANT, IF A SINGLE METER THAT WILL "RUN BACKWARDS" TO MEASURE ENERGY SUPPLIED FROM THE CUSTOMER TO THE UTILITY IS USED WE WOULD BE EFFECTIVELY PAYING A CUSTOMER OUR RETAIL RATE FOR HIS ENERGY. THIS PROVISION WOULD DENY THE UTILITY RECOVERY OF THE COSTS WE INCURRED TO PROVIDE SERVICE USED BY THE CUSTOMER AND WOULD AUTOMATICALLY SUBSIDIZE HIM AND DISCRIMINATE AGAINST ANY OTHER CUSTOMER WHO DID NOT OR CAN NOT HAVE A SMALL GENERATING SYSTEM OF THEIR OWN.

This is true since the utility retail rate covers all costs to serve including fuel, the ownership and operating costs of generating plants, transmission systems and the distribution system. The only costs avoided by the utility immediately is the fuel not burned and some energy losses within the delivery system. Over time there may also be some generating capacity costs avoided. But the delivery system, including transmission and distribution facilities, operating and maintenance, labor, depreciation, property taxes, interest, return and income taxes must be there whether we are deliverying power generated by the utility to customers or power generated by one customer to another customer.

If we paid the full retail rate to a customer for his generation, as would happen under House Bill No. 2082, you have a three fold effect on other customers. First, we do not recover the costs of deliverying any energy used by the generating customer from him; Second, if we pay him full retail rates for his power delivered to us we pay him our delivery costs; and Third we again incur the delivery costs when we transport his power to be used by another customer.

Since all these costs must ultimately be recovered from someone, House Bill No. 2082 will subsidize a generating customer and raise the rates to all other customers. This is discriminatory, since not all customers will have the same opportunity to become small parallel generators themselves. Some cannot, because they cannot afford the investment in their own generators; some cannot since they located in areas where adequate wind or other resources are not available; and some cannot since they live in urban or other areas. Where zoning and other restrictions will prohibit their development.

THE DEVELOPMENT OF ALTERNATIVE ENERGY RESOURCES MUST BE ENCOURAGED, BUT ULTIMATELY ANY RESOURCE MUST STAND ON ITS OWN ECONOMIC VALUE TO OFFER US A SOLUTION TO OUR ENERGY PROBLEMS. THE LEGISLATURE IS ALREADY ENCOURAGING DEVELOPMENT THROUGH THE TAX CREDITS GRANTED AND THROUGH THE PRESENT PARALLEL GENERATION LAW. FURTHER SUBSIDY, THAT MUST BE BORN BY OTHER UTILITY CUSTOMERS IS WRONG, AND I ASK THAT HOUSE BILL No. 2082 NOT BE ENACTED.

Attachme t 3

STIMONY PRESENTED, FEBRUARY 10, 1983, TO THE HOUSE ENERGY AND 'NATURAL RESOURCES COMMITTEE PERTAINING TO HB 2082 BY HAROLD SHOAF.

House Energy and Natural Resource

Mr. Chairman and members of the Committee, I am Director of Government Relations and Public Affairs for the Kansas Electric Cooperatives. Kansas Electric Cooperatives (KEC) is the statewide organization of thirty-seven (37) electric cooperatives serving electricity to more than 450,000 Kansans.

The rural electric cooperatives encourage and support research for new energy alternatives. We concur with the concept that all energy alternatives must be developed to meet our future energy needs. We, for years, have encouraged conservation and are ready and willing to work with our consumer/members in developing new energy alternatives.

Kansas RECs have no quarrel with the concept of HB 2082. do, however, have problems with the mechanics of implementation of the bill. The aspect of the bill with which we take issue is the requirement of the use of single non-ratcheted meter when the customer's generator has a capacity of less than 20 kilowatts. First, the 20 kilowatts is inconsistent with federal law. Federal law has dictated that the regulating bodies in each state hold hearings on cogeneration and small power production setting forth the rules for generation with a capacity of less than 100 kilowatts. Secondly and most important, the single non-ratcheted meter means that excess power generated by the customer would run the utility meter backwards and as a result the customer would receive credit at the prevailing retail utility rate. Within this retail rate, in which the utility serves a customer, the utility is required to supply the required electrical energy capacity, the electrical distribution system, all overhead general and administrative expenses and margins.

RECs contend that allowing the meter to run backwards and thus paying the generator the retail utility rate, the utility would then be paying the generator considerably more than avoided cost. They would be paying the generator a higher rate than they can purchase reliable electrical energy elsewhere. A situation would then be created in which the utility would very often be providing the customer high cost electricity during peak usage while being reimbursed by the small power producer at relatively low cost off-peak periods. Wind generators for instance have a very intermittent supply cycle and thus do not provide reliable capacity. The results would be that the majority of the rural electric consumers would be subsidizing those few customers with alternative energy producing systems.

Let me share the thought with you that a friend mentioned to me recently regarding such a plan. He stated that "the single non-ratchet meter compares to a dairyman with 150 cow operation being compelled to buy milk at retail price from his neighbor who has only one cow as well as being compelled to deliver the milk at no cost." Most dairymen would not be inspired by such an arrangement.

As mentioned earlier in Docket 115,379-U, April 1982, the State Corporation Commission, as mandated by federal law, investigated cogenerator and small power production. State law also authorizes the State Corporation Commission to settle disputes and develop rules and regulations in this matter. The Kansas RECs agree with the conclusion reached by the Corporation Commission in which two meters for these types of systems are specified. Again on November 5, 1982, the State Corporation Commission again asserted as in the original order that two meters shall be used. The Commission also concluded that nongenerating utilities such as distribution rural electric cooperatives

should pay cogenerators and small power producers, the utilities' cost of energy plus the same capacity credit as their principal wholesale electric supply source. While the rural electric cooperatives feel that this a very liberal rate to be paid for this source of electrical energy, primarily because of its questionable capacity, tariffs have been filed with the Corporation Commission to this effect. We feel that this matter is a ratemaking, not a legislative issue. In ratemaking issues, consideration must be given to not only the cogenerator but also the utility and its consumer/members.

Mr. Chairman and members of the Committee, thank you for this opportunity to express our thoughts regarding House Bill 2082.