Exhibit No.:	
Issues:	Commitment to Provide Low or No Cost Weatherization Assistance to Aquila Electric Low-Income Customers and Energy Efficiency Services to Residential and Commercial Customers
Witness:	Anita C. Randolph
Sponsoring Party:	Missouri Department of Natural Resources - Missouri Energy Center
Type of Exhibit:	Direct Testimony
Case No.:	ER-2005-0436

AQUILA NETWORKS ELECTRIC RATE CASE

FILED²
OCT 14 2005
Missouri Public Service Commission

DIRECT TESTIMONY

OF

ANITA C. RANDOLPH

MISSOURI DEPARTMENT OF NATURAL RESOURCES

ENERGY CENTER

October 14, 2005

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

DIRECT TESTIMONY OF
ANITA C. RANDOLPH

DIRECTOR
MISSOURI DEPARTMENT OF NATURAL RESOURCES
ENERGY CENTER

CASE NO. ER-2005-0436

(This page intentionally left blank.)

Q. Please state your name and address.

A. My name is Anita C. Randolph. My business address is Missouri Department of Natural Resources, Energy Center, 1101 Riverside Drive, P.O. Box 176, Jefferson City, Missouri 65102-0176.

Q. By whom and in what capacity are you employed?

A. I am employed by the Missouri Department of Natural Resources as the director of the Missouri Energy Center (MEC). The MEC is located within the Missouri Department of Natural Resources, Policy Division, an agency of state government with its executive office located in Jefferson City, Missouri.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the Missouri Department of Natural Resources (DNR), an intervenor in these proceedings.

Q. Please describe your educational background and business experience.

A. I attended the University of Missouri and received a Bachelor of Journalism degree in 1974. In addition, I attended the University of Oklahoma and received a Master's in Public Health degree in 1988 with a specialty in environmental management. I have worked as a research analyst in the Missouri House of Representatives' House Research office. In this capacity, I developed legislative approaches for environmental, energy and natural resource issues for the Energy and Environment, State Parks, and Mining legislative committees. Prior to becoming the director of the Missouri Energy Center, I was employed by the Missouri Department of Transportation in its Office of Transportation Planning and Policy Development. In this position I worked directly with Missouri's Congressional Delegation, the Missouri Governor's Office and the Missouri General Assembly on legislative and

appropriation issues affecting Missouri's transportation system. On July 13, 1998, I was appointed director of the MEC, formerly the Missouri Division of Energy.

Q. What is the purpose of your direct testimony in these proceedings?

A. The purpose of my testimony is to address the proposed $78.6 million annual electric rate increase by Aquila, Inc. (Aquila), d/b/a Aquila Networks – MPS (MPS) and Aquila Networks – L&P (L&P). I also will focus on low-income residential customers served by Aquila and the commitment by Aquila to implement a low-income residential weatherization assistance program consistent with federal weatherization assistance guidelines; and, the commitment by Aquila, Inc. to implement energy efficiency services for its residential and commercial customers. Finally, I will address wind energy assessment efforts by Aquila. The MEC seeks an on-going commitment by Aquila to provide funding following this electric rate case to support weatherization assistance for its low-income residential customers, energy efficiency services and programs for its residential and commercial customers and implementation of alternative electric generation opportunities that may be identified by Aquila's forthcoming wind resource assessment in its Missouri electric service territory.

Q. Please describe the format and content of your direct testimony as it relates to this electric rate case.

A. My direct testimony will first address low-income energy issues and the difficulties low-income customers face in paying their utility bills, the need for weatherization assistance for the company's low-income residential customers and the benefits of weatherization to low-income households as well as other rate-payers and the utility company. Following the low-income issue, I will address residential and commercial energy efficiency and the opportunity to help customers in using energy more efficiently to help reduce the economic impact of

rising energy costs ultimately passed on to all customers through higher energy rates. Next, I intend to address the need for the company to examine the potential development of alternative energy generation in Missouri based upon the completion of a pending wind energy assessment by Aquila and the subsequent benefits to the company and its customers. And lastly, I will summarize these issues and propose actions and funding amounts to support the proposals offered in my filed direct testimony.

Q. Please briefly summarize Aquila's proposed rate increase and the impact to its residential and commercial customers.

A. Aquila, Inc. is proposing an electric rate increase for its two divisions that operate in Missouri; MPS and L&P. MPS is seeking a $69.2 million annual revenue increase while L&P is seeking a $9.4 million annual revenue increase. In both divisions, the largest portion of the proposed rate increase is directed toward residential and small general use customers, including small commercial customers.

Specifically, of the $69.2 million annual revenue increase proposed for Aquila Networks – MPS, $37.3 million, or 54 percent is targeted toward residential customers and $10 million or 14 percent is targeted toward small general use customers, including small commercial customers. Combined, this represents $47.3 million or nearly 68 percent of the proposed revenue increase.

Under the revised rate schedules filed by Aquila, an MPS residential customer using 1,000 kWh of electricity per month would be subject to a monthly utility bill increase of approximately $11.48 or approximately $138 per year.

Of the $9.4 million annual revenue increase proposed for Aquila Networks – L&P, $4.1 million, or 44 percent is targeted toward residential customers and $0.8 million or 9 percent

is targeted toward small general use customers, including small commercial customers. Combined, this represents $4.9 million or 52 percent of the proposed revenue increase. Under the revised rate schedules filed by Aquila, a L&P residential customer using 1,000 kWh of electricity per month would be subject to a monthly utility bill increase of approximately $4.54 or approximately $54 per year.

Q. Has Aquila proposed energy efficiency programs and budgets outside of this general rate case?

A. Yes. In fact, Aquila has proposed a series of energy efficiency programs with substantial budgets through 2010.

Aquila prepared for the PSC a document titled "Aquila Networks State of Missouri Electric Demand-Side Management Plan, 2006 – 2010 dated April 15, 2005. (Data Request, MDNR-0010, Matthew Daunis, September 30, 2005). Aquila proposes a program budget that starts at approximately $2.5 million in 2006 growing annually until 2010 when the company proposes to expend approximately $5 million, approximately one percent of Aquila's electric revenues in Missouri.

Aquila convened a Missouri DSM Advisory Group and held meetings on June 28, 2005 and September 28, 2005 to discuss its proposed energy efficiency programs and cost-recovery options. For 2006, the company proposed five (5) energy program areas (Data Request, MDNR-009, Matthew Daunis, Aquila, October 5, 2005):

(1) Residential Programs ($968,000) include a Lighting program, Thermal Envelope Improvements program, a Heating and Cooling Equipment program, Programmable Thermostats & HVAC Maintenance program, a Residential New Construction Program and a Residential Audit program;

(2) Non-Residential Programs ($970,200) include a Comprehensive Commercial & Industrial Program (audits);

(3) Public Purpose Programs ($490,000) include low-income weatherization, low-income energy education, affordable housing and a school based energy education program;

(4) Research and Development Programs ($95,000) to fund other energy efficiency and demand response efforts;

(5) Demand Response Programs ($0) include direct load control and critical peak pricing. Following 2006, the company proposes to fund this activity at $150,000 in 2007 with additional funding through 2010.

Q. Did Aquila's rate application dated May 24, 2005 propose any funding or support for any energy efficiency service or program?

A. No. Aquila has filed new electric tariffs with the Missouri Public Service Commission (PSC) that will increase annual revenues to the company by $78.6 million to address "higher fuel costs and new investments Aquila has made to serve the demand of our customers. The cost of fuel, both gas and coal, necessary to operate our generating facilities has continued to escalate dramatically since our last rate adjustment in 2004. In addition, we have added significant investments in plant, particularly new generation facilities in our MPS service territory, to support customer growth." (Gary L. Clemens, Aquila, Inc. May 24, 2005) Aquila did not include any revenue requirements to support its existing energy efficiency programs or for programs the company is currently considering in its Demand Side Management Planning or Integrated Resource Planning efforts.

Q. Please briefly describe the energy efficiency and renewable energy resource projects that Aquila agreed to under its last rate adjustment ER-2004-0034.

A. On March 16, 2004, the parties to PSC Case number ER-2004-0034 filed a Unanimous Stipulation and Agreement addressing issues related to the case. On March 30, 2004, the Staff of the PSC filed suggestions in support of the agreement. On April 5, 2004, the PSC held an on-the-record presentation of the agreement. The PSC issued its Order Approving Stipulation and Agreement effective April 22, 2004 and addressed, among others, that "Aquila agreed that it will supply, through shareholder funds, a one-time funding of $75,000 to conduct tall tower wind assessments as described in the direct testimony of MDNR witness Anita Randolph, to be initiated on or before January 1, 2005. Aquila further agrees to fund through shareholder funds, on an annual basis and until the next general rate proceeding involving Aquila's Missouri electric rates, $93,500 that may be used for a low-income weatherization program that is consistent with federal weatherization assistance program guidelines, commercial energy audit and/or Change-A-Light program." (Unanimous Stipulation and Agreement, ER-2004-0034, Missouri Public Service Commission, March 16, 2004 and Order Approving Stipulation and Agreement, ER-2004-0034, Missouri Public Service Commission, April 13, 2004)

Since annual funding for energy efficiency and one-time funding for renewable energy resource development approved in ER-2004-0034 is effective until such time the PSC authorizes modifications to the company's revenue requirements or the operational law dates for tariffs filed on May 24, 2005, the MEC has intervened in this rate case to assure Aquila's commitment in supporting energy efficiency and renewable resource development programs following the disposition of this electric rate case.

Q. Is there evidence that identifies the need for weatherization assistance?

A. Yes. An April 2003 report titled "On the Brink: The Home Energy Affordability Gap in Missouri" (Fisher Sheehan & Colton, April 2003), it was found that home energy is a crippling financial burden for low-income Missouri households. As noted in the report, "Missouri households with incomes of below 50% of the Federal Poverty Level pay 38% or more of their annual income simply for their home energy bills." And home energy unaffordability was not an exclusive characteristic of the very poor. "Bills for households between 50% and 100% of Poverty take up 13% of income. Even Missouri households with incomes between 150% and 185% of the Federal Poverty Level often have energy bills above the percentage of income generally considered to be affordable."

Existing sources of energy assistance do not adequately address the energy affordability gap in Missouri. "Actual low-income energy bills exceeded affordable energy bills in Missouri by nearly $273 million at 2001/2002 winter heating fuel prices. In contrast, Missouri received a gross allotment of federal energy assistance funds of $38.7 million for Fiscal Year 2003. During the 2002/2003 winter heating season, the unaffordability gap increased to more than $321 million.

"The energy affordability gap in Missouri is not created exclusively, or even primarily, by home heating and cooling bills. At 2001/2002 winter heating prices, while home heating bills were $354 of a $1,273 (annual utility) bill (27.8%), electric bills (other than cooling) were $543 (42.7%). Annual cooling bills represented $117 in expenditures (9.2% of the total bill), while domestic hot water represented $258 in expenditures (20.2%)."

In other words, the largest part of a residential electric bill is for general use throughout the household (baseload). Therefore, as electric utility rates increase in Missouri, the home

energy affordability gap grows. As this gap increases, more low-income households are unable to pay either a portion or their entire energy bill.

Utility billing assistance funding has great merit, but does very little to address the need for long-term and sustainable benefits for low-income households. Weatherization improvements help low-income households to use energy more efficiently resulting in long-term benefits to both the customer and to the utility by reducing utility bills and arrearages.

Q. Do a large number of low-income homes in Missouri still need to be weatherized?

A. Yes. A significant number of low-income households in Missouri are in need of energy-efficiency improvements. Information gathered from the state Weatherization Assistance Program (WAP) which is administered by the Missouri Department of Natural Resources' Energy Center, shows that from 1978 (beginning of the program in Missouri) through June 30, 2005, approximately 147,244 homes have been weatherized in Missouri. The MEC estimates that approximately 450,000 eligible homes remain (as identified by the U.S. Census Bureau, Table P93. Ratio of Income in 1999 to Poverty Level by Household Type – Missouri). (In Missouri State Fiscal Year 2001, the eligibility was increased from 125% to 150% of the poverty level in response to the 2000 – 2001 heating crisis, resulting in approximately 100,000 additional homes meeting the eligibility criteria.) Clearly, on-going and additional sources of low-income energy-efficiency services are needed.

Q. What is the estimated number of Missourians currently on weatherization waiting lists?

A. Statewide, as of October 1, 2005, more than 3,700 families are currently on weatherization waiting lists.

Q. How many new applicants are added to that list annually?

A. On average, more than 2,300 Missouri households are added to that waiting list annually.

Q. Please describe changes made to the Weatherization Assistance Program that focus on electricity.

A. In addition to electric related energy efficiency measures such as furnaces, water heaters, insulation and replacement windows and doors just to name a few, the U.S. Department of Energy has added electric base-load (or electric plug-load) measures to the federal program regulations effective January 1, 2001. This is an evolution in the federal and state guidelines, allowing the program to move toward whole-house energy efficiency. Typically, addressing just the heating and/or cooling cost of a dwelling unit accounts for about half of the unit's energy expenditures. The addition of cost-effective electric base load measures gives the state and local weatherization agencies greater flexibility to help low-income households reduce their energy costs and to partner with sources of leveraged funds, including electric utilities.

These measures include replacement lighting, replacement electric water heaters and other electric appliances such as refrigerators.

The Empire District Electric Company's low-income weatherization program established in PSC Case number ER-2004-0570 will include base-load measures.

Q. What are some of the general benefits of low-income residential weatherization?

A. As noted earlier in my testimony, home heating is a high cost for individuals with low income. Overall, low-income households that qualify for weatherization spend more of their income on energy needs compared to non-low-income households. The decision and ability to pay one's utility bill often compete with other necessities. Many low-income individuals live in older homes equipped with older, less-efficient heating systems and generally lack energy-efficiency items such as insulation.

Weatherization reduces annual space heating fuel consumption by 35.9 percent for homes using electricity for heat. For homes using natural gas for heat, weatherization reduces space heating fuel consumption by 33.5 percent. (Source: "Progress Report of the National Weatherization Assistance Program," Oak Ridge National Laboratory, September 1997.) Weatherization is a cost-effective means to help low-income individuals or families pay their energy bills year after year for the life of the energy-efficiency product. Weatherization reduces the amount of state and federal assistance needed to pay higher utility bills, keeps money in the local economy, results in a positive impact on the household's promptness in paying utility bills, reduces arrearages and helps to reduce environmental pollution through energy efficiency. (Source: The Economics of Low-Income Electricity Efficiency Investment; A Report Prepared for the Entergy Corp., Oppenheim & MacGregor, January 8, 2002)

Q. Are there utility benefits from low-income energy efficiency services?

A. Yes. In addition to looking at energy-efficiency from a household perspective, it is beneficial to examine the benefits of a low-income energy-efficiency program from the perspective of energy service providers. Research has found that low-income energy-efficiency programs result in substantial non-energy savings to utilities. These non-energy savings include reductions in working capital expense, uncollectible accounts, credit and collection expenses, and others.

Q. Please describe utility billing arrearage for Aquila.

A. According to Aquila, customers receiving electric service from the company have had difficulty in meeting their monthly utility bill. And, in fact, the number of accounts in arrearage and the total arrearage in dollars has grown over the last three years.

According to Aquila, as of June 30, 2003, the company reported approximately 177,466 accounts in arrearage (commercial firm, industrial firm and residential combined) with a total arrearage amount totaling $19 million. (MDNR-016, Paul A. Meyers, Aquila, October 2, 2005).

As of June 30, 2004, the company reported approximately 174,074 accounts in arrearage (commercial firm, industrial firm and residential combined) with a total arrearage amount exceeding $23 million. (MDNR-016, Paul A. Meyers, Aquila, October 2, 2005).

As of June 30, 2005, approximately 184,494 accounts were in arrearage with a total arrearage amount exceeding $28 million.

On an annualized basis, the number of accounts in arrearage has increased by approximately 4 percent while billing arrearages in dollars owed has increased by over 47 percent.

Q. Please briefly describe billing arrearages for Aquila's residential customers.

A. The majority of Aquila's customers are within the residential class. During the 24-month period ending June 30, 2005, Aquila reported in 2003 as many as 160,000 residential customers in arrearage with a total of $18.6 million owed to the company. In 2004, that number increased to 162,000 with over $19 million in outstanding payments. For the first 6 months of 2005, as many as 162,000 residential customers were in arrearage with an outstanding balance of over $16 million due to the company. (MDNR-016, Paul A. Meyers, Aquila, October 2, 2005). In all likelihood, the number of residential customers for 2005 in arrearage and the total arrearage in dollars will rise since arrearages peak during the 3rd quarter of each year.

Q. Could low-income residential weatherization assistance address arrearage issues?

A. Yes. Presuming that a low-income annual heating bill in Missouri is estimated at $354 (at 2001/2002 winter heating prices) or 27.8% of an annual total electric household utility bill as noted by the April 2003 report "On the Brink: The Home Energy Affordability Gap in Missouri", a savings of 35.9 percent due to weatherization improvements could help reduce space heating demand. The improved efficiency in electric space heating could result in annual savings of $127 per year ($354 x .359 = $127). Over the life of such improvements, typically 20 years, the accrued savings would be approximately $2,540 for the low-income household ($127 x 20 = $2,540 at 2001/2002 winter heating prices), assuming no further increase in space heating cost. Such savings have been shown to help the low-income household meet its monthly utility bill and help reduce arrearage collections for the utility.

Q. Please describe the relationship between residential billing arrearage and utility service disconnects.

A. According to Aquila, for the 24-month period ending June 30, 2005, over 28,000 residential Aquila electric customers experienced service disconnects due to billing arrearage (Data Request, MDNR-006, Danny Gillam, Aquila, October 2, 2005). From June to December 2003, nearly 15,000 MPS residential customers were disconnected due to utility billing arrearage with over 7,000 disconnects during the months of September and October – just prior to the 2003/2004 winter heating season. During 2004, over 9,000 MPS residential customers suffered disconnects due to utility billing arrearage with over 2,000 disconnects during the months of September and October. During the first six months of 2005, Aquila has disconnected over 4,000 MPS residential customers.

For the L&P division, over 2,000 residential customers were disconnected during the last 6 months of 2003 with over one-half of those disconnects occurring in September and October.

In 2004, L&P disconnected nearly 2,300 residential customers and have disconnected over 1,000 residential customers during the first six months of 2005.

Clearly, residential customers, many of whom are low-income, are having difficulty in meeting their monthly utility bills. Weatherization assistance coupled with low-income heating energy assistance could help reduce the number of residential disconnects related to non-payment or late payment of electric utility bills.

Q. Please describe natural gas expense increases and the impact on both residential electric and natural gas customers.

A. The patterns of natural gas price volatility and its impact on all consumers started several years ago – and is expected to substantially impact gas consumers this winter based on new record natural gas prices since July 2005. The volatility of natural gas supply and price has impacted consumers that rely on gas to heat their homes and businesses and energy utilities that generate electricity through natural gas combustion units. This new demand for natural gas places additional pressure on natural gas supplies and prices. Missouri's electric utilities used about 7 billion cubic feet (Bcf) of natural gas in 1997, 16 Bcf in 1998, 19 Bcf in 1999 and 30 Bcf in 2000 – an average increase of 23 percent per year. (Governor's Energy Policy Council, June 2003 report, pg. 6).

Beginning with the summer of 2000, natural gas prices began rising across the country. As we entered the 2000-2001 winter heating period, natural gas spot market prices had increased from approximately $2.00 per Mcf (1,000 cubic feet) to over $10. During the winter of 2002-2003, wholesale natural gas prices spiked 287 percent higher than they were in the winter of 2001-2002, moving from $2.36 to $9.13 per million Btu (MMBtu) (Missouri Energy Bulletin, March 26, 2003). The natural gas spot price has remained high in historical

terms. Throughout most of 2003, the average spot price for natural gas was above $4.00 per MMBtu, reaching a peak of over $9.00 per MMBtu in late February 2003.

Q. Do you expect winter heating expenditures to increase during the 2005-2006 winter period?

A. Yes. Hurricanes Katrina and Rita have had a devastating impact on both oil and natural gas production in the Gulf Coast Region. Following these events, the price for natural gas moved as high as $15 per MMBtu on the New York Mercantile Exchange for January delivery. As of this writing, natural gas prices were slightly under $14 per MMBtu, up 56 percent from the peak that occurred in February 2003 and up by over 490 percent from the price of natural gas in 2001-2002.

According to the latest projections by the U.S Department of Energy's Energy Information Administration (EIA), natural gas expenditures for residential space heating in the Midwest are projected to increase by approximately 48 percent over 2004-2005 expenditures. Due to higher natural gas costs, the EIA also projects that electricity expenditures on average will increase 5 percent this winter. Should colder weather prevail, expenditures could be significantly higher. (Source: EIA, Short-Term Energy Outlook, October 12, 2005)

Q. Please briefly describe how Missouri households heat their homes.

A. According to the U.S. Census Bureau, approximately 57 percent of all Missouri households heat with natural gas while approximately 25 percent heat with electricity. About 13 percent heat their homes with propane, with the balance heating with other forms of energy or using no heating fuels at all.

Q. Please describe the current weatherization program administered by Aquila.

A. Prior to April 2004, the weatherization program offered by Aquila was limited to eligible residential electric customers and was initiated on July 1, 1999. The program was not offered to residential natural gas customers served by either Aquila MPS or Aquila L&P. The program offered a limited number of energy conservation measures including compact fluorescent lamps (light bulbs), electric water heater tank wrap, electric water heater pipe wrap, low flow shower-head, kitchen aerator, floor insulation, attic insulation, wall insulation and duct repair. The program provided an annual budget of approximately $24,000. (Data Requests ER-2004-0034, MDNR-33 through MDNR-38, MDNR-46, MDNR-47, MDNR-61, MDNR-62, MDNR-66, MDNR-74 and MDNR-75, Matthew Daunis, November 25, 2003, Aquila, Inc.)

Pursuant to the Stipulation and Agreement approved by the PSC regarding Aquila's last electric rate case, ER-2004-0034 and effective April 22, 2004, Aquila has provided funding to local community action agencies responsible for implementing the Missouri Low-Income Weatherization Assistance Program (LIWAP). The program is administered jointly with the state LIWAP in a manner consistent with federal weatherization assistance program guidelines. From November 1, 2004 through June 30, 2005, Aquila has expended approximately $33,000 of its $50,000 annual budget to weatherize approximately 13 Aquila low-income homes. (Data Request, MDNR-0014, Matthew Daunis, Aquila, October 11, 2005)

Q. Please describe the funding level required to support a low-income weatherization assistance program by Aquila, Inc.

A. Aquila, Inc. currently provides service to approximately 260,000 residential electric customers in 30 Missouri counties (Data Request, MDNR-001, Roland Maliwat, Aquila,

October 3, 2005). According to the community action agencies currently providing weatherization services within Aquila, Inc.'s service territories, approximately 108 Aquila, Inc. low-income households (both electric and gas heat) are on waiting lists to receive weatherization services. In order to meet these customers' needs and additional Aquila customers that may be added to the weatherization assistance waiting list in future months, we request the PSC to approve annual funding of $108,000 for low-income weatherization until such time specific action is taken by the PSC to terminate the program. This utility-based weatherization assistance fund would supplement federal weatherization program funds and allow approximately 50 Aquila low-income households to receive weatherization assistance annually. This is based on an average expenditure of $2,150 per household from Aquila's weatherization fund ($2,150 x 50 homes = $107,500). These funds should be used to weatherize Aquila's low-income electric homes and install appropriate cost-effective base load measures. The program should be designed to be consistent with federal guidelines for the federal Low-Income Weatherization Assistance Program.

Q. Please describe the need for residential energy efficiency.

A. By definition, energy efficiency improvements will reduce household energy bills because they will be using less energy to achieve the same level of comfort. Energy efficiency recognizes the truism that Missouri households do not seek to consume energy. Instead, what they seek is to have light, hot water, refrigeration and heating and cooling. If these end uses can be delivered using less energy, the needs of Missouri consumers will have been satisfied.

In its August 29, 2001, final report, the Missouri Public Service Commission's Natural Gas Commodity Price Task Force recognized the need for energy efficiency programs by its

recommendation that "the (Missouri Public Service) Commission should pursue incentive measures for encouraging energy efficiency." The report included this explanation of the need for efficiency programs: "Effective energy efficiency programs can address the barriers that inhibit customers from making investments in energy efficiency improvements – lack of money or competing demand for available funds, the perception that up-front costs are more important than long-term savings and lack of technical expertise."

In addition, the Commission established the Long-Term Energy Affordability Task Force on March 3, 2004 to examine "possible programs to improve long-term energy affordability for persons who need help with their utility bills." The task force considered innovative ways to finance weatherization and energy efficiency measures for homes and buildings and ways to provide financial assistance to customers facing mounting energy bills on low and fixed incomes. The mission statement unanimously supported by the task force was to "develop recommendations for effective, consistent and suitably funded energy programs that provide consumers with greater access to affordable service."

Q. Briefly describe the benefits of residential and commercial utility-based energy-efficiency services.

A. The Missouri Energy Policy Task Force recommended in its October 16, 2001 final report, that "Missouri pursue incentives funded through various sources to encourage the increased development of energy efficiency and renewable energy to provide for a more secure energy future." The Task Force report cited the following benefits to customers, utilities, the economy and the environment: "Missourians would benefit greatly from investments in energy efficiency and renewable resource programs. Efficiency programs provide assistance to customers by helping to reduce their energy usage and utility bills, which is particularly

important when energy prices are high and volatile. System reliability and resilience are improved by reducing vulnerability to disruptions in energy supplies through efficiency and a diversified fuel mix. Long-term costs can be lowered by reducing expenditures by gas and electric utilities to upgrade their infrastructure to meet increasing demand. Investments in energy efficiency and the resulting lower energy costs coupled with the development of domestic renewable energy will improve the ability of businesses to compete, keep energy dollars closer to Missouri, increase customers' discretionary income, preserve natural resources and reduce pollution."

Q. What is the cost comparison of energy efficiency to new electric generation?

A. Energy efficiency is appropriately viewed as an energy resource like coal, oil or natural gas. In contrast to supply options for new generation such as drilling for more natural gas or mining coal, energy efficiency helps contain energy prices by addressing demand-side efficiencies instead of increasing supply. This means that energy efficiency provides additional economic value by preserving natural resources and reducing emissions. It is difficult to accurately compare investments in energy efficiency measures, often referred to as demand-side management (DSM), to investments in building new generation plants or supply-side resources. Economic comparisons of efficiency and supply-side investments require that consideration of the life-cycle cost of the options are addressed on an integrated basis, such as the interaction of the change in usage patterns with the generation function of the utility must be considered over the expected life of the options. (Source: "Electric Utility Demand Side Management 1998," U.S. Department of Energy, Energy Information Administration.)

While cost calculations will vary by region and individual utility, the U.S. Department of Energy (USDOE) has used the cost of energy in cents per kilowatt hour (kWh) saved as an index for making approximate comparisons between the cost of energy efficiency programs and new generation plants.

In a recent report issued by the Rocky Mountain Institute in 2001, it was found that the average cost of implementing energy efficiency has been 2 cents per kWh with the best-designed programs costing less. In contrast, each kWh generated by an existing power plant costs an average of 5 cents or more.

Q. What are some of the statistics related to energy efficiency investments and potential in Missouri?

A. The Alliance to Save Energy, a nationally recognized coalition of prominent business, government, environmental, and consumer leaders who promote the efficient and clean use of energy worldwide to benefit consumers, the environment, economy and national security, issued a report in 1998 addressing energy-efficiency improvements to homes. It was found that residential energy-efficiency improvements could reduce energy consumption in Missouri by an estimated 567 billion Btu's, or the equivalent of approximately 100,000 barrels of crude oil each year. The Alliance reported that, of the 34 states studied that had not adopted the 1993 Model Energy Code, Missouri ranked 5th highest in terms of potential total energy savings and 5th highest in potential energy savings per home.

In a report to the Missouri Legislature pursuant to House Concurrent Resolution 16 titled "Economic Opportunities Through Energy Efficiency and the Energy Policy Act of 1992", Missouri specific opportunities and benefits of commercial energy efficiency programs were addressed. The report found that if Missouri had met its mandatory obligation set forth in the

Energy Policy Act of 1992 (to adopt a state-wide commercial building efficiency standard by 1995), the result would have been a reduction in the cumulative consumption of energy by new commercial buildings built between 1995 and 2000 by 4 trillion BTUs, the equivalent of nearly 700,000 barrels of oil per year. The cumulative operating cost savings for Missouri commercial building owners would have been nearly $68 million by the year 2000. The report goes on to say that this potential is "dwarfed by the energy consumption of the pre-1995 standing commercial building stock." This existing commercial building stock would benefit from energy efficiency programs.

Q. Does Aquila offer residential, commercial and/or industrial energy efficiency services or products?

A. Yes. According to Aquila, the company provides energy efficiency services or products for their residential, commercial and industrial electric customers (Data Requests, MDNR-007, Matthew Daunis, Aquila, October 11, 2005; MDNR-008, Matthew Daunis, Aquila, September 30, 2005; MDNR-020, Matthew Daunis, Aquila, September 30, 2005; and, MDNR-030, Matthew Daunis, Aquila, September 30, 2005). As of June 25, 2005, Aquila offered the following energy efficiency programs: Residential Low-Income Weatherization ($50,000 annual), Residential Mail In Energy Audit Program ($0 annual), Residential Lighting Program ($20,000 annual), Commercial and Industrial Energy Audits ($23,500 annual). Aquila also reports that they have joined a utility coalition to promote energy efficiency in the Greater Kansas City marketplace through energy education, resources and actions.

Q. Do you request any changes to these energy efficiency programs?

A. Yes. I encourage Aquila to continue to work collaboratively with the Missouri DSM Advisory Group they have convened, to develop and implement energy efficiency programs for their customers. Until these programs are determined, I propose that Aquila fund the following programs: (1) Low-income weatherization, (2) Residential Home Performance with ENERGY STAR, (3) Commercial energy audits and incentives, and (3) Change-a-Light Program. I suggest Aquila partner with other utilities in their region and organizations, as appropriate, to coordinate similar programs or improve program effectiveness.

Q. What is the Home Performance with ENERGY STAR (HPWES) program?

A. HPWES is a voluntary program sponsored by EPA that began in 2001. According to EPA's website, HPWES is "an effort to use the ENERGY STAR brand to help encourage and facilitate whole-house energy improvements. Rather than labeling a particular product, or even a home, Home Performance with ENERGY STAR is linked to the building performance contracting service. The effort emphasizes consumer education, value and "one-stop" problem solving. While the program goal is saving energy, its market-based approach and message focus on addressing a variety of customer needs, from comfort to durability to health and safety. It also encourages the development of a skilled and available contractor/provider infrastructure that has an economic self-interest in providing and promoting comprehensive, building science-based, retrofit services." (http://www.energystar.gov/index.cfm?c=pt_reps_home_performance.pt_reps_home_performance_what)

HPWES begins with a homeowner selecting a qualified contractor to provide a comprehensive evaluation of a home's energy efficiency to determine which improvements will provide the most benefit. The inspection includes a visual and diagnostic inspection of

all of the home's thermal and mechanical efficiency including attics, exterior walls, windows, basement, heating and hot water systems. Diagnostics include air infiltration testing and duct leakage testing, combustion safety testing, and where possible electric baseload analysis. The inspection leads to targeted advice on the home's energy and maintenance problems, and an effort to sell the improvements to the homeowner. Participating contractors could perform any and all of the recommendations, on a fee basis, including installation of energy efficient lighting products, insulation, windows, HVAC equipment, water insulation blankets, and providing air-sealing and duct-sealing-all using best practices. Alternatively, contractors could maintain a list of providers for those services not provided directly, and could help with coordination.

Q. Is there an existing HPWES program in Missouri?

A. There are currently twelve HPWES partners identified on EPA's web site, including programs in St. Louis and Kansas City. The Missouri Department of Natural Resources Energy Center is working with the Missouri Botanical Gardens in St. Louis and the Metropolitan Energy Center in Kansas City to develop a market for contractors who are skilled in whole house diagnostics and performance; however, the programs are small and need additional support. To date, six contractors in the Kansas City area have received training and have been certified by the Kansas Building Science Institute. There is a need to train additional contractors in the whole-house diagnostic approach and to publicize and promote the program to Kansas City area homeowners. As a member of the Heartland Utilities for Energy Efficiency coalition, Aquila has taken some initial steps to support this Kansas City Home Performance with ENERGY STAR program by providing limited funding to be used for initial workshop design and implementation. Other partners involved

with this program include Kansas Corporation Commission and EPA. I request that Aquila support the Home Performance with ENERGY STAR program through annual funding of $100,000 to professionally train and certify private sector contractors and to promote and market the program to its residential customers until such time the PSC takes specific action to terminate the program.

Q. Do you request other changes to Aquila's energy efficiency programs?

A. Yes. In addition to contributing funds to the Kansas City area Home Performance with ENERGY STAR program, I request that the Commercial Energy Audit Program be redesigned and continued annually after June 30, 2005 or until such time the PSC takes specific actions to terminate the program. (Data Request, MDNR-0020, Mathew Daunis, Aquila, September 30, 2005). The program should be structured to provide incentives for commercial customers to implement the energy efficiency measures identified in the energy audit. The MEC requests $75,000 annually to make this program available to both MPS and L&P commercial customers and to include incentives to encourage implementation of energy efficiency measures identified in the energy audit. A similar commercial audit program is offered by AmerenUE pursuant to EC-2002-1.

Recently, Aquila, Inc. became a utility partner with the ENERGY STAR program, a program sponsored by the U.S. Department of Energy and the U.S. Environmental Protection Agency helping businesses and individuals protect the environment through superior energy efficiency.

I request that Aquila, Inc. provide annual funding in the amount of $40,000 to promote the Change A Light, Change the World program in the company's service territory until such time the PSC takes specific action to terminate the program. Aquila participated in the

Change A Light, Change the World program, a national lighting campaign facilitated by the ENERGY STAR program and centered on light fixtures and light bulbs that have earned the ENERGY STAR label. Aquila provided $20,000 to fund the program from October 1, 2004 through June 30, 2005 and dispensed its total target number of light bulbs well within the 9-month program. (Data Request, MDNR-007, Matthew Daunis, Aquila, October 11, 2005)

Q. Is Aquila evaluating the potential for wind energy resource development in Missouri?

A. Yes. Aquila is a partner with DNR to assess wind energy resource development pursuant to the Stipulation and Agreement established in Aquila's last electric rate case, ER-2004-0034. According to Aquila, an agreement outlining the scope of work and performance objectives on a tall tower wind assessment in Aquila's Missouri service territory was sent on August 24, 2005 by Aquila to the University of Missouri – Columbia for signature and formal implementation.

Q. Does Aquila invest in wind energy?

A. Yes. I commend Aquila for their leadership in diversifying their resource mix by including wind energy. Aquila has a 16 percent ownership share (0.12 MW) of the Jeffrey Energy Center wind turbines and purchases power on long-term contract from the Gray County Wind Farm. Both sources are located in Kansas. MPS and L&P currently purchase 40 Mw and 20 Mw, respectively, of wind energy based electricity from the Gray County facility. Further, Aquila has not dedicated any future funds pending results of the Missouri tall tower wind assessment and other analysis. (Data Request, MDNR-0036, Jerry Boehm, Aquila, October 11, 2005)

Q. What funding level would be required to adequately support energy efficiency programs for Aquila's residential, commercial and industrial electric customers presented by your testimony?

A. As noted earlier in my testimony, Aquila is targeting the largest proportion of this rate increase to its residential and small commercial electric customers. In order to help Aquila's residential and commercial electric customers face rising energy costs, they should be offered the opportunity to continue to improve the way they use energy and help to reduce their energy expense.

Aquila (as of June 2005) serves approximately 295,346 electric customers, which includes 260,000 residential customers and about 35,000 small commercial customers.

Aquila's MPS provides electric service to approximately 230,000 customers; approximately 203,000 are residential customers and 28,000 are general service customers that include small commercial. Aquila's L&P serves approximately 65,000 electric customers; approximately 58,000 are residential customers and 7,400 are general service customers that include small commercial. The Energy Center requests that Aquila, Inc. implement the proposed residential and commercial energy efficiency programs annually as follows until such time the PSC takes specific action to terminate the programs:

Low-Income Residential Weatherization Assistance

Annually fund $108,000 to continue Aquila's low-income residential weatherization assistance program consistent with federal weatherization guidelines through local community action agencies operating within Aquila's electric service territory. If the cost of the program was allocated to all customer classes, the per customer/month expense is projected to be $0.03.

Presuming an average savings to investment ratio of 1:2.5, low-income households could realize a net benefit of $705,000 per year or $5.4 million dollars over the life of this investment ($108,000 x 2.50 x 20 years = $5,400,000).

Residential Energy Efficiency -- Home Performance with ENERGY STAR

Fund at $100,000 in annual costs to support the Kansas City area Home Performance with ENERGY STAR program. If the cost of the program was allocated to all customer classes, the per customer/month is projected to be approximately $0.03.

Change A Light, Change the World

Annually fund $40,000 to participate in the Change a Light, Change the World program within the Aquila service territory. If the cost of the program was allocated to all customer classes, the per customer/month expense is projected to be $0.01.

Commercial Energy Audit

Fund $100,000 annually for a commercial energy audit program with incentives for implementation of energy efficiency measures. If the cost of the program was allocated to all customer classes, the per customer/month expense is projected to be $0.03.

Q. Please summarize the estimated cost per customer to implement these energy efficiency programs.

A.

Efficiency Program	Annual Funding	Cost per Customer/Month
Weatherization Assistance	$108,000	$0.03
Home Performance with ENERGY STAR	$100,000	$0.03
Change A Light	$ 40,000	$0.01

Commercial Audit	$ 100,000	$0.03

If costs were allocated to all electric customers served by Aquila (MPS and L&P), the estimated cost per customer would be approximately $0.10 per month.

Q. Does this conclude your testimony?

A. Yes. Thank you.