

EXHIBIT B

MINUTES
JOINT INTERIM COMMITTEE ON ENERGY
Hathaway-Howard Fine Arts Center Auditorium U of A – Pine Bluff, 1200 N. University Dr.
Pine Bluff, Arkansas
Thursday, September 27, 2018
9:30 AM

The Joint Interim Committee on Energy met at 9:30 a.m. Thursday, September 27, 2018, at Hathaway-Howard Fine Arts Center Auditorium, U of A – Pine Bluff, 1200 N. University Dr., Pine Bluff, Arkansas. The meeting was held during the Arkansas Legislative Black Caucus Annual Retreat.

Committee members present: Representatives Rick Beck, Co-Chair; Mathew Shepherd, Kim Hendren, and Bob Ballinger.

Also attending: Senator Joyce Elliott; Representatives Vivian Flowers, Reginald Murdock, Milton Nicks, and Fredrick Love.

Representative Beck called the meeting to order.

CONSIDERATION TO APPROVE MAY 3, 2018, MINUTES [EXHIBIT C]

Representative Shepherd made a motion to approve the May 3, 2018, meeting minutes. The motion was seconded by Representative Hendren, and the motion carried.

STATE OF RENEWABLE ENERGY IN ARKANSAS

Ms. Katie Niebaum, Director, Arkansas Advanced Energy Association (AAEA) [PowerPoint Presentation #1]

Ms. Niebaum noted AAEA is headquartered in Little Rock and was established six years ago to be a business resource for advanced energy. She noted AAEA encourages increased utilization and manufacture of advanced energy technologies and renewable energy.

Arkansas' largest solar farm is AerowJet Rocketdyne with Arkansas-led cooperatives. AerowJet has announced 140 new jobs over the next two years. More coal producers are interested in solar energy sources, and electric cooperatives from across the state are procuring wind energy which is a growing trend. Arkansas advanced energy buyers are agencies that are deploying energy technologies into their operations. The job growth and impact across the state is visible in surveys and statistics included in the PowerPoint presentation.

Energy policies and efficiency programs are at work, and Arkansas' energy performance contracting is getting into rural areas. Energy technologies worth millions of dollars in contract value work through creating jobs and saving energy and tax dollars.

Senator Elliott asked what proper policies are needed to achieve the precipice of major economic contribution.

Ms. Niebaum said a property's owner gets all the tax credit, but the one who leases/rents the property cannot take advantage of a tax credit which would bring down the lessee's cost.

ENERGY POLICY UPDATE

Mr. Ted Thomas, Chairman, Arkansas Public Service Commission (PSC), noted his primary task is to evaluate risk management. The PSC needs to find a real solution for Arkansas rate payers regardless of what happens to technology fuel coverage policy: maximize the rewards by minimizing the risks.

He said there are no waiting lines for electricity, consumers can use as much as they want, and this drives the economics. During peak load time everything is used, but the economics is driven by what happens when not at peak. There are the coal units and the gas units; consumers need them both to meet peak consumption. When not at peak, which ever energy source sits idle drives the economics.

1. **Generation Shift.** There has been a major shift from coal to gas and some renewables. This happened through the market, and it will reverse if gas prices increase.
2. **Economics of Time of Use.** The consumers' bills are for the average cost of all hours that the consumer uses, but when the costs incur, the costs are not all the same. For example, in the morning people start turning on lights and appliances, and energy usage ramps up. The peak is driven by the hottest day of the summer, so as load is increasing the electric department is turning on units. The cheapest units are run first, and as the load increases the department runs a mix. At peak load, it costs more, and when usage comes down from the peak, the most expensive unit is turned off first, and it continues that way back down the stack. When the consumer's bill is done by average, you can tell consumers when costs are more expensive and the usage is moved to a different time, then the consumer can save money.
3. **Unitization of Fixed Costs.** Fixed costs do not change, but when trying to build a price around fixed costs, it changes because of the quantities sold. As an example, Mr. Thomas said, think about a car and a car payment. One cannot send a note saying, "Did not drive the car this month so not sending a payment, will pay next month when driving." Rate payers are paying for optionality. Energy may not be being used, but it is waiting so it can be used precisely when it is wanted.
4. **Stranded Asset Risks.** Utility assets are tied directly to risks. The value, good or bad, stays with the customer. A cost-compare study factors in a retired coal plant and the nuclear one in Russellville (driver of low costs). It is symmetrical, so rate payers remain responsible for costs even if a plant is no longer in use.

Mr. Thomas noted PSC has been given authority by the legislature to do these things related to distributed energy resources in Docket No. 16-028-U, Order No. 10. [Handout #1]

Representative Ballinger asked about net metering and if the 2019 legislature can help clarify issues or will it be resolved before then?

Mr. Thomas noted net metering is technical, and there are many different technologies. There needs to be an apples to apples price comparison across all of them. The situation with net metering issues is fitting this one piece of the puzzle in with the rest of the puzzle pieces.

Representative Ballinger asked when we can expect all the pieces to come together.

Mr. Thomas stated the prices move and the technology moves. He gave an example using the three TV networks available when he was a kid, saying that programing was all there was available. Now there is Netflix, where programing is set to personal schedules. Think of the evolution from TV to Netflix; it was a process with several steps, and the same is true with this issue.

Representative Ballinger noted when the bill for net metering was passed, the tradeoff was that the net-rate-user would get a retail rate but absorb some costs of the infrastructure. Currently, the second half of the compromise has not been implemented.

Mr. Thomas stated it is pending, and there will be a resolution before the session.

PAYS PROGRAM (PAY AS YOU SAVE)

Mr. Mark Cayce, General Manger, Ouachita Electric Cooperative (OEC) [PowerPoint Presentation #2]

Mr. Cayce noted OEC serves a large percentage of low income and retired people in five south Arkansas counties: Ouachita, Calhoun, Bradley, Dallas, and parts of Nevada County.

A program called Help PAYS is an investment for OEC, which has been doing loans for efficiency improvement for a number of years with great success. The loans were for new insulation and to have windows sealed, but there were limitations. OEC could not help with the big items that consumed energy, such as heat and air conditioning. A large percentage of the OEC population, such as rental property, was not included.

In 2016, OEC went to the PSC and proposed a location-based tariff, not based on the individual but on the property. Participants allowed their homes to be evaluated by certified energy auditors who determined what was needed to make the house more energy efficient. The program allows OEC to invest in new heating and air conditioning systems, and contracts to install insulation, weather sealing, and caulking.

To date, there are 400 certified homes and most of the projects were done with no upfront payment from the member. Participating homes averaged 22% lower electric bills the first year. The savings are calculated and OEC gets 80% to recover its investment, and the member gets 20% of the savings. While the electric bill is lower and the member is using new energy efficient equipment, the member is paying off the loan with no upfront money. The average investment is \$7,000 per home and each individual pays his own way, with no subsidies.

Representative Shepherd asked when the loan has been paid back, if the current homeowner then gets the 100% benefit of the savings. Mr. Cayce said that they do.

OVERVIEW OF GREEN TARIFF

Mr. John Bethel, Director, Public Affairs, Entergy Arkansas, Inc., noted the proposed tariff is a rate schedule for the consumers to take advantage of renewable resources Entergy has introduced into its energy portfolio mix. This currently includes an 81-megawatt solar facility near Stuttgart put into service in June. It is owned and operated by Nextera Energy Resources, and Entergy has a contract to buy all of its output. The PSC has also approved a Nextera 100 megawatt solar facility in Chicot County to be online in 2020.

Entergy has the good fortune to have a diverse mix of resources including hydroelectric facilities, natural gas, coal and nuclear. The nuclear energy accounts for a big portion of Entergy's electric generation capacity in Arkansas, and is a big part of why rates are low in Arkansas.

The formal name of the green tariff is Solar Energy Purchase Option (SEPO). It will allow corporate customers the opportunity to meet their demand for renewable resources without having to make a capital investment to buy their own renewable resource. They will be able to pay for a portion of Entergy's renewable resource and get the benefit of the market revenues associated with the output from the facility and the energy and capacity revenues in the Midcontinent Independent System Operator, Inc. (MISO) energy market. They will also get the benefit of the renewable energy credits associated with the facility that would be an attributable portion of the facility for which they are paying. Corporate customers would be able to purchase energy through 12-month service blocks. Residential customers will have the opportunity to purchase up to 5 kilowatts of capacity, and they can do that in 1 kilowatt blocks for each residential account.

Currently, the proposed rate, 6.4 cents/kilowatt hour is based on the cost of the Stuttgart solar facility. The rate will be modified as Entergy adds additional solar facilities. In addition to the simple cost of it, there is also an additive in the rate to ensure that all customers continue to realize the benefits of the facility's operation.

Senator Elliott asked if there is an equity issue or is it calibrated in such a way that anyone can take advantage of it.

Mr. Bethel stated any customer could take advantage of this and, as mentioned, each customer class has the opportunity to purchase a portion of it. The maximum amount available is up to 50% of the output of the facility's capacity.

EDUCATION CURRICULA & WORKFORCE CERTIFICATION RESOURCES

Dr. Charles Colen, Professor, Industrial Tech. Mgmt. & Applied Engineering Dept. U of A-Pine Bluff (UAPB), noted the curriculum has a new course that teaches about solar, wind, and energy auditing. The course extends to projects to include solar cell research, alternative energy measures, and installation.

Ms. Lisa Williams, Energy Manager – Solar Array, UAPB [PowerPoint Presentation #3]

Ms. Williams stated the university has a 321 kilowatt solar array with 988 panels and 72 cells. She noted her goal is to expose UAPB students to solar projects and providing solar and energy engineering intern opportunities for UAPB students. She would like UAPB engineering students to be involved in organizations that will help them understand what is available, and to take advantage of free training offered by the engineering organizations.

Ms. Melissa Rust, Vice President, Government Relations, University of Arkansas System [PowerPoint Presentation #4]

Ms. Rust noted campuses with green occupation courses within the U of A system. The system's community college sector is significant, and some offer a variety of energy technology course work and vocational programs with certification upon completion. These and other community colleges are all notable:

- Cossatot Community College (CCCUA) is in southwest Arkansas;
- Pulaski Technical College (UAPTC) has campuses in Pulaski and Saline counties;
- Phillips Community College (PCCUA) has campuses in Helena, Stuttgart and Dewitt; and
- Hope Community College (UACCH), near Texarkana.

University programs and extensions offer minors, undergraduate, and graduate degrees such as:

- Sustainability Minor
- Graduate Certificate in Sustainability
- BS in Environmental Engineering
- BS in Environmental Health Sciences

“Green” curricula course work is included in several undergraduate and graduate programs.

Mr. Shane Broadway, Vice President, University Relations, Arkansas State University System, (Electronic Presentation via Washington, DC) and Rajesh Sharma, Associate Professor, Renewable Energy Technology, Arkansas State University (ASU)-Jonesboro [PowerPoint Presentation #5]

Mr. Broadway introduced Dr. Sharma for a PowerPoint presentation. Dr. Sharma noted the career pathway in Renewable Energy Technology (RET) education includes:

- CP-certificate of proficiency
- TC-technical certificate
- AAS-associate of applied science

Dr. Sharma discussed curriculum and course work offered for the RET degree plan at ASU.

Ms. Jami Eubanks, STEM Program Advisor, Office of STEM, Arkansas Department of Career and Technical Education [Handout #2]

Ms. Eubanks stated the program tracks grades 7 through 12 and funding is through state and Perkins funding. She noted her department deals with pre-engineering and computer science programs, but today's focus is on pre-engineering programs. There are 68 high schools and 76 middle schools with pre-engineering programs. Middle schools introduce students to energy in the environment and high schools students do in-depth investigations in principles and sustainability. Students get hands-on projects that allow them to use skills learned in class. The STEM Program helps create a qualified, educated workforce through the energy career pathway in Arkansas.

Representative Flowers asked for a list of schools offering pre-engineering programs.

Representative Beck asked about the different pre-engineering programs in Arkansas and what percent of programs contain a core class versus local interests.

Ms. Eubanks stated 75% or more of the schools have this renewable energy course work shown in the handout. “Principals of Engineering” is a foundational course in the curriculum which includes renewable energy, and the projects include computer, electrical, and mechanical engineering.

OTHER BUSINESS

Representative Hendren asked about a tour of nuclear plants 1 and 2 in Russellville and the spent nuclear fuel rods stored there. He stated committee members need to see the nuclear plant that keeps Arkansans’ lights on and the rates so low, and to see how the spent fuel is still stored on that property.

Representative Hendren made a motion to have a meeting in Russellville, tour the nuclear facility, and discuss nuclear reactors and disposable nuclear waste. Representative Beck seconded the motion, and the motion carried.

ADJOURNMENT

With no further business, the meeting adjourned at 12:05 p.m.

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