

1 PUBLIC UTILITY REGULATORY POLICIES ACT

2 PUBLIC HEARING

3
4
5 April 24, 2007

6 Columbia City Council Chambers
7 701 East Broadway
8 Columbia, Missouri

9
10 BEFORE:

11 John Conway, Hearing Officer
12 Greg Macis, Board Member
13 Tom Baumgardner, Board Member
14 Ernie Gaeth, Board Member

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20 REPORTED BY:

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1 MR. DASHO: Good evening. My name's Dan
2 Dasho, and I'm the director of Water and Light for the City of
3 Columbia. We are here tonight for a public hearing
4 considering the topic of time-based metering in
5 communications.

6 Before we get started with the public hearing,
7 I want to explain the reason for the public hearing and
8 identify the process. The City Council, in its capacity as
9 the governing body of Columbia Water and Light is required to
10 hold public hearings to consider and determine if certain
11 federal rate-making policy standards should be adopted.

12 The City Council passed a resolution on
13 January 16th, 2007 which states that Columbia Water and Light
14 would engage in this formal process. The resolution set the
15 hearing dates as well as named the public presiding officer,
16 John Conway, who is the chairman of the Water and Light
17 Advisory Board.

18 At this time, I'm going to turn the meeting
19 over to the public hearing officer, John Conway.

20 HEARING OFFICER CONWAY: Thank you, Dan.

21 To follow up with Dan, the reason we're
22 holding these public hearings is due to the passage of the
23 2005 Energy Policy Act, which is referred to as EAct. EAct
24 2005 renews and expands the federal government's practice of
25 requiring state regulators of non-regulated utilities of a

1 certain size consider the adoption of certain rate-making
2 standards.

3 Specifically, EAct 2005 has added five new
4 standards to the ten standards outlined previously in the
5 Public Utility Regulatory Policies Act of 1978 and the Energy
6 Policy Act of 1992. These standards -- excuse me. These
7 standards added to Section 111 B of PURPA to address net
8 metering and interconnection, diversity of fuel sources,
9 fossil fuel efficiency, time-based metering and
10 communications.

11 The outline of the procedural requirements for
12 consideration and determination specified by PURPA and the
13 Energy Policy Act states that we must engage in formal
14 consideration of whether to adopt five new federal provisions.
15 It is not required for the City of Columbia to adopt these
16 standards, but a formal process to review and take public
17 comment is necessary.

18 Comments will be accepted for the next two
19 weeks. At the end of the prescribed comment period, the city
20 staff will review the comments presented and will make
21 recommendation to the Water and Light Board -- Water and Light
22 Board and ultimately to the City Council on the topics of
23 these meetings.

24 For our agenda this evening, we'll have two
25 presentations. The first presentation will be on time-based

1 metering and communications by Warren Wood of the Missouri
2 Public Service Commission. Next, the Columbia Light --
3 Columbia Water and Light staff report on time-based metering
4 and communications by Jim Windsor, who is the manager of rates
5 and fiscal planning. Then after that, we'll take public
6 comment.

7 Given that, I'd like to introduce Mr. Warren
8 Wood of the Missouri Public Service Commission. Let's see,
9 Warren. We'll need to work with the court reporter to swear
10 you in.

11 (Witness sworn.)

12 MR. WOOD: Good evening. It's a pleasure to
13 have this opportunity to speak with the Columbia Water and
14 Light Advisory Board on this important topic. My presentation
15 will focus on the Energy Policy Act's time-based metering and
16 communication standards, sometimes referred to as smart
17 metering.

18 This is the specific language in the Energy
19 Policy Act that lays out the time-based metering communication
20 standard. Basically, it indicates that each electric utility
21 shall offer its customer classes and provide individual
22 customers, upon customer request, a time-based rate schedule
23 under which the rate charged by the electric utility varies
24 during different time periods and reflects the variance, if
25 any, in the utility's cost of generating purchase of

1 electricity at the wholesale level.

2 The time-based rate schedule shall enable the
3 electric consumer to manage energy use and costs to advance
4 metering communications technology.

5 So when we talk about smart metering and
6 systems, what are we talking about? Well, to the utility this
7 may be the information network necessary to support more
8 real-time information to customers. This would be an example
9 of the software and hardware -- hardware necessary to support
10 that time of -- that type of real-time information to
11 customers.

12 To the customer, smart metering may be
13 something very different: basically what they can see in
14 their home. Here's an example of a fully integrated smart
15 metered home. We have the meter communicating back and forth
16 with the utility and the utility's ability to communicate with
17 potentially not only the meter, but the thermostat. And you
18 have the ability to have different outlets that respond to
19 different price signals. This is -- this is an example of the
20 high end of such a -- such a program.

21 You could go all the way back to the low end
22 of simply having some of the high-impact easy things like air
23 conditioner cycling programs, thermostats that are capable to
24 respond to pricing signals to change air conditioner settings,
25 things like that.

1 So why do we go to all this trouble and
2 expense? And this is something that the customer's end
3 utility typically -- you know, there's some parsing out of
4 who's doing what to support this sort of infrastructure.

5 Here's an example, a list of some of the
6 possible objectives. Two examples I'll illustrate a little
7 more. Maybe the utility wants to delay additional capacity
8 construction, basically put off or delay additional power
9 plant construction or reduce its overall cost and get away
10 from some of these peak periods and the high cost of energy
11 associated with them, which of course, if those reductions are
12 real, are passed on to all consumers.

13 Basically, in this example you just have the
14 kilowatts and demand and you do things to try to move people
15 away from those peaks.

16 Maybe the utility wants to reduce overall
17 energy usage to reduce bills of customers and possibly reduce
18 overall emissions from the utility. Here you're talking about
19 kilowatt hours.

20 Whatever the objectives, different levels of
21 customer involvement should be considered. You may have
22 regular customer intervention involvement or you may have
23 automatic controls and monitoring.

24 Some schemes that include regular customer
25 involvement may include critical peak pricing notices, regular

1 energy pricing notices, appliance equipment load monitoring.
2 Most obvious in this -- this scenario would be a large
3 industrial customer and notifying them or have agreements in
4 place prior to a peak period to bring them off of the peak
5 with some sort of a -- typically a financial incentive for
6 them to do so.

7 Some schemes may require very little customer
8 involvement after the initial setup, of course. These might
9 include utility cycling of air conditioners and water heaters
10 and programmable thermostats or thermostats that are capable
11 to respond to pricing signals from the utility to make changes
12 in temperature settings.

13 Some of the high impact and easy -- well, and
14 I say easy with question marks. Maybe they are, maybe they
15 aren't. It depends on what infrastructure the utility has in
16 place when they start looking at this. There's the air
17 conditioner cycling programs, industrial peak load curtailment
18 programs I mentioned a moment ago, smart thermostats, customer
19 education programs.

20 And one that I've, you know -- we've looked at
21 a couple of different times at the Public Service Commissions
22 that recently there's been a good presentation actually to
23 Columbia Water and Light and there was some good information
24 shared on the potential for pre-pay credit meter programs and
25 the energy reductions that go along potentially with

1 implementation of those meters.

2 All of Missouri's investor-owned utilities
3 have optional time of use rates, but they vary in their time
4 frame. Some are -- have the granularity of only changing on a
5 seasonal basis in terms of their availability to residential
6 customers. Some go all the way down to hour block periods
7 within days.

8 I should note that our Commission is very
9 interested in this topic. In fact, this is one of three
10 Energy Policy Act issues that will be the subject of a hearing
11 at our building in Jefferson City tomorrow.

12 A pilot program was conducted in southeast
13 Missouri. It was approved by the Commission, associated with
14 a -- with a complaint case with one of the large electric
15 utilities. And there were a couple of -- you know, we had
16 several factors that weigh into the success of these programs
17 that were identified as part of this pilot.

18 Metering costs: Obviously if it's very
19 expensive, it may not be as attractive to customers. And that
20 metering cost in terms of relative potential savings varies
21 with the different classes of customers. If residential
22 customers and the rate differential is small and the metering
23 cost is high, it's unlikely people are going to be very
24 interested. If you're an industrial customer and the metering
25 costs represents a very small percentage of your overall

1 energy costs, those rate differentials may be much more
2 attractive.

3 Customer communication portals: This may be
4 as simple as the little window on the thermostat, as advanced
5 as the computer screen that you use at home.

6 Levels of demand response: Some of the things
7 to think about, what are you hoping to achieve from the
8 program. Customer interest and retention rates: Maybe there
9 will be a lot of interest initially, but is the financial
10 incentive, is the work required to receive that incentive, you
11 know, significant to keep people on the system over time. And
12 automatic versus manual response schemes.

13 The hearing that is going to be held in our
14 building in Jefferson City tomorrow primarily focuses on the
15 issue of prior state action. And that is do we have -- have
16 we either implemented standards or do we have comparable
17 standards in place with all of our investor-owned utilities,
18 electric utilities.

19 And the reason this is of interest right now
20 is because there is a time frame that the Energy Policy Act
21 lays out. And for smart metering, commence consideration by
22 August of last year, a determination by August of '07.

23 And an important clarification here is -- and
24 it may apply here, it certainly applies at the Missouri Public
25 Service Commission -- making a determination that no further

1 action is required per the Energy Policy Act because we have
2 prior state action does not mean the Commission can't, on its
3 own accord, decide that the action that's been taken, more
4 could be done. Okay? But you at least get yourself off of
5 the federal compliance deadlines that the Energy Policy Act
6 spells out.

7 That concludes my presentation. If you have
8 any questions, I'd be welcome to try to answer them.

9 HEARING OFFICER CONWAY: Board have any
10 questions?

11 MR. GEATH: How does the metering work for the
12 individual home owners? Is it by usage of certain appliances
13 or the entire electrical load into the home or --

14 MR. WOOD: Typically it's the entire load into
15 the home. I don't know if you use Cellnet or some other
16 particular AMR equipment on your electric meters or are they
17 read manually? I'm not sure of the technology. Is it a
18 manual read?

19 MR. DASHO: Some of both.

20 MR. WOOD: Okay. Yeah. That's not that
21 uncommon to have both. You will typically have an AMR,
22 automatic -- automated meter reading equipment on the electric
23 meter. And once that's on the meter, it's an issue of utility
24 infrastructure in terms of hardware and software how often you
25 want that read. And the different vendors can support a

1 monthly read to support your typical billing or they can go
2 all the way down to hourly reads and even subsets of hours.

3 But obviously if you take all the customers
4 you serve times all of those readings and you're going to talk
5 some pretty significant hardware and software network
6 capability to receive and process that information, then make
7 it available back to customers, assuming that's what you want
8 to do with it.

9 HEARING OFFICER CONWAY: Other questions?

10 Thank you, Warren.

11 MR. WOOD: Okay. Thank you.

12 HEARING OFFICER CONWAY: Okay. Mr. Jim
13 Windsor.

14 Swear him in.

15 (Witness sworn.)

16 MR. WINDSOR: Good evening. Columbia Water
17 and Light is required by the Energy Policy Act to address
18 Standard 14 in regard to time-based metering and
19 communication. Columbia Water and Light works to encourage
20 conservation of energy supplied by the utility and to optimize
21 the efficiency of electric utilities' facilities and
22 resources.

23 While some programs target specific groups of
24 customers, there are programs that can assist all customer
25 classes in achieving efficiency improvements. For years,

1 Columbia Water and Light has utilized rates to help
2 communicate to customers varying costs of energy.

3 Two examples of how existing rates are related
4 to Standard 14: First, the time of use pricing is set for a
5 specific time period and typically does not change more than
6 twice a year. All customers of Columbia Water and Light are
7 covered by time of use pricing structures.

8 Energy and demand pricing for industrial and
9 large general service customers are higher during the summer
10 season than non-summer season. Residential and small
11 commercial customers are subject to higher summer rates when
12 usage exceeds an established level, 750 kilowatt hours for
13 residential customers and 1500 kilowatt hours for small
14 commercial customers.

15 Columbia Water and Light offers many programs,
16 such as low-interest loans, that can assist customers in
17 reducing their usage, particularly during the summer months.

18 Secondly, credits for consumers who
19 participate in pre-established peak load reduction agreements
20 can reduce the utility's planned capacity obligations.
21 Columbia Water and Light has been utilizing the credit
22 programs for over 20 years.

23 The three credit programs run by Columbia
24 Water and Light are: The load management discount. This
25 program provides a 3 percent discount on summer bills for

1 customers that allow the installation of a load control switch
2 on their air conditioner. Over 13,000 customers participate
3 in this program. It is estimated that six to nine megawatts
4 of peak load was avoided in 2006 through this program.

5 The load shedding program is for large
6 customers, those using over 250 kilowatts. They can receive a
7 credit of \$48 per kW applied over a 12-month period for each
8 kW shed at the request of the utility. Twenty-one customers
9 participate in this program.

10 All customers have recording meters that can
11 calculate the reduction in load. During the summer of 2006
12 peak period, 7.6 megawatts of load were avoided through the
13 load shedding program.

14 And finally there's the interruptible rate.
15 Columbia Water and Light provides an interruptible rate. The
16 rate provides a discount to the customer for interrupting
17 usage when called on by the utility. There are currently two
18 customer that participate in this rate.

19 These customers also have recording meters
20 that can measure the reduction in load. During the summer of
21 2006 peak period, 1.3 megawatts of load was avoided through
22 the interruptible rate program.

23 As stated previously, Columbia Water and Light
24 has numerous conservation efficiency and educational programs
25 that work in tandem with the existing rate structures.

1 Customer are able to see energy costs change during the
2 different seasons and have an economic incentive to
3 participate in energy and demand reduction.

4 Columbia Water and Light will continue to
5 examine programs, services or rate structures that provide
6 value to the utility and to the customer.

7 Current considerations are increasing the
8 discount for participating in load -- in the load management
9 program. Pay-as-you-go metering, which was the item that
10 Warren mentioned a minute ago and a fixed network radio
11 frequency for gathering metering information.

12 These initiatives would require a cost benefit
13 analysis to determine if they are a viable option. The
14 Columbia City Council would make the final decision on any new
15 program or services.

16 Pay-as-you-go meters allow the customer to
17 purchase smart cards or tokens that would represent a monetary
18 value of energy. The customer is provided an interface that
19 is capable of uploading energy credits to the meter through
20 the smart card. The meter shuts off after the credits
21 supplied through the smart card are used. The customer pays
22 for the electricity prior to using it and is much more aware
23 of their daily usage and cost.

24 Almost every new electric meter that is
25 installed by the City of Columbia is equipped with the radio

1 frequency technology. This enables a vehicle to drive by and
2 download the usage. This technology could be modified to
3 provide time and use information either by modifying the
4 existing system or adding a fixed network throughout the city.
5 Drive-by systems can only collect data as often as a vehicle
6 is sent out, which currently is once a month.

7 A fixed network would be able to download the
8 time of use information daily. It would require an extensive
9 network of collection nodes costing between 2,200 and 3,000
10 dollars each. The range of the collection nodes is only a
11 couple of blocks, so it would take a significant number of
12 them.

13 It should be noted that real-time pricing,
14 where rates can change hourly, has been examined and has been
15 determined not to be of interest to the utility at this time.
16 Because the utility provides approximately -- approximately
17 90 percent of its energy requirements through established
18 contracts and local resources, there is not a significant
19 variability in pricing. For the times where variability does
20 occur, hourly costs are not available until well beyond the
21 time that would be meaningful to the customer.

22 That's all I have at this time. If you have
23 any questions, I'll be glad to answer them.

24 HEARING OFFICER CONWAY: Any questions of Jim?

25 Thank you, Jim.

1 Okay. We're now at the public comment. Is
2 there any public comment?

3 Okay. With there being no public comment,
4 please be reminded that written statements on the time-based
5 metering and communications will be accepted two weeks after
6 the -- after this public hearing. Comments can be mailed to
7 John Conway, chairman of the Water and Light Advisory Board,
8 whose address is Post Office Box 6015 Columbia, Missouri
9 65205.

10 With that, the hearing is closed.

11 WHEREUPON, the hearing was adjourned.

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CERTIFICATE OF REPORTER

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I, Tracy L. Thorpe Taylor, a Certified Shorthand Reporter, within the State of Missouri, do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness was taken by me to the best of my ability and thereafter reduced to typewriting under my direction; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken, and further, that I am not a relative or employee of any attorney or counsel employed by the parties thereto, nor financially or otherwise interested in the outcome of the action.

Tracy L. Thorpe Taylor, CSR, CCR

