

**PUBLIC UTILITY COMMISSION OF OREGON
STAFF REPORT
PUBLIC MEETING DATE: July 6, 2004**

REGULAR _____ **CONSENT** X **EFFECTIVE DATE** _____ N/A

DATE: June 24, 2004

TO: Lee Sparling through Ed Busch and Jack Breen III

FROM: Lisa Schwartz on behalf of the Portfolio Advisory Committee

SUBJECT: PORTFOLIO ADVISORY COMMITTEE: Recommendations for Portfolio Options.

SUMMARY RECOMMENDATIONS:

The Portfolio Advisory Committee recommends that the Commission:

1. Require the utilities to continue the Time of Use options in their present form, including the customer guarantee, through 2005.
2. Require that any presentation of the supply mix and environmental impacts for the Fixed Renewable option reflect an average customer (1,000 kWh/month) buying either one block per month or the amount purchased by the average participant per month, with the balance of usage from Basic Service.

DISCUSSION:

In addition to Basic Service, Oregon residential and small nonresidential customers of Portland General Electric (PGE) and PacifiCorp have a choice of several "portfolio" options — three renewable resource options and a Time of Use rate. The utilities have offered these options since March 2002, as part of state restructuring of the electric utility industry.

The renewable resource options meet the requirements of ORS 757.603(2)(a). The options include Fixed Renewable (block product), Renewable Usage (matching 100 percent of a customer's usage) and Habitat (same as Renewable Usage, plus a contribution for restoring salmon habitat). The Time of Use rate is the market-based option to meet the requirements of ORS 757.603(2)(b).

As required by OAR 860-038-0220(3) and (9), the Portfolio Advisory Committee makes annual recommendations to the Commission for the portfolio options. The Commission adopted in Order No. 03-208 the Committee's recommendations for renewable resource options to be offered from January 2004 to December 2006. Recommendations at this time are for the market-based rate for 2005 and presentation of power supply and environmental impacts for the Fixed Renewable option.

Time of Use Option

Time of Use rates are higher during on-peak hours, and lower during off-peak hours, than standard rates. Participants help pay for the cost of the special meters needed to track energy usage by time of day. PGE participants pay \$1 per month for a single-phase interval meter; PacifiCorp customers pay \$1.50 per month for a meter that can record consumption by on-, off- and mid-peak periods.

The program includes a guarantee that for the first 12 months of their participation, customers won't pay more than 10 percent above what they would have paid on the cost of service rate (excluding meter charges). That gives them the opportunity to see if they can shift enough load to off-peak hours to save money, without too much additional cost if they fail.

PGE's Time of Use rate structure has three tiers: on-peak, mid-peak and off-peak energy prices. The mid-peak rate is the same as the Basic Service rate. The ratio of on- to off-peak energy prices is about 3-to-1, roughly a 5¢ per kWh differential.

PacifiCorp's revised Time of Use rate structure went into effect Jan. 1, 2004. It's designed to work simply with the company's inclining block rates for residential customers, where energy prices are higher at higher usage levels. Participants pay a surcharge on top of Basic Service rates for usage during on-peak hours, and get a credit during off-peak hours. The on-peak surcharge is twice as high from April through October, reflecting higher energy costs at that time. The new rate design eliminated the mid-peak pricing tier, resulting in a sizable increase in the number of off-peak hours.

The Committee passed the following motion unanimously at its meeting on May 25, 2004: *The Committee recommends that the Commission require the utilities to continue the Time of Use options in their present form, including the customer guarantee, through 2005.*

In making the recommendation, the Committee considered a number of factors including analysis provided by PGE in compliance with Order No. 03-393, which required the utilities to submit by March 30, 2004, an estimate of the benefits and costs

of the Time of Use option. At the Dec. 4, 2003, public meeting, the Commission extended PacifiCorp's deadline until March 31, 2005, in order to allow an analysis of the new rate design the company was putting in place.

PGE hired Quantec, LLC, to compare load and consumption patterns between PGE Time of Use participants and a sample of customers from the company's residential load research group who are on the Basic Service rate. The results show that the highest average hourly reduction for daily winter peak periods was 0.32 kW (17 percent of average household load), occurring between 8 a.m. and 9 a.m. The highest reduction during the utility's critical system peak (the 87 hours of the year when loads are highest) was twice that level, 0.64 kW (27 percent of average household load), occurring during the same winter hour. In addition to load shifting, Time of Use households used 292 kWh less energy per year on average, reflecting the program's conservation impact.

The study found that on average, Time of Use participants saved \$28 per year, some 5 percent, compared to what they would have paid under standard residential rates.

Total Resource Cost test results indicated performance of the program, from its inception through 2015, well below cost-effective levels, with a benefit/cost ratio of 0.32 under the "base case" scenario and 0.53 under the "critical peak" scenario. (A program with a ratio of 1 or greater is cost-effective.) PGE notes that the analysis used research data available at the time of the study.

The Committee discussed these results at its meeting on April 27, 2004. Members noted that the analysis did not include the potential for Time of Use pricing to reduce distribution and transmission system costs over the long-term by reducing peak demand. Members also noted that meter costs should not be attributable to the program after PGE installs network meter reading-compatible meters for residential customers, expected to begin sometime in the next few years.

Subsequent to the Committee meeting, staff met with PGE to review input assumptions and methodologies for the cost-effectiveness tests, including marketing costs, meter costs, participation levels, and avoided energy and capacity costs. In addition, staff requested an additional analysis period that begins with the current year, to address the question of whether, on a going-forward basis, the Time of Use option is expected to be cost-effective. The company provided staff with updated estimates of costs and benefits, pending resolution of model inputs and test methodologies.

On June 18, 2004, PGE sent the Commission revised analyses using modified input assumptions and test methodologies that conform with standard practice. The company

also revised its avoided capacity costs to reflect current market bids for generating capacity at \$25/kW-year.

PGE presented two types of Total Resource Cost analyses, both using customer demand changes during critical peak hours. One, including development (sunk) costs associated with the Time of Use option from its inception, estimates the benefit/cost ratio through 2015 at 0.58. The second analysis addresses the question of whether PGE's Time of Use option should continue. It looks at the costs and benefits of the rate option from 2004 through 2018, and therefore excludes sunk costs. The benefit/cost ratio is 0.74.

Both analyses charge all installed meter costs to the Time of Use program through 2005, and most of the meter costs to the program through 2009. After that time, the analysis assumes that installation of network meter reading-compatible meters will be completed, and no meter costs are attributable to the Time of Use program.

Both analyses also include potential avoided distribution and transmission system costs, consistent with Northwest Power and Conservation Council practice. PGE provided an additional analysis that excludes potential avoided distribution and transmission costs. In that case, the benefit/cost ratio is 0.58 on a going-forward basis.

PGE supports the Committee's recommendation that the Time of Use option continue. At current enrollment, the option will not have a material impact on capacity requirements. However, the company has found that participants are satisfied with the program, and some 75 percent are saving on their energy bills. (Participant Tests yield a cost/benefit ratio greater than 2.) Further, PGE states that the going-forward costs of offering the option are not high, and the company would like to continue it as a foundational rate design for other potential demand response programs — critical peak pricing, for example.

Staff notes that higher participation levels, lower meter costs (through technology change and economies of scale in mass deployment), and higher avoided capacity costs in the future will improve the cost-effectiveness of time-varying pricing.

Presentation of Power Sources and Environmental Impacts for Fixed Renewable Option
OAR 860-038-0300 requires PGE and PacifiCorp to provide power source and environmental impact information for each electric product they offer. Residential and small nonresidential customers receive the information quarterly.

In Order 02-478, the Commission adopted the Committee's recommendation to require that such information for the Fixed Renewable option reflect an average customer

(1,000 kWh/month) buying one block (100 kWh) per month, with the balance (900 kWh) coming from Basic Service.

At the May 25th Committee meeting, PacifiCorp raised the issue of allowing utilities to present this information on the basis of the average participant's purchase. For PacifiCorp's Blue Sky program, that's about two blocks for residential customers and 15 blocks for small nonresidential customers. Committee members agreed in concept, but deferred a vote to e-mail, pending wording forthcoming from PacifiCorp.

Paul Wrigley made the following motion on June 17, 2004: *The Committee recommends that the Commission require that any presentation of the supply mix and environmental impacts for the Fixed Renewable option reflect an average customer (1,000 kWh/month) buying either one block per month or the amount purchased by the average participant per month, with the balance of usage from Basic Service.*

Committee Chair Jeff Bissonnette circulated the motion electronically for a vote. Mr. Bissonnette reported on June 24, 2004, that the Committee passed the motion 7-to-0, with one abstention. (Committee members Jason Eisdorfer and John Patterson did not vote.)

It is staff's understanding that if a utility chooses to use the average participant's purchase as the basis for providing information on power sources and environmental impacts, the average purchase amount will be rounded to the nearest whole block. Staff also understands that the 1,000 kWh per month average use pertains to residential customers. For small nonresidential customers, the utilities should use the average consumption for that customer class.

PROPOSED COMMISSION MOTION:

PGE and PacifiCorp be required to continue the Time of Use options in their present form, including the customer guarantee, through 2005, and that any presentation of the supply mix and environmental impacts for the Fixed Renewable option reflect an average customer (1,000 kWh/month) buying either one block per month or the amount purchased by the average participant per month, with the balance of usage from Basic Service.