

IN THIS ISSUE

**Electric rate “decoupling” has substantial
 adverse consequences to low-income
 households**

NOTE TO READERS

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**A REVIEW OF OREGON DECOUPLING
 PROPOSAL DOCUMENTS HARMS
 IMPOSED ON POOR**

Portland General Electric Company (PGE) recently proposed a revenue decoupling mechanism in an electric rate case before the Oregon state utility commission. Low-income intervenors, represented by the Community Action Partnership of Oregon (CAPO), opposed the decoupling proposal as contrary to the interests of low-income customers. In testimony filed on behalf of CAPO, Roger Colton urged that the PGE decoupling mechanism be disapproved. If not disapproved in its entirety, Colton recommended that several modifications be ordered in the proposal.

THE PGE DECOUPLING PROPOSAL

PGE proposed what it called its Sales Normalization Adjustment (SNA). The SNA applies to residential, small nonresidential, and large nonresidential customers with loads less than 1 Mwa. According to Company witnesses, PGE believed the decoupling mechanism to be needed because “the traditional regulatory model and pricing structures cause earnings to fall when customers conserve energy.”

The Company’s proposed SNA was focused on PGE’s “fixed costs.” Under the SNA, the Company would:

- Establish the monthly fixed costs to be recovered on a per customer basis;
- Each month, determine the dollar difference (positive or negative) between the actual dollar amounts received for fixed costs and the dollar amounts that would have been received had the fixed

costs been recovered in a fixed monthly charge; and

- Annually determine a rate adjustment on a going-forward basis designed to recoup or disgorge the difference.

The SNA would be limited to the effect of energy savings reported by the Energy Trust of Oregon resulting from incremental energy efficiency programs approved by the Oregon Commission.

THE LOW-INCOME INTEREST IN DECOUPLING.

Low-income households, according to Colton, are adversely affected by PGE's decoupling mechanism in two ways.

- First, low-income households tend to make less of a contribution toward PGE's need for capacity, and, accordingly, to the need for the Company's fixed generation costs. Despite their lack of cost-causation responsibility for these costs, low-income customers will nonetheless end up paying even more for the Company's capacity costs as the fixed system costs are transferred to the usage remaining after implementation of the Company's energy efficiency programs.
- Second, the greatest usage reduction potential for the Company's energy efficiency programs lies with the larger usage of non-low-income customers. Accordingly, the fixed system costs that are likely to be reduced will occur for non-low-income accounts, with a resulting disproportionate transfer of those system costs to low-income customers.

LOW-INCOME CUSTOMERS AND CAPACITY COSTS

According to PGE witnesses, the Company's "fixed costs generally provide the capability of the system to meet customers' demands and include distribution, transmission and fixed

generation costs. . ." Unfortunately, PGE does not track load data either for low-income or for low-use customers. Nor does the Company have any information that considers the differences in load characteristics of residential customers based on either the consumption of those customers or on the income of the customers.

The fact that low-income customers have lower penetrations of peak-contributing appliances, however, can be little argued. In addition, those that *do* have such appliances use them less frequently, and less intensively. Low-income customers use fewer peak-contributing appliances and, as a result, can be expected to have a flatter load curve. The percentage of low-income energy sales that contributes to peak demand, therefore, is much lower.

According to Colton, there can be little question but that low-income customers both own and use fewer peak-contributing appliances. He presented information about the usage of air conditioning disaggregated by income in particular. As with other electricity end-uses, the low-income usage of electric air conditioning is much lower than the usage by higher income customers. Total air conditioning usage by the average household is 32% greater than for households with income below the Federal Poverty Level. Total air conditioning usage by households with annual incomes at or above \$50,000 is more than 70% higher than that for households with income below Poverty Level.

The same is true with central air conditioning, with usage by households with incomes above \$50,000 exceeding Poverty Level usage by 41%. One reason, as shown by data presented by Colton, is that Poverty Level households live in much smaller homes than do their higher income counterparts. For total air conditioning, the homes of households with incomes above \$50,000 are 130% larger than Poverty Level homes (2,349 cooled square feet vs. 1,017 cooled square feet). For central air conditioning, the homes of households with incomes above \$50,000 are 99% larger (2,618 cooled square feet vs. 1,317 cooled square feet).

Not only do low-income households own fewer air conditioning units, but those that do own them also use them to a lesser extent. While the size of housing units is one major reason low-income customers have lower air conditioning usage, in addition, low-income customers simply operate their air conditioners less often. Merely because two customers both *own* air conditioners does not mean that both of those customers will *operate* those air conditioners in the same way and thus make a similar contribution to peak demand.

Twice as many households with income above \$50,000 used their central air conditioning “all the time” when compared to households with income below \$10,000 (33.4% vs. 16.6%). Nearly half again as many households with income above \$50,000 used their central air conditioning “all the time” when compared to households with income between \$10,000 and \$25,000 (33.4% vs. 21.8%).

This data is made more compelling by the fact that these percentages apply only to the households *with* central air conditioning. While only 33% of all households with income above \$50,000 did not have central air conditioning, more than 66% of households with income below \$10,000 did not, and more than 50% of households with income between \$10,000 and \$25,000 did not.

THE POTENTIAL FOR ENERGY SAVINGS.

Colton also objected to the decoupling proposal because low-income customers use less electricity than do their higher income counterparts. He presented information on electricity use disaggregated by income level. His data examined total electricity usage, as well as by end-use (space heating, water heating, refrigeration, and appliances--including lighting).

The total electricity usage for households living with incomes below the Federal Poverty Level is well below the average consumption for all households, let alone for higher income counterparts. Electricity consumption for the average household is more than 30% higher than that consumption for households with income

below Poverty Level. Consumption for households with annual incomes higher than \$50,000 is more than 60% higher than consumption for households with income below Poverty Level. Similar observations can be made about all end-uses.

- Electricity consumption for appliances (other than refrigerators) in the average household is 40% higher than for households with income below Poverty, while appliance consumption in households with income higher than \$50,000 is 80% higher than that for households with income below Poverty.
- Electricity consumption for water heating in the average household is 13% higher than in households with income below Poverty, while electricity for water heating in households with income above \$50,000 is 38% higher.
- Electricity consumption for space heating in the average household is 17% higher than in households with income below Poverty, while the space heating consumption for households with income above \$50,000 is 33% higher.

In every case, the electricity consumption for households with income below \$10,000 is even lower than the electricity consumption for households with income below the Federal Poverty Level.

There is considerable significance, Colton said, from the above two observations relative to the treatment of low-income customers by a decoupling mechanism. The two observations, in short, are:

- (1) that low-income customers do not make the same contributions to the fixed cost needs of PGE; and
- (2) that low-income customers do not have the same usage reduction potential as their higher-use, higher-income counterparts do.

Because of these two factors, not only will the decoupling mechanism likely result in the disproportionate transfer of additional fixed costs to low-income, low-use customers, but those costs are costs that the low-income, low-use customers did not cause the utility to incur in the first instance.

REMEDIAL ACTIONS

Should the Oregon Commission decide to approve PGE's proposed decoupling mechanism, Colton said in his testimony, the Commission could act to remedy this inequity by exempting the first block of consumption from paying any charge imposed as a result of lost margins attributable to the Company's energy efficiency programs. PGE's first block of usage encompasses only 250 kWh of energy.

In addition to the rationale offered above, imposing the charge for lost margin on the first block would be inequitable for two reasons:

First, with the first consumption block having a maximum monthly consumption of 250 kWh, the maximum annual consumption in that first block would be only 3,000 kWh. In contrast, efficiency savings occur at the margin, not in that first block of consumption. If the lost margin was originally billed to the second usage block, it should be re-billed to that second usage block as well.

Second, billing fixed cost margins lost from reduced consumption in the second block to all residential usage, including energy consumption in the first block, would involve an inequitable income transfer as identified above. There is a clear association between income and consumption. As income increases, so, too, will usage increase. To move lost fixed cost contributions from the margin of the second block to the first block has the effect of moving costs billed to higher-use, higher-income customers to lower-use, lower-income customers. Such a reverse subsidy, from low-income customers to non-low-income customers, cannot be justified.

In sum, should the Commission decide to approve some form of the Company's proposed rate stabilization mechanism, the lost fixed cost contributions collected through that mechanism should be billed exclusively to the second block of consumption, not to the first.

THE REGULATORY POLICY AGAINST DECOUPLING.

In addition to its disproportionate non-cost-based cost shifting to low-income consumers, utility decoupling proposals are also contrary to long-standing regulatory principles relating to utility ratemaking. The PGE decoupling proposal is not so much to remove the "disincentives" for energy efficiency as it is an automatic adjustment, rate stabilization, mechanism.

The purpose of a rate case, of course, is not to establish a specific level of revenue and expenses that a utility is entitled to recover on a monthly or annual basis. Rather, the purpose of a rate case is to establish the *relationship* between costs and revenues which will allow the Company a reasonable opportunity to earn its authorized rate of return.

Should, for whatever reason, the cost or revenue structure of PGE change sufficiently to *prevent* the Company from earning an adequate rate of return, and those changes are expected to continue to be experienced by the utility, PGE should respond by filing a base rate case, not by seeking to recover additional revenues through an automatic adjustment clause. Only in extraordinary circumstances should an automatic adjustment clause be used to recover costs or revenues.

If the Company determines that its return is insufficient, it should file a base rate case. Accordingly, if PGE's lost revenues are of sufficient magnitude that the Company cannot earn an adequate rate of return, it is the decision of the Company whether to accept those continuing circumstances or whether to seek base rate relief.

In either case, it is *not* appropriate to isolate the revenue reductions attributable to the energy efficiency programs for single issue rate recovery. It cannot simply be assumed that the Company's lost revenues associated with energy efficiency investments cause any earnings deficit.

COST RECOVERY AND DECOUPLING

Indeed, according to Colton, there is a regulatory incentive function to be served by disapproving a utility's decoupling mechanism. PGE sought to justify its recovery of "lost margins" on the theory that any revenue reductions generated by the implementation of its efficiency programs through the Energy Trust of Oregon are revenues that would have allowed the fixed cost recovery.

The fixed costs identified by PGE witnesses, however, should not be considered the last costs incurred in the Company's total cost of service. Even if one accepts the notion, simply for the sake of argument, that the Company may not be receiving its full revenues given revenue reductions attributable to its energy efficiency investments, one cannot *a priori* assign those lost revenues to the fixed-cost component of the PGE revenue requirement.

The significance of this observation arises because, once one recognizes that PGE's fixed costs could just as easily be determined to be recovered by the *first* dollars paid by customers, any revenue reduction attributable to the Company's energy efficiency investments would be associated with variable costs rather than fixed costs. The *remedy* for the Company, in this situation, would be to become more efficient in its operations rather than to seek to ensure its collection of a certain level of revenue per customer through a rate stabilization mechanism.

At a minimum, Colton said, the Oregon PUC should limit PGE's rate stabilization mechanism to a certain proportion of the lost revenue as a means of encouraging the Company to offset its

lost revenues through improvements in its efficiency of operations. Under such an approach, Colton recommended imposing a 50% limitation on the Company's recovery of lost revenue should the Commission decide to approve the rate stabilization mechanism at all.

REASONS TO AVOID DEVIATING FROM BASIC RATEMAKING PRINCIPLES

The fact that denying a utility's decoupling mechanism will serve an incentive for utilities to reduce costs through improvements in the efficient operation of the company is basic economic regulatory policy. Merely because PGE chooses to isolate its "fixed costs" as the costs which it identifies as those subject to recovery through its SNA does not make that so. Collection of costs through volumetric base rates creates an incentive for PGE to be efficient in the expenses that it incurs.

For several reasons, it is inappropriate to deviate from this basic ratemaking principle for the lost revenues identified by PGE.

First, as a general rule, it would be inappropriate to allow a company to adjust its collection of revenues in the absence of a full rate inquiry into the total costs and revenues of the Company. To the extent that PGE's energy efficiency programs assist the Company in the effective and efficient collection of low-income bills, in addition to causing the Company to incur the lost revenues with reduced sales, the efficiency programs will generate offsetting expense savings to the utility as well.

One of the most significant aspects of those cost savings will be the reduction in working capital and uncollectibles associated with the arrears that are avoided by the efficiency programs. It is improper to isolate one component of the Company's cost-of-service for special rate recovery without considering the corresponding cost savings.

Second, in a related vein, recovery of expenses from ratepayers is merely the means to allow the

Company a reasonable opportunity to earn an adequate rate of return, not to allow specific dollars to be passed through to ratepayers, nor to allow specific revenues to be collected from ratepayers. PGE is not entitled to institute a separate charge to collect some discrete revenue component that it has segregated out for individual analysis.

Decreased revenues attributable to energy efficiency do not necessarily threaten the ability of the Company to earn an adequate rate of return. The various individual cost and revenue components of the Company's cost of service are constantly increasing and decreasing.

Third, merely because some expenses increase and some revenues decrease does not mean that the relationship between costs and revenues has changed. Even if dollars of revenue do not equal the dollar amount that was included in cost-of-service in the most recent base rate case, in other words, it cannot be *a priori* concluded that the Company is not recovering its costs.

THE TREATMENT OF AVOIDED EXPENSES BY A DECOUPLING MECHANISM.

Finally, Colton recommended that, even while he urged the Oregon Commission to disapprove PGE's proposed rate stabilization mechanism, should the Commission decide to the contrary, in addition to limiting the recovery of lost fixed cost contributions to 50% of those identified by the Company, the Company should be required to disgorge certain expense reductions that are associated with identified low-income energy efficiency investments in particular.

If the Company is going to be protected against lost fixed cost contributions, it should not be allowed to benefit from retaining those ratepayer dollars that have been paid for expenses that have been reduced or eliminated.

In the event that the rate stabilization proposal is accepted in whole or part, Colton recommended that utility-related Non-Energy Benefits (NEBs) generated by low-income efficiency

investments, whether those investments be made through PGE or through the U.S. Department of Energy's (DOE) Weatherization Assistance Program (WAP) be quantified on an annual basis. The value of those avoided costs should then be provided for use in additional low-income energy efficiency investments through the federal WAP initiative.

Such utility-related non-energy benefits have been identified and quantified before. Authoritative assessments have been made of the utility-related non-energy benefits arising from the implementation of energy efficiency improvements in low-income housing units. An assessment of non-energy benefits by Oak Ridge National Laboratory¹ found utility benefits as follows classified as "ratepayer benefits" in 2001 dollars:

- Lower bad debt write-off: \$89
- Reduced carrying costs on arrearages: \$57
- Fewer notices and customer calls: \$6
- Fewer shutoffs and reconnections for delinquencies: \$8
- Reduced collection costs: not available
- Insurance savings: \$1
- Transmission and distribution loss reduction: \$48

As can be seen, the total benefits accruing to PGE would thus be \$209 per treated customer in 2001 dollars. Bringing these avoided costs forward to 2008 dollars places the value at \$254 (using the U.S. Department of Labor's Inflation Calculator).

On an annual basis, the dollar value to be paid by PGE to Weatherization providers serving customers in the PGE service territory should be equal to \$254 times the number of housing units treated in the PGE service territory subsequent to its most recent base rate case (2008 in this instance). The dollar value of the non-energy

¹ Martin Schweitzer and Bruce Tonn (April 2002). Nonenergy Benefits From the Weatherization Assistance Program: A Summary of Findings from the Recent Literature, Oak Ridge National Laboratory: Oak Ridge (TN).

avoided costs (\$254 in 2008 dollars) would need to be updated for inflation on an annual basis.

Two reasons exist for this capture mechanism in the event a decoupling proposal is approved. On the one hand, on the revenue side, under PGE's proposed SNA, the revenue that the Company loses as a result of the usage reduction resulting from the Company's efficiency programs will be quantified and passed through to future ratepayers. The Company's proposed SNA would allow the Company to recover these lost revenues and charge those revenues to all other customers.

On the other hand, on the expense side, there is no corresponding mechanism that the Company has proposed to reflect those decreased costs resulting from the efficiency investments. As a result, these dollars of non-energy avoided costs, in the absence of their capture and distribution for purposes of expanding low-income efficiency investments, would simply flow through as increased earnings to PGE's shareholders.

If PGE shareholders are to be held harmless against a decrease in revenue, they should not also be allowed to benefit from the decrease in expenses. Instead of allowing those decreases in expenses to be pocketed by PGE shareholders as increased profits, those dollars should be captured and put to the same uses that generated them in the first instance.

To approve a capture mechanism as part of any decoupling mechanism will not result in increased rates to all remaining ratepayers if one accepts the philosophy underlying PGE's SNA rate stabilization mechanism. Just as allowing the Company to capture revenue recognized in its most recent base rate case, but not collected by the Company, would keep the Company whole, disgorging these expenses recognized in PGE's most recent base rate case, but not expended by the Company, would prevent the Company from pocketing a windfall.

SUMMARY

According to the low-income intervenor testimony in Oregon, PGE's rate stabilization mechanism, offered in the guise of an energy efficiency "decoupling" proposal, should be disapproved. One impact of the rate stabilization mechanism is to take costs that have been allocated for payment by high usage, higher-income customers and to transfer that cost responsibility to low-use, lower-income customers. Given the unaffordability of electricity prices to Oregon's low-income customers with which to begin, and the inability-to-pay and payment troubles which result, this income transfer from low-income customers to non-low-income customers cannot be justified.

More information on the impact that decoupling has on low-income customers, including the FSC testimony opposing the PGE decoupling proposal, can be obtained from:

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Fisher, Sheehan and Colton, Public Finance and General Economics (FSC) provides economic, financial and regulatory consulting. The areas in which FSC has worked include energy law and economics, fair housing, affordable housing development, local planning and zoning, energy efficiency planning, community economic development, poverty and telecommunications policy, regulatory economics, and public welfare policy.