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County of Los Alamos

Council Meeting Staff Report

October 19, 2016

Agenda No.:	6.D.
Indexes (Council Goals):	BCC - N/A
Presenters:	Tim Glasco; Andrew Fraser
Legislative File:	8408-16

Title

Rate Philosophy and Development of Rate Increase Policy

Recommended Action

Discussion Item Only, no action required.

Staff Recommendation

Discussion Item Only, no staff recommendation

Body

In considering past actions to restructure rates, the Board has discussed many aspects of rate philosophy. The last such action taken was adoption of a tiered water rate ordinance in 2014. Also in 2014, the Board discussed changes to the electric rate to incorporate a separate distribution service charge and an energy cost adjustment factor, neither of which was eventually adopted into the electric rate structure. We believe it is appropriate for the Board to discuss rate philosophy again now because that last action occurred before any current member of the Board began serving.

Since utilities are monopolies, their operations and particularly their rates are rightly subject to more public control, scrutiny and often passion than the operations of most other kinds of business. There are several notions and principles that could guide setting rates. The following sentences from Article V of the Los Alamos County Charter provide some guidance but do not dictate formulas:

The Department of Utilities shall be operated on a compensatory basis. The rates and charges shall be just, reasonable, and comparable to those in neighboring communities and shall be uniform for all consumers of the same class. Different rate schedules may be established for different classes of consumers. Charges for other services provided by the Department of Public Utilities shall be set by the Board of Public Utilities.

We should consider at least the following principles and notions in setting rates:

Safety and Reliability The DPU needs adequate income to deliver service safely and reliably.

Ordinary Costs For example: Operations and maintenance, capital, and cost of fuel. These appear in our budgets while the external values or costs in the next item do not.

External Values or Costs Utility operations (and indirectly rates) have effects on things members of our community value beyond the four services that we provide to our customers. While the diverse and sometimes nebulous nature of the values held by members of our community make them difficult to quantify for incorporation into our rates, it remains a primary responsibility of the Board. The following are some of the external values of the community that we weigh:

- **Global Environment** For example, many want the DPU to reduce emissions of greenhouse gases.

- Regional Resources For example, recognizing the limited amount of water in New Mexico, many want to reduce water use in the county.

- Economic development Reliable affordable utilities support existing business and attract others.

- Aesthetics Eliminating overhead wires has value that is difficult to quantify.

- Disruptive Maintenance Digging up streets has a negative value for traffic, and servicing utility easements in backyards can impose various costs on customers.

- Education The rates we charge schools affects the quality of education in the County.

- Affordability Many want our rates to accommodate customers on low and limited incomes.

Efficiency If we could quantify all the relevant values and costs and forecast demand, we could use arithmetic to rank rate policies. Even though that seems unlikely (impossible?), aspects of mathematical theory may be helpful. For example, a necessary condition for optimal operation of a multi-component system is that the shadow prices be equal for all components.

Since utilities are generally capital intensive and some have low marginal costs, much of rate setting concerns dividing fixed costs among our customers. There is no simple best or fair solution to this task. However, we should be aware of the technical argument that mismatches between our marginal rates and our marginal costs (including external costs) indicates inefficiency or forgone opportunities.

In the following paragraphs, we summarize the forces that have influenced the rates of our four utilities. For each utility, the required physical capital depends to some degree on peak demand. Also maintenance and operating expenses are fairly insensitive to metered use.

Water This utility is very capital intensive, yet has relatively low marginal costs. The requirement that we provide water for fighting fires largely determines the size of our distribution systems. Our water department expenses vary with water use in two principle ways:

1. Electric energy for pumping
2. When use exceeds well capacity, we must pay for new wells

Our tiered rates indicate to our customers that water conservation is a regional priority. Historically water rates recover the fixed costs through a consumption-based rate structure. This tends to benefit the low water user over the higher water user, and encourages conservation.
Residential: $8.72 + $4.61/1,000 Gallons (More for high tiers)
Commercial: $8.72 (more for bigger pipes) + $4.61/1,000 Gallons

Sewer Building our treatment plants are expensive, and our high median income disqualifies us from some financial assistance available to neighboring communities. Our incremental cost for volume is low, hence our flat rate for residential customer classes. However, the highly variable and generally stronger quality of wastewater from commercial customers means that a volume-based rate is more appropriate for them.
Residential: $9.51 Flat rate
Commercial: $41.92 + $16.20/1,000 Gallons of water used above 2,000

Electric We claim that our long term sources of energy cost between about $0.03 and $0.10 per kWh. Recently the market price of power has been low (below $.03 per kWh). The evolution of the electric distribution grid that we are presently seeing is demonstrating that the old rate structure

whereby the distribution system fixed costs are recovered through a strictly commodity-base rate is becoming no longer viable.
Small Commercial: $22.00 + $0.1111/kWh
Large Commercial: $22.00 + $0.0821/kWh + $11.00 Demand

Gas The gas system operates with relatively modest fixed costs, with the commodity cost being the lion's share of most customers' bills. Appropriately, the gas rate is unbundled to have a variable cost of gas component and another component to recover fixed distribution operation and maintenance costs. This rate still however, ties O&M cost recovery to the gas consumed, as opposed to a fixed cost per customer per month.
Commercial and Residential $9.50 or $28.50 + ($.23 + Cost of Gas)/Therm

Alternatives

None

Fiscal and Staff Impact

None

Attachments

None