Ratemaking for Energy Pipelines

Pipelines that transport or distribute natural gas, petroleum, and other hazardous liquids are closely regulated in the United States. These facilities commonly have market power or operate as monopolies because it may not be cost-effective to have more than one pipeline delivery system in the ground to serve a market or community. As a result, pipeline operators are subject to comprehensive regulatory oversight by federal and state regulatory agencies, as well as local community-based councils and boards. Ratemaking is the process by which a pipeline operator, its customers, and the operator's regulatory body determine a fair price for the pipeline's services. A well designed rate reflects the input of all stakeholders, the importance of many factors such as expanded safety programs, infrastructure repair and replacement, and the recognition of changing methods of cost recovery and other factors.

HOW RATES ARE SET

There are several objectives in ratemaking, with the principal one being to establish rates that permit the pipeline operator a reasonable opportunity to recover its costs and provide a profit to investors. At the same time, rates must be reasonable and fair to the pipelines' customers. The pipeline operator needs enough revenue to ensure it can meet its safety, environmental and other legal obligations. Finally, rates can provide incentives for desired public behavior, such as shifting use to off-peak periods. Sometimes these objectives conflict and regulators must strike a balance among them.

Ratemaking begins with a cost of service study, which is a detailed analysis to determine the costs (either historical or forecasted) of serving an operator's customers. There are three major areas of costs that determine rates: rate base, expenses, and return. Rate base is the amount of money pipeline operators have invested in facilities and equipment such as land, buildings, pipes, valves, compressors and other equipment to ensure the provision of safe and reliable service to customers. Rate base is reduced by the amount of accumulated depreciation. Expenses include operating and maintenance costs, taxes, depreciation, and administrative and general costs such as capital, labor, and overhead. Rate base and expenses are measurable items that are reviewed with care by regulators charged with approving pipeline rates.

Regulated pipelines are businesses, too, and their incentive for providing good service to their customers is that they earn a sufficient profit to enable them to cover their cost of capital, including a fair return for their investors. Operators submit a cost of capital study and document their risk profile. The study and risk analysis are assessed by the regulator, which sets an allowed return. Rate of return is expressed as a percentage, and when multiplied times rate base (less accumulated depreciation) determines the operator's allowed return. In contrast to rate base and expenses, return involves judgment versus slide-rule precision. Government owned pipelines do not include a separate return component in their costs of service.

After pipeline costs have been identified, they are allocated to various classes of customers (e.g., residential, commercial, industrial), whose rates may vary based on the quality of service, (e.g, firm versus interruptible service). The underlying principle of cost allocation is that because certain classes or groups of customers are responsible for the incurrence of specific pipeline costs, only the responsible customers should pay for the identified costs.

The final step, rate design, occurs after the pipeline costs have been allocated to the various customer classes. A typical rate design is the volumetric rate, in which the cost of service for each customer class is divided volumetrically across the expected level of service for that class. Once the most common rate design for investor owned natural gas transmission pipelines and distribution utilities, this rate design is now used by fewer than half of the investor-owned distribution utilities and by none of the interstate natural gas transmission pipelines. Another typical rate design is the flat monthly fee rate design, in which the cost of service for each customer class is divided among the numbers of customers in that class. A third design is the demand rate, in which the rate is based on a customer's maximum demand for service within a specified time period. Most interstate natural gas transmission pipelines use demand rates. Some rates are mixtures of more than one type of rate design.

It is important to note that regulated rates are designed to give pipeline operators the opportunity to make a profit, but not a guarantee. If a pipeline fails to achieve its authorized level of profitability due to inflation or some other cause, there is usually no compensation. The operator can request a new rate going forward, but it may not recover what it failed to earn in a time past.

SETTING RATES FOR NATURAL GAS TRANSMISSION PIPELINES

Most natural gas transmission pipelines are "open access carriers" whose operators are required to provide transportation service (assuming transportation capacity is available) to any customer who signs a contract for service. Interstate transmission pipeline operators do not own the natural gas they transport on behalf of a customer, commonly referred to as a "shipper," and are paid a regulated rate by the shipper for the transportation service.

The Federal Energy Regulatory Commission (FERC or the Commission) regulates the rates, terms and conditions of service of natural gas transportation in interstate commerce. FERC's ratemaking decisions are subject to the Natural Gas Act, which specifies that rates, terms and conditions must be "just and reasonable," and not unduly discriminatory. Intrastate transportation of natural gas generally is regulated by state agencies.

With limited exceptions, an interstate transmission pipeline operator's rates are established using one of the following methodologies:

1) The *cost-of-service method* requires that a pipeline operator submit cost and revenue data supporting a requested rate. The operator is allowed an opportunity to recover its cost of providing service and earn a reasonable return on its investment.
2) The *negotiated rate method* allows an operator to charge a rate that is agreed upon by the pipeline operator and a shipper. To safeguard against unequal bargaining power, the shipper must have the option to select service under the pipeline operator's "recourse rate" that is based on the pipeline's cost of service.
3) The *market-based rate method* may be employed when an operator can demonstrate that it lacks market power. In these circumstances, an operator is authorized to charge rates consistent with market conditions. Some interstate pipeline operators have market-based storage rates.

In limited circumstances, FERC allows natural gas interstate pipeline operators to track and flow through to customers increases and decreases in certain costs. The nature of these cost changes must be pre-approved by FERC, and each subsequent adjustment must be reviewed and approved by FERC before it takes effect. FERC has allowed several natural gas pipeline operators to recover the costs of fuel needed to operate the pipeline through fuel trackers.

Shippers can contest pipeline rates by filing a complaint with the FERC challenging a pipeline operator's rates.

SETTING RATES FOR PETROLEUM AND OTHER LIQUID PRODUCTS PIPELINES

Most liquid pipeline operators are "common carriers" and are required to provide transportation to any customer upon reasonable request. These operators do not own the product being transported and get paid a fee for transportation service by shippers. FERC regulates the rates, terms and conditions of interstate transportation of petroleum and petroleum products by pipeline operators. Intrastate transportation generally is regulated by state agencies.

Liquid pipeline operators have tariffs, or posted fees, on file with the FERC that contain "just and reasonable" rates, terms and conditions of service. Shippers pay the posted fee or tariff to obtain transportation service. Competition between pipeline operators sometimes results in an operator recovering less than 100% of the costs it incurs. In contrast to other rate regulated energy pipelines, liquid pipeline operators are subject to a unique regulatory framework pursuant to which FERC allows rates to be developed through the following methodologies:

1. The *oil pipeline rate index* is the primary method petroleum liquids operators rely upon to set rates. The index responds to the requirement in section 1801 of the Energy Policy Act of 1992 for a "simplified and generally applicable" ratemaking methodology for oil pipelines, in accordance with the just and reasonable standard of the Interstate Commerce Act. Rates are adjusted using an index set at the Producer Price Index for Finished Goods plus or minus a percentage. The percentage is reexamined every five years by FERC. The oil pipeline rate index allows for rate predictability, which encourages efficient pipeline investments, and protects shippers by placing a cap on rate increases and allowing for a rate decrease during economic downturns. The rate index is calculated based on historical pipeline costs, not current costs, to determine future rates, which means that a pipeline operator is not guaranteed an opportunity to recover all of its costs.
2. The *cost-of-service method* requires that a pipeline operator submit cost and revenue data supporting a requested rate. An operator is allowed an opportunity to recover its cost of providing service and earn a reasonable return on its investment.
3. The *settlement rate method* allows an operator to charge rates agreed upon with its shippers.
4. The *market-based rate method* may be employed when a pipeline operator is able to demonstrate that it lacks market power. In these circumstances, an operator is authorized to charge rates consistent with market conditions.
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Shippers can contest pipeline rates by filing a protest in response to a pipeline operator's tariff filing with the FERC or by filing a complaint with the FERC challenging a pipeline operator's rates. Operators may be required to pay refunds to shippers if the rate is found to be unjust and unreasonable.

SETTING RATES FOR INVESTOR-OWNED GAS DISTRIBUTION SYSTEMS

Natural gas distribution companies that are investor owned utilities are required to provide distribution of natural gas to any customer within its geographic franchise area upon reasonable request. These utilities own the natural gas being distributed for their "sales customers" and get paid a fee for the distribution service. In addition, utilities pass through and recover the commodity costs of natural gas that they acquired for their sales customers by charging a volumetric rate. A customer that has purchased its natural gas from a third party supplier or marketer and wishes the distribution company to transport the gas to its home or business, commonly referred to as a "transportation customer," pays a fee for the transport of natural gas over the local distribution company's pipeline system.

State public utility commissions regulate the rates, terms and conditions of service of natural gas distribution by investor-owned utilities. The commissions also ensure that gas utilities operate in the public interest. For example, they may prohibit utilities from turning off a residential customer's gas service for nonpayment during cold weather, they may ask for expanded safety programs, or they may require utilities to offer energy conservation programs. In general, the rates, terms and conditions of service of publicly owned distribution utilities are subject to regulation by local agencies.

Natural gas utilities have tariffs on file with state commissions that contain approved rates, terms and conditions of service. Utilities also have posted fees on file with the state commission that contain the current "purchased gas adjustment (PGA) charge." The PGA is a volumetric rate for recovering the cost of the natural gas commodity. Customers pay the sales tariff rate or the transportation tariff rate to obtain those services, and, if applicable, customers pay the current PGA fee for the amount of gas the utility distributes on their behalf during the billing period. Most utilities are allowed to adjust the PGA fee monthly with a tracking mechanism, while other companies are allowed to adjust the fee quarterly or annually. Most utilities are allowed to true-up over- or under-collections of PGA costs at the end of the year, but not all companies may recover carrying costs on the under-collected portion of their PGA costs.

Local distribution companies don't earn any money from the sale of the natural gas itself, whether the utility owns the natural gas or transports it on behalf of the customer. The companies simply pass the cost of the gas straight through to the consumer: For example, if the utility paid $2 for a million British thermal units (Btu) of natural gas, and the customer used 10 million Btu to heat his home during the billing period, he would be charged $20 for the cost of the gas. Sometimes, however, if the cost of gas rises between the time the utility paid for the gas from its supplier and when the utility recovered the cost from its customer, and the utility does not recover interest on its PGA balance, the utility actually loses money.

In recent years, state regulators have increasingly approved the use of tracking mechanisms similar to the PGA for the cost recovery of a wide variety of expenses. While all 50 states allow the use of the PGA for the automatic pass through and recovery of natural gas commodity costs, 20 states now allow the use of a similar mechanism for the recovery of costs associated with the replacement of natural gas pipelines and related infrastructure.

SETTING RATES FOR PUBLICLY-OWNED GAS DISTRIBUTION SYSTEMS

Publicly-owned natural gas distribution systems are not-for-profit local distribution entities that are owned by, and accountable to, the citizens they serve. They include municipal gas distribution systems, public utility districts, county districts, and other public agencies that have natural gas distribution facilities. These utilities own the natural gas being distributed for their customers and charge a fee for the distribution service. In addition, publicly-owned utilities pass through and recover the commodity costs of natural gas that they acquired for their customers by charging a volumetric rate.

Unlike privately-owned distribution and transmission pipelines, few publicly-owned gas distribution systems have gas rates set by their state's public utilities commission. With few exceptions, rates for a public gas utility are set by its governing body, which may be an elected city or county council or an elected or appointed utility board. There is frequently no requirement that the rate charged by the utility be based on the cost of service, and the utility will charge whatever rate the governing body determines is appropriate in the circumstances.

Some public gas systems budgets are kept separate from the budgets of the city and/or county budgets, but in other cases the utility budget is part of the overall local government budget.

Publicly owned utilities do not have the return, or profit, component of costs in their rates. In addition, as they do not incur state and federal income taxes, there is no recovery of these taxes in their rates. Capital is raised by issuing bonds, either municipal bonds or revenue bonds. Customers of municipal utilities pay the PGA rate for the amount of gas the utility distributes on their behalf during the billing period. However, municipal utilities typically do not utilize tracking mechanisms to recover any other cost increases that the utility incurs. Rate changes must be approved by the city council or the utility board.

SUMMARY

Regulated ratemaking is a laborious process. Even with expeditious practices, typical rate cases at the utility level may take between eight and 15 months, and an operator's financial picture can change significantly in that time. A technically correct rate structure covers the total cost of serving customers, including an adequate return to the operator. Cost is an important guide in ratemaking, but in practice rates are designed within a framework that includes many factors in addition to costs, and the importance of these factors changes over time.