PN-ABR-108

Deloitte & Touche

IN ASSOCIATION WITH:

DRT CZECHOSLOVAKIA
ICF RESOURCES, INC.

ENERGY AND TELECOMMUNICATIONS SECTOR ASSISTANCE FOR MINISTRY OF ECONOMIC POLICY AND DEVELOPMENT OF THE CZECH REPUBLIC

REVIEW OF PROPOSED TARIFF BY THE CZECH GAS COMPANY, CPP

Contract # EUR-0014-I-00-1056-00
Delivery Order #4
Prepared for EUR/RME/ER/ED

DECEMBER 1991

MEMORANDUM

TO: Cesky Plynarensky Podnik (CPP)

FROM: DRT Czechoslovakia/ICF Resources

SUBJECT: Review of the CPP T(J) Tariff

The purpose of this memorandum is to provide comments on the proposed T(J) tariff developed by the CPP. Our understanding of the tariff is based on a series of discussions with Mr. Tomas Sochor held during the week of 2 December 1991.

Background

The T(J) Tariff is a proposed schedule of gas rates for the customers of the CPP throughout the Czech Republic. A copy of the tariff schedule is attached as Exhibit 1. Briefly, it consists of five service categories, T(J)-0 through T(J)-4, distinguished by the annual amount of gas consumption and by the end use. For example, the service T(J)-0 represents consumption of up to 150 cubic meters annually for cooking; T(J)-1 represents consumption of between 151 and 900 cubic meters annually for cooking and hot water heating. The T(J)-4 service category includes large industrial customers who use more than 60,000 cubic meters per year. This group is further divided into industries with dual fuel capability and those without. The tariff also distinguishes between those customers who buy gas from the distribution systems and those who buy gas from the long distance transmission system.

The tariff for each service category is a two-part rate consisting of a base annual customer charge and a charge per unit of gas consumed. For T(J)-0, the annual customer charge is 72 kcs and the charge per cubic meter of gas used is 4.22 kcs. For the industrial categories, the annual customer charge indicated in the table is multiplied by the industrial customer's peak day consumption to yield a fixed annual charge. This charge differs according to whether the industrial customer purchases gas through the distribution network (MS in the table) or through the transmission network (indicated by DV).

The tariff is designed to recover CPP's costs (including the profit target for the year) and to encourage gas use by offering a lower per unit gas charge in the higher usage categories. The per unit charges include the cost of gas and a contribution to the CPP's system costs and profit. These charges are also set in

reference to the cost of competing fuels in categories, so that the per unit charge is slightly cost of the users' alternatives.

The allocation of costs between customer classe based on their contributions to the peak day system allocations are very approximate, however, since the collect data on peak day consumption by its custome small customer meters (users of 60,000 or fewer cub year) only once per year and industrial custor Moreover, the approximation of peak day consumption i small customers as a group (service categories T(J)-0 3) and not for the individual service categories with

Discussion

It is best to begin with a brief discussion of t of utility rate design as applied to the natural g Natural gas tariffs are designed with several object

-- The first objective of gas rates is to company's costs for providing gas service.

-- A second objective is to further the interes efficiency; that is, to provide the c signals to consumers of gas in order that t correct decisions about how much gas t Failure to provide efficient pricing signal misallocation of society's resources.

-- A third objective is that gas rates be fair to customers. There must be no undue discrimination between custome classes. This means that price differences betwee customers must be based on the actual cost of service to customers.

-- Other objectives for gas rates are simplicity, rate stability and rates that promote social goals. These can include special rates for the poor, rates that have environmental objectives or other objectives for the benefit of society.

The CPP T(J) tariff rate design has both strengths and weaknesses relative to the objectives for natural gas rates. The strong points of the tariff include its simplicity, the setting of the unit charge in reference to the prices of competing fuels (in the U.S. we call this market-based or value-based pricing), and the attempt to allocate costs across the service categories based on their contribution to the peak day requirements of the system. Each of these is discussed below.

The simple, two-part rate structure of the T(J) tariff is a standard rate formula throughout the U.S. This is desirable in

this case because it breaks out the gas charge from the fixed annual customer charge. Thus, buyers are provided a clearer price signal for what additional consumption will cost them.

The gas charge in the rate has been set to a number slightly below the cost of the competing energy source in each of the service categories. As we understand it, this ranges from the cost of electricity for the T(J)-0 customer to the price of residual fuel oil for the dual fuel, interruptible customers in the T(J)-4 service category. As a general matter, this approach is useful in two cases:

1. Where the opportunity exists to obtain some operating profit from customers, such as dual-fuel industrial users, who do not receive guaranteed service. The amount of operating profit is dictated by the price of the competing fuel.

2. Where prices set at long run marginal costs would not cover the utilities total cost of operation. In this case, prices set according to the price of competitive energy sources are appropriate.

The most important criteria is that the resulting prices accurately reflect the cost of gas. We would observe, however, that such market-based or value-based rates are controversial. Such pricing is often adopted for the more critical dual fuel customers who have the capability of switching between gas and fuel oil.

The controversy arises when small customers are forced to pay higher prices for gas because their alternatives are more expensive. Small customers have a more limited ability to switch away from gas since to do so they would have to invest in new equipment. This makes them more vulnerable to discriminatory pricing--prices not based on costs. Utilities who must price gas to be competitive in the dual fuel markets have a strong incentive to recover the costs from the less price-sensitive customers. To some extent, the T(J) rate appears to follow such a strategy.

The important issue is to provide the correct pricing signals to customers so that they will make the correct purchase decisions. For this reason, we believe that the correct gas charge should be the cost of gas to CPP plus variable delivery expenses; all other fixed costs should be included in the fixed component of the rate. Under the proposed T(J) tariff, some operating and profit costs are included in the gas portion of the rate. Too little costs are allocated to the fixed charge component and too much cost is allocated to the variable or gas component of the rate. This has two potentially bad results:

-- First is it gives incorrect price signals by including in the price of gas costs that do not vary with the

amount of gas that customers purchase. Fixed costs are due predominantly to the design of the system which is influenced primarily by the rate of supply (capacity) rather than the quantity of gas through the system over time. Including fixed costs in the gas cost component can result in inefficient use of resources.

Second, as a more practical matter, including profits in the variable portion of the rate exposes CPP to under collection of profits if the amount of gas consumed is less that the targeted amount. This can happen with mild weather or other factors beyond your control.

Thus, we would recommend that the price of gas in the proposed T(J) rate reflect only the cost of gas plus any variable delivery costs. This would provide a clearer price signal, would expose you to less risk of under collection and would avoid any potential discriminatory pricing.

We support the principle of allocating profits and expenses to customer classes based on contribution to the peak. The T(J) tariff design goes part way towards implementing this principle. The inability, however, of CPP to more closely monitor peak day consumption contributes to the major weakness of the tariff.

The major problem in the rate design, as we see it, concerns the rate levels within the small customer categories--T(J)-0 through T(J)-3. The rates are designed to encourage gas use without regard to whether the increased usage comes during the peak period. Since peak demand for gas drives the system design and cost, it is important that the costs charged customers in the rates reflect the customers' contribution to the peak.

Customers in the T(J)-0 and T(J)-1 service categories (cooking and hot water heating) use gas at low levels that are also nearly steady throughout the year. These customers would pay the highest average rate under the proposed T(J) tariff, even though their contribution to the system costs (measured on the peak day basis) are fairly low. Some may question whether this is fair.

Customers in the T(J)-2 and T(J)-3 categories (heating and commercial users) receive a lower rate due to their higher annual consumption. Yet, these are highly seasonal users who account for much of the peak day sendout. This can lead to a bad result if CPP encourages more gas use during the peak periods without considering the cost implications of increased peak use for the system. Greater peak consumption relative to average daily consumption requires more investment in pipe and storage and lowers the rate of utilization of these assets and making it more difficult to recover the costs of the assets. Such excess investment in capacity tends to penalize firms that underutilize capacity. It will be necessary for CPP to devise rate structures that promote higher utilization of capacity and not just higher utilization of gas.

The rate design for small customers is driven in large part by the fact that CPP does not have information about their patterns of use, since the meters are read annually. This is a serious problem. As the industry makes its transition to a market-based economy it will be very important to improve your information about the patterns of customer demand and the costs associated with those patterns. One of the principal objectives of the long run marginal cost study should be to develop such information. Indeed, the very first step in all least cost planning studies is to analyze the system consumption characteristics as the basis for identifying alternative ways of meeting gas demand at the lowest cost. These issues will be addressed in our Work Plan for the long run marginal cost study.