THE NEED FOR A NEW RATE DESIGN: A RESPONSE TO CHANGES IN MARKET CONDITIONS

I. INTRODUCTION

In today’s pipeline transportation environment, rate design must be modified to meet the challenges of rapidly changing market conditions. Our interstate pipeline world has changed dramatically and strict mileaged-based rates from traditional supply/production areas to formerly captive destination markets are out-of-date and no longer support full recovery of a pipeline’s cost of service. Given the introduction of vast new supply areas and the completion of significant new pipeline and storage infrastructure facilities, the pattern of shipments and actual gas flow on pipelines has fundamentally changed. Existing long-distance, mileaged pipelines have experienced significant reductions in throughput between their primary production zone (“production zone”) and primary market zone (“market zone”). At the same time, deliveries by third-party pipelines and marketers into a pipeline’s traditional market zones have dramatically increased, particularly over the past 10 years.

Unfortunately, over the recent past, average utilization across all zones on many long-distance pipelines has been declining. Although throughput may even approximate total design capacity in traditional market zones, current throughput is substantially less than total design capacity across the traditional supply zones and transition zones that were designed to serve peak load in the market zone.

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• Develop expertise pertaining to the regulatory principles followed by both LDCs and natural gas pipelines
• Expand knowledge of the economic principles pertaining to the opportunity to earn a just and reasonable profit in the rate-regulated natural gas industry
• Evaluate and apply principles used to develop and calculate cost of service, rate base, capitalization and cost of capital, income tax allowances, regulatory adjustments, rate design and rates, and validate rates to generate the revenue requirement
• Apply regulatory process principles to be able to achieve regulatory goals, including techniques used to achieve success in regulatory litigation and settlements
• Analyze gas industry regulatory trends and the implications of those developments for industry stakeholders

WHO SHOULD ATTEND
The following management and staff audiences will benefit from this course:
• Regulatory employees of natural gas pipeline companies and LDCs charged with establishing regulated rates and services
• Accountants in natural gas companies
• Financial analysts responsible for developing financial models for forecasting and growth projects
• Investor relations personnel interested in improving their understanding of the regulatory process and its impact
• Regulatory commission staff, legal counsel, and customers involved in the regulatory and ratemaking process
• Investment analysts that follow regulated natural gas pipelines and utilities

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Deliveries into the market zone are often at maximum capacity, but this is caused by the myriad alternative delivery vehicles available to today’s shippers which bypass the pipeline’s traditional transportation path from its supply area. As a result, decreases in the traditional production zone path deliveries have resulted in a decline in total transmission revenue. This decline in revenues is directly related to the historic mileaged rate design which assigned significant levels of cost recovery to long-distance transactions from supply areas to the market area. The decline in supply zone utilization has been caused by many factors, but one of the principal factors is strict adherence to mileage-based ratemaking, which assigns the highest transportation costs on a long-distance pipeline to the longest traditional hauls (i.e., the supply-area to market-area haul). This has often required long-distance transportation rates to be significantly discounted except in direct market-to-market transactions. Thus, transportation from traditional supply areas to market area deliveries on many mileaged pipelines is heavily discounted. In contrast, there are large quantities of intra-zone transactions in the market zone that are not discounted.

A. Problems and Opportunities

Even if transmission revenue in the market zone has been increasing in recent years, there is a substantial opportunity to increase the cost recovery, efficiency and utilization on long-haul mileaged pipeline systems. In the majority of cases, a pipeline’s current rate design is based on the historical use of the pipeline: where market zone customers sourced their gas at the origin of the pipeline (i.e., the production zone). However, increased access to alternative sources of supply for market zone customers has increased the number of good alternatives available to these customers in the market zone and decreased the incentive for these customers to utilize the traditional production zone.

These fundamental changes in long-distance pipeline utilization has resulted in unsubscribed capacity in all zones except the market zone, with the pipeline’s historic natural gas supplies
being priced out of its traditional markets. In contrast to the historical use of the pipeline system, the pipeline’s shippers now tend to source more of their gas in the market zone for delivery within the market zone. As a result, there has been a substantial increase in market-to-market transactions.

Why is the rate in the market zone too low? Under current mileaged-based rate designs, pipeline plant investment is allocated across zones based on historic Dth/mile calculations which assign a greater proportion of the total cost of service to long-distance transactions. Many of these long-distance contracts have been replaced by contracts that only utilize the market zone. Consequently, the market zone rate resulting from a Dth/mile rate design does not fully recover all of the cost of providing service to the existing market zone.

More specifically, the market-to-market matrix rate is based on the historical application of Dth/mile calculations which significantly understate the current cost of service for a market-to-market transaction. This is caused, in large part, by the application of very low mileage and understated billing determinants in the original Dth/mile calculations, which underlie existing mileaged-based rate designs in the destination market matrix. The result is a receipt/delivery market rate that is significantly below a zone gate rate, which is based on the actual cost of pipeline plant investment in the market zone. Consequently, the Dth/mile rate design encourages the bypass of the supply and transition zones and deliveries directly into the market zone of the long-haul mileaged pipeline system.

The recent behavior by shippers to move away from their traditional use of long-haul pipelines is a market response to the development of more competitive transportation markets. Today, shippers have the option of directly sourcing natural gas supplies into a market zone. The combination of (1) the interconnectedness of the pipeline grid, and (2) the Dth/mile rate designs (which determine artificially low rates to the market-to-market zone) provide both the incentive and the ability for shippers to alter their historical use of long-haul pipelines.

In addition, from an efficiency point of view, the pipeline’s market zone capacity is not properly allocated to those shippers who value the capacity the most. Shippers who value market zone services more than the current rate are unable to offer higher rates to obtain market zone capacity. Alternatively stated, shippers who are not willing to pay a rate higher than the current rate may be holding intra-market zone capacity that should be allocated to higher-valued users. Thus, the switch to an alternative rate design can promote allocative efficiency.

II. THE ADVERSE IMPACT OF MARCELLUS SHALE

Over the past several years, the ability of lower-cost Marcellus Shale has enabled suppliers of Marcellus Shale (with substantial new production capacity) to deliver gas to market at lower prices than traditional Gulf Coast suppliers. The growth of Marcellus production has consistently exceeded expectations. Rapid construction of new pipeline infrastructure within the Marcellus footprint has made Marcellus production a very real threat to existing long-distance transportation pipelines. Recent evidence suggests that even greater Marcellus pipeline infrastructure is on the way. A number of major companies, such as Williams Partners L.P., Buckeye Partners, and DCP Midstream Partners, LP, are moving to build additional infrastructure facilities to gather, process, and transport Marcellus Shale to market. As soon as 2012 or 2013, a number of these additional projects may be completed. Thus, in a matter of a few years, the demand for transportation services on traditional long-haul pipelines could substantially change. Rather than ship higher-cost gas from the historical production zone to the historical market zone, suppliers

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As of December 9, according to EIA, U.S. working gas storage inventory was at 3,725 Bcf. This is 57 Bcf less than last year at this time and 332 Bcf above the five-year average. Although all regions are considerably above the five-year average, the consuming regions are lower than a year ago. The Producing Region has 48 Bcf more than a year ago at this time, while the East Consuming Region has 63 Bcf less, and the West Consuming Region has 41 Bcf less than a year ago. EIA states that "there are impediments to sharing inventories between or among regions. Working gas stocks in the Producing Region can be directed to either of the other two regions, but sharing between the two Consuming Regions is limited at best." That observation indicates that if additional supplies are needed in either consuming region, they can be obtained from the producing region, but not from each other.

The 3,725 Bcf in inventory constitutes 91.9 percent of the 4,049 Bcf demonstrated peak working gas capacity, a conservative measure of the sum of the highest storage inventory level of working gas in each facility over the prior five-year period. For comparison, last year’s fill rate was 98.0 percent. Moreover, the 3,725 Bcf in inventory is only 85.3 percent of the less conservative metric of working gas design capacity of 4,364 Bcf. In either case, in the event of a warm winter or increased production levels, there appears to be available storage capacity to accommodate any surplus and avoid shutting in production.

Working gas capacity increased by 160 Bcf during the past year. This is the latest increment in an ongoing build-up in storage capacity over the past 20 years. FERC has certificated 93 storage projects since 2000 with a corresponding working gas capacity of 993 Bcf.
of the lower-cost Marcellus Shale are likely to use only the market zone of traditional long-haul pipelines. Transportation routes from the Marcellus Shale production area to major markets are likely to be comprised of newly constructed pipelines originating in the Marcellus Shale production area and downstream segments on existing or new pipelines.

III. A NEW RATE DESIGN

A. Zone-Gate Pricing

Given the problems facing the existing Dth/mile rate design, a new rate design is needed (1) to raise the rate in the market zone, and (2) to make the long-haul service between the historical production zone and market zone more attractive. A change to zone-gate pricing meets both rate design goals. Zone-gate pricing will increase the price to ship within the market zone. Under this new rate design, rates will more closely reflect actual cost incurrence, which is higher than the costs allocated to the market zone under a Dth/mile rate design. Thus, zone-gate pricing will increase cost recovery in the market zone.

Although the change to zone-gate pricing will not change the total transportation cost to move gas from the pipeline’s production zone to its market zone, it will increase the cost of transporting gas on alternative pipeline routes. The intuition is as follows. For the long-haul pipeline, the increase in the rate in the market zone will be offset by the decrease in the rate in the production zone. However, the price to market zone customers that transport gas from an alternative source to the pipeline’s market zone will increase, due to the increased cost to ship gas within the pipeline’s market zone. That is, the increase in the market-zone rate under zone-gate pricing will increase the cost of shipping on alternative pipelines that deliver to the market zone. As a result, the relative cost of shipping on competing pipelines will increase, making traditional long-distance transportation on the existing pipeline more competitive. As a result, the pipeline’s cost recovery should also increase on transportation between the pipeline’s major production area and major market area.

B. Promoting Allocative Efficiency

The zone-gate rate design promotes allocative efficiency. The Commission explains that “allocative efficiency simply means that those who value the product or service the most should be the ones to have it.”1 During peak periods, when demand may exceed supply, rates should allocate capacity to those who value it the most. During off-peak periods, when supply is greater than demand, rates should maximize throughput.2 A transportation rate is not efficient in allocating capacity if a different rate design would allocate more capacity to higher-valued users. If a rate design, for example, prevents higher-valued shippers from offering to pay a higher maximum rate for transportation capacity during peak periods, that rate would not be “allocatively efficient.”3 In this case, a change in the rate design can promote allocative efficiency.

The FERC seeks to achieve two rate design goals, promoting efficiency and protecting against the exercise of market power, and recognizes that there is a tradeoff between these goals.

The Commission’s objective in designing rates is to establish a ratesetting framework that increases efficiency in the marketplace, while protecting against the potential exercise of market power.3

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2) Id. at 62,052.

3) Regulation of Short-Term Natural Gas Transportation Services, and Regulation of Interstate Natural Gas Transportation Services, Docket Nos. RM98-10-000 and RM98-12-000; Order No. 637 (February 9, 2000) 90 FERC ¶ 61,109 at 31,269.
Since zone-gate pricing continues to determine a regulated cost-of-service rate, it does not raise a market power concern. Thus, the zone-gate rate design continues to advance the Commission’s first objective to promote economic efficiency while preserving the Commission’s second objective to protect consumers against the exercise of market power. During peak demand periods, more market zone capacity will be allocated to those shippers who value the capacity the most. In addition, the demand to ship gas from the production zone to the market zone will also increase because the higher rate on intra-market zone deliveries will encourage some shippers (1) to switch from accessing alternative supply sources and alternative pipeline routes and (2) to utilize the pipeline’s historical supply region and the pipeline’s historical long-haul service.

IV. Zone Gate Pricing: How Many Zones?

The decision to switch from a Dth/mile rate design to a zone-gate rate design or postage stamp rate design is a giant step in the right direction. The next step is to determine the appropriate number of zones under the new rate design. In many cases, there are distinct advantages to consolidating production and transition zones into a single postage stamp zone. Creating a large postage stamp zone can increase the value of released capacity, increase the value of secondary delivery point rights, and provide shippers with greater optionality and value in accessing higher basis markets within a large geographic area. The larger postage stamp zone encourages traders to consider a broader range of trades and arbitrage opportunities since a greater number of secondary receipt and delivery points will be available at no additional cost. In addition, marketers who source their gas from new production areas (such as the Marcellus Shale) will have a strong preference to connect to the pipeline that has one or two large geographic zones, or a postage stamp zone, that access numerous delivery markets at a single- or two-zone transportation rate. This allows marketers to maximize the value of their pipeline transportation contracts. It also provides an incentive for shippers to sign longer-term transportation contracts, which reduces risk to the pipeline. Additional contracts also enable the pipeline to recover more of its cost of service and, potentially, to reduce future rates if contracts and billing determinants increase. In particular, it allows a pipeline to offer more competitive transportation service in an industry that is characterized by excess pipeline capacity in Gulf Coast origin markets and by falling basis differentials from the Gulf Coast to major destination markets in the Northeast and Midwest.

V. Is Your Rate Design Outdated?

Are your shippers accessing supplies outside of your historical production zone? Are new pipelines offering service to your market zone? Are you operating at or near maximum capacity in your market zone, but losing capacity in your production zone? If the answer to any of these questions is “yes,” BWMQ may be able to help you. First, we will review your current rate design, pattern of shipments, contract profile, and cost recovery by zone. Then, we will consider alternative rate designs and attempt to identify a design that increases your cost recovery while making better and more efficient use of your pipeline.

Please contact Barry Sullivan if you have any questions.

Article provided by

Edward Gallick & Barry Sullivan
Since 2009, BWMQ has offered FERC Regulated Natural Gas Companies and law firms a Comprehensive Guide for Complying with FERC Regulatory Requirements. Numerous clients have already purchased the compliance manual since it was developed in the Fall of 2009. The 2011 update to the Compliance Manual will include a new section which will include cites to FERC policies and precedent on forty issues typically found in the General Terms and Conditions of FERC Gas Tariffs. This new section will provide subscribers links to the Commission precedent and policies on all key terms and conditions of service issues.

The Federal Energy Regulatory Commission (FERC) has the expectation that all jurisdictional companies will develop internal compliance programs and to self report violations of statutory and regulatory requirements. FERC projects that 70% of its regulated natural gas and electric entities will have adequate compliance programs in place by 2014.

Through implementation of a vigorous audit program and the aggressive use NGA Section 5 authority, FERC continues an active program of ensuring interstate pipelines rates and terms and conditions of service comply with the latest regulations, policies, and precedent. In response to FERC’s more aggressive approach to enforcement of its statutory obligations and its regulations, BWMQ developed a comprehensive guide for FERC regulated natural gas entities and law firms to use in ensuring that their operational and business practices comport with current laws and regulations. This single volume, easy to use product provides a roadmap for subscribers on how to meet their statutory and regulatory obligations with respect to corporate standards of conduct and a myriad of mandated filing requirements. It contains a wealth of information about regulatory compliance and spans a wide range of topics including:

- Background on significant FERC enforcement orders and policy statements;
- FERC’s Standards of Conduct Regulations;
- Transactional reporting requirements;
- Tariff compliance;
- Compliance with posting requirements (including NAESB requirements);
- FERC forms and reports;
- Certificate requirements;
- The FERC audit process;
- Corporate risk assessment; and
- General Terms and Conditions of service.

We believe this reference source enables companies to evaluate efficiently and thoroughly their current level of compliance with FERC requirements and conduct a risk assessment as to their vulnerability to enforcement proceedings.

BWMQ updates this reference source periodically during the year and subscribers will receive free updates of the latest version of this product for the next two years. The single volume manual attempts to provide a comprehensive look at what interstate natural gas pipelines need to know about compliance with FERC regulatory requirements. For more specific guidance regarding your company’s compliance needs please contact Chris John or Mark Shaffer at BWMQ’s Washington office at (202-775-8994). BWMQ’s consultants stand ready to help you use this tool to ensure that your company meets its regulatory obligations.

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Our Firm

BWMQ is a leading energy consulting firm that has been providing advice and assistance to clients for more than 20 years. BWMQ’s mission statement is to satisfy its client’s needs through quality work and a close working relationship with our clients.

BWMQ provides comprehensive energy related services to hundreds of clients, including electric, natural gas, and oil pipeline companies, local distribution companies, energy producers, trade associations, shippers, and federal and state agencies.

BWMQ, through our extensive experience, knowledge, and technical resources, is well suited to provide expert advice and assistance on key economic, business, financial, and regulatory matters. BWMQ places quality client service as its number one priority.

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Readers are urged to consult any regular contacts at BWMQ or Mr. Barry Sullivan (telephone: 202-775-8994; e-mail: Sullivan@BWMQ.COM) concerning their own situations or any specific technical questions they may have.