



## The History of Regulation

- > Home
- > Overview of Natural Gas
- > Natural Gas - From Wellhead to Burner Tip
- > Business Overview
- > Natural Gas Regulations
  - > History of Regulation
  - > The Market Under Regulation
- > Environment & Technology
- > Focus on LNG
- > Natural Gas Quiz

Regulation of the natural gas industry in the United States has historically been a tumultuous ride, resulting in dramatic changes in the industry over the past 30 or more years. This section will outline the major historical regulatory events related to the natural gas industry, and show how the current structure of the industry in the U.S. is the product of a long regulatory evolution.

Today, competitive forces are being relied upon more heavily to determine market structure and operation. However, this has not always been the case. Almost all aspects of the natural gas industry were regulated at one point - a situation which led to tremendous difficulties in the industry, including the natural gas shortages experienced in the 1970s.



Source: ChevronTexaco Corporation

This section provides a timeline of important regulatory events regarding the natural gas industry. Click on the links below to skip ahead to later sections:

- [The Early Days of Regulation](#)
- [The Beginnings of Federal Regulatory Involvement](#)
- [The Natural Gas Act of 1938](#)
- [The Phillips Decision - Wellhead Price Regulation](#)
- [The Effects of Wellhead Price Control - 1958-1978](#)
- [The Natural Gas Policy Act of 1978](#)
- [The Move towards Deregulation](#)
- [FERC Order No. 436](#)
- [The Natural Gas Wellhead Decontrol Act of 1989](#)
- [FERC Order No. 636](#)

### The Early Days of Regulation

The regulation of natural gas dates back to the very beginnings of the industry. In the early days of the industry (mid-1800s) natural gas was predominantly manufactured from coal, to be delivered locally, generally within the same municipality in which it was produced. Local governments, seeing the natural monopoly characteristics of the natural gas market at the time, deemed natural gas distribution a business that affected the public interest to a sufficient extent to merit regulation. Because of the distribution network that was needed to deliver natural gas to customers, it was decided that one company with a single distribution network could deliver natural gas more cheaply than two companies with overlying distribution networks and markets. However, economic theory dictates that a company in a monopoly position, with total control over its market and the absence of any competition will typically take advantage of its position, and has incentives to charge overly-high prices. The solution, from the point of view of the local governments, was to regulate the rates these natural monopolies charged, and set down regulations that prevented them from abusing their market power.

As the natural gas industry developed, so did the complexity of maintaining regulation. In the early 1900s, natural gas began to be shipped between municipalities. Thus natural gas markets were no longer segmented by municipal boundaries. The first intrastate pipelines began carrying gas from city to city. This new mobility of natural gas meant that local governments could no longer oversee the entire natural gas distribution chain. There was, in essence, a regulatory gap between municipalities. In response to this, state level governments intervened to regulate the new 'intrastate' natural gas market, and determine rates that could be charged by gas distributors. This was done by creating public utility commissions and public service commissions to oversee the

regulation of natural gas distribution. The first states to do so were New York and Wisconsin, which instituted commissions as early as 1907.

### The Beginnings of Federal Regulatory Involvement

With the advent of technology that allowed the long distance transportation of natural gas via interstate pipelines, new regulatory hurdles arose. In the same sense that municipal governments were unable to regulate natural gas distribution that extended beyond their areas of jurisdiction, the state governments were unable to regulate interstate natural gas pipelines. Between 1911 and 1928, several states attempted to assert regulatory oversight of these interstate pipelines. However, in a series of decisions, the U.S. Supreme Court held that such state oversight of interstate pipelines violated the interstate commerce clause of the U.S. Constitution. These cases, known as the 'Supreme Court Commerce Clause' cases, essentially stated that interstate pipeline companies were beyond the regulatory power of state-level government. Without any federal legislation dealing with interstate pipelines, these decisions essentially left interstate pipelines completely unregulated; the second regulatory gap.



**Interstate Pipelines Spurred Federal Regulation**

Source: Duke Energy Gas Transmission Canada

However, due to concern regarding the monopoly power of interstate pipelines, as well as conglomeration of the industry, the federal government saw fit to step in to fill the regulatory gap created by interstate pipelines.

In 1935, the [Federal Trade Commission](#) issued a report outlining its concern over the market power that may be exerted by merged electric and gas utilities. By this time, over a quarter of the interstate natural gas pipeline network was owned by only 11 holding companies; companies that also controlled a significant portion of gas production, distribution, and electricity generation. In response to this report, in 1935 Congress passed the [Public Utility Holding Company Act](#) to limit the ability of holding companies to gain undue influence over a public utility market. However, the law did not cover the regulation of interstate gas sales.

### The Natural Gas Act of 1938

In 1938, the federal government became involved directly in the regulation of interstate natural gas with the passage of the [Natural Gas Act](#) (NGA). This act constitutes the first real involvement of the federal government in the rates charged by interstate gas transmission companies. Essentially, the NGA gave the Federal Power Commission (the FPC, which had been created in 1920 with the passage of the Federal Water Power Act) jurisdiction over regulation of interstate natural gas sales. The FPC was charged with regulating the rates that were charged for interstate natural gas delivery, as well as limited certification powers. The NGA specified that no new interstate pipeline could be built to deliver natural gas into a market already served by another pipeline. In 1942, these certification powers were extended to cover any new interstate pipelines. This meant that, in order to build an interstate pipeline, companies must first receive the approval of the FPC.

The rationale for the passage of the NGA was the concern over the heavy concentration of the natural gas industry, and the monopolistic tendencies of interstate pipelines to charge higher than competitive prices due to their market power. While the NGA required that 'just and reasonable' rates for pipeline services be enforced, it did not specify any particular regulation of prices of natural gas at the wellhead.

### The Phillips Decision - Wellhead Price Regulation

As mentioned, the NGA instituted no specific regulatory oversight of sales of natural gas from producers to the pipelines: wellhead prices were unregulated. However, in Supreme Court cases during the early 1940s, it was determined that wellhead prices were subject to federal oversight if the selling producer and the purchasing pipeline were affiliated companies. However, the FPC contended that if the natural gas producer and pipeline were unaffiliated, natural market forces existed that would keep wellhead prices competitive.

In 1954, however, this all changed with the Supreme Court's decision in *Phillips Petroleum Co. v. Wisconsin* (347 U.S. 672 (1954)). In this decision, the Supreme Court ruled that natural gas producers that sold natural gas into interstate pipelines fell under the classification of 'natural gas companies' in the NGA, and were subject to regulatory oversight by the FPC. This meant that wellhead prices - that is, the rate at which producers sold natural gas into the interstate market -



**Phillips - Wellhead Price Regulation**

Source: NGS

would be regulated much the same as natural gas that was sold by interstate pipelines to local distribution utilities.

The Phillips decision had a complicated and far-reaching effect on the natural gas industry. In regulating wellhead prices, the FPC instituted a traditional 'cost-of-service' rate making determination. This system of setting rates relied on the cost of providing the service, rather than the market value of that service. This meant that prices were set to allow companies to charge prices high enough to cover the actual costs of producing natural gas, plus a 'fair' profit. Where regulating pipelines

had been possible with this method due to the relatively small number of interstate pipeline companies, the large number of different natural gas producers meant that regulating producers was an extreme administrative burden for the FPC. Three eras of producer regulation ensued each with its own difficulties, until finally wellhead price control culminated in the natural gas shortages of the 1970s.

From 1954 to 1960, the FPC attempted to deal with producers and their rates on an individual basis. Each producer was treated as an individual public utility, and rates were set based on each producer's cost of service. However, this turned out to be administratively unfeasible, as there were so many different producers and rate cases that a tremendous backlog developed at the FPC. For example, in 1959, there were 1,265 separate applications for rate increases or reviews, the FPC was only able to act on 240 cases.

Due to this enormous backlog, the FPC in 1960 decided to set rates based on geographic areas. The U.S. was divided into five separate producing regions, and the FPC set rates for all wells in a particular region. The FPC set interim ceiling prices based on the average natural gas contract prices paid during 1959-1960 for a particular area. The FPC intended on using these interim ceiling prices until it could determine a 'just and reasonable' rate that it could apply to all natural gas sales from a particular region. However, the process for determining area wide rates took much longer and was much more difficult than anticipated, and by 1970 rates had been set for only two of the five producing areas. To make matters worse, for most of the areas, prices were essentially frozen at 1959 levels. The problem with determining rates for a particular area based on cost-of-service methodologies was that there existed many wells in each area, with vastly different production costs.

By 1974, the FPC had determined that area wide pricing was unfeasible. In an effort to find a system of wellhead price regulation that worked, the FPC adopted national price ceilings for the sale of natural gas into interstate pipelines. Realizing that the prior price ceilings, based on the cost-of-service approach, were much lower than the market value of interstate natural gas, the FPC set a national price ceiling of \$0.42 per million cubic feet (mcf) of natural gas. Although this price ceiling doubled the prices that had been set during the 60s, it was still significantly less than the market value of the natural gas being sold. This system of price controls was in place until the passage of the Natural Gas Policy Act (NGPA) in 1978.

### **The Effects of Wellhead Price Controls 1954-1978**

All three of these systems of price control discussed above had disastrous effects on the natural gas market in the United States. The artificially low price ceilings that had been set since 1954 had a number of outcomes in the market, coming to bear in the late 60s and 70s. Because the set rates for natural gas were below the market value of that gas, demand surged. The low prices of natural gas, as set by the FPC, meant that consumers were receiving good value for their money. This combined with the oil price surges experienced during the OPEC crisis in the 70s made natural gas an even more attractive fuel.

However, at the same time, there was little incentive for natural gas producers to devote the money required to explore for and produce new natural gas reserves. The selling price for natural gas was so low, it simply wasn't worth it for the producers. Producers also saw little incentive to search for new reserves. While the price at which they could sell interstate gas was fixed, the finding and development costs for establishing new reserves was as variable and unpredictable as ever. Producers saw little reason to engage in the exploration of new reserves that would cost more to find than they could be sold for under FPC wellhead price control.

However, the FPC only regulated producer wellhead prices for natural gas destined for the

interstate market, leaving natural gas sales within the intrastate market relatively free of regulation. So while demand was surging nationwide, economic incentives did not exist for producers to ship their gas across state lines. They could sell it at a much higher price to intrastate bidders. In 1965, a third of the nations proved reserves were earmarked for intrastate consumers; by 1975, almost half of the proved reserves were committed to intrastate consumers.

This resulted in natural gas reaching consumers in the producing states, while the consuming states were experiencing natural gas supply shortages. In fact, in 1976 and 1977, many schools and factories in the Midwest were forced to close, due to a shortage of natural gas to run their facilities. Meanwhile, in the producing states, virtually no shortage was felt, due to the thriving intrastate market satisfying natural gas demand in these states. This led to certain 'curtailment' policies, advocated by the FPC and state utility regulators. These policies essentially set a schedule of priority, directing distributors and transporters to curtail supplies to certain customers who were deemed 'low priority'. However, these policies resulted in numerous litigation suits and FPC proceedings that turned out to be extremely complicated and time consuming. Realizing that something must be done at the federal level to reduce the strain of these supply shortages and demand surges, Congress enacted the [Natural Gas Policy Act](#) in 1978.

### **The Natural Gas Policy Act of 1978**

In November of 1978, at the peak of the natural gas supply shortages, Congress enacted legislation known as the Natural Gas Policy Act (NGPA), as part of broader legislation known as the National Energy Act (NEA). Realizing that those price controls that had been put in place to protect consumers from potential monopoly pricing had now come full circle to hurt consumers in the form of natural gas shortages, the federal government sought through the NGPA to revise the federal regulation of the sale of natural gas. Essentially, this act had three main goals:

- Creating a single national natural gas market
- Equalizing supply with demand
- Allowing market forces to establish the wellhead price of natural gas

This act attempted to accomplish these goals by statutorily setting 'maximum lawful prices' for the wellhead sale of natural gas, as well as breaking down barriers between intrastate and interstate natural gas markets. The FPC, the federal body with regulatory oversight of the natural gas market, was abolished and replaced with another body, the Federal Energy Regulatory Commission (FERC), under the Department of Energy Organization Act of 1977. Under the NGPA, FERC was given jurisdiction over the same areas as the FPC, with the exception of the import and export of natural gas, which was the jurisdiction of the new Department of Energy.

The ceiling prices for wellhead gas set by the NGPA differed from the system put in place under the NGA. Under the NGPA, increased price ceilings were set, intended to provide economic incentives for producers to search for and produce new natural gas. These ceilings and the mechanisms for increasing rates were set out in the statute, rather than relying on an independent body to determine these rates. Under the NGPA, some of the price ceilings that were set, specifically those affecting wellhead sales of new production, were designed to be phased out over a series of years, with the goal of complete deregulation of wellhead prices by 1985. However, the NGPA also dictated that gas brought into production before the passage of the Act would forever be subject to pre-NGPA regulations and price limits.

In addition to this new system for rate-setting, and the goal of deregulation of wellhead prices in seven years, the NGPA also served to break down the barriers between interstate and intrastate natural gas. Under the NGPA, FERC was authorized to approve the transportation of natural gas by an interstate pipeline on behalf of intrastate pipelines and local distribution companies - avoiding some of the regulatory hurdles that had created such a schism between interstate and intrastate markets.

The NGPA was a fundamental first step in deconstructing the regulatory problems that had been created by the NGA. The market response to the provisions of the NGPA included:

- Pipelines, accustomed to gas shortages in the past years, signed up for many long-term natural gas contracts
- Producers expanded exploration and production, drilling new wells and using the long-term sales contracts with pipelines to recover their investment
- Average wellhead prices rose dramatically in the years following the NGPA
- Prices for end-users increased, but were mitigated by the pipelines, which blended the cost of gas under new contracts with regulated gas under old contracts when selling their bundled product to their customers
- Price increases led to decreased demand



Thus the NGPA allowed for more competitive prices at the wellhead. However, many members of the industry were unprepared for the corresponding drop in demand. The pipelines, used to the era of curtailment, were quick to sign up for long-term 'take-or-pay' contracts. These contracts required the pipelines to pay for a certain amount of the contracted gas, whether or not they can take the full contracted amount. While the NGPA did spur investment in the discovery of new natural gas reserves, the increasing wellhead price, mixed with the eagerness of pipelines to deliver as much natural gas as possible, led to a situation of oversupply.

Where it was necessary to curtail natural gas deliveries in the 60s and 70s due to high demand and low supply, the situation reversed in the period from 1980-85. Rising natural gas prices resulted in the dropping off of some of the demand that had built up when the price for natural gas was held below its market value. The resulting 'oversupply' scenario had a number of effects, including requiring the pipelines to make 'take-or-pay' payments to their suppliers despite no longer needing the amount of natural gas that had previously been contracted. Customers of the pipelines, purchasing a 'bundled' product - including the natural gas itself and the transportation of that gas - lobbied for reduced natural gas prices. In addition, pipeline customers sought the right to purchase their own gas from producers and transport it over the interstate pipelines, instead of purchasing the bundled product directly from the pipelines.

### **The Move towards Deregulation**

The Natural Gas Policy Act took the first steps towards deregulating the natural gas market, by instituting a scheme for the gradual removal of price ceilings at the wellhead. However, there still existed significant regulations regarding the sale of gas from an interstate pipeline to local utilities and local distribution companies (LDCs). Under the NGA and the NGPA, pipelines purchased natural gas from producers, transported it to its customers (mostly LDCs), and sold the bundled product for a regulated price. Instead of being able to purchase the natural gas as one product, and the transportation as a separate service, pipeline customers were offered no option to purchase the natural gas and arrange for its transportation separately.

Several events led up to the 'unbundling' of the pipelines' product. In the early 1980s, noticing that a significant number of industrial customers were switching from using natural gas to other forms of energy (for example, electric generators switching from natural gas to coal), several pipelines instituted what they called Special Marketing Programs (SMPs). Essentially, these programs, which were approved by FERC, allowed industrial customers with the capability to switch fuels the right to purchase gas directly from producers, and transport this gas via the pipelines. However, SMPs were found discriminatory by the District of Columbia Circuit Court of Appeals in several 1985 cases. The court ruled that SMPs were discriminatory in that no other customer of the pipelines had the ability to purchase their own natural gas and transport it via pipeline. As a result of this, SMPs were eliminated on October 31, 1985.

However, the practice of allowing customers to purchase their own gas, and use pipelines only as transporters rather than merchants, was not abandoned. In fact, it became part of FERC policy to encourage this separation by way of Order No. 436.

### **FERC Order No. 436**

In 1985, FERC issued Order No. 436, which changed how interstate pipelines were regulated. This order established a voluntary framework under which interstate pipelines could act solely as transporters of natural gas, rather than filling the role of a natural gas merchant. This order provided for all customers the same possibilities that the SMPs of the early 1980s had afforded industrial fuel-switching customers, thus avoiding the discrimination problems of the earlier SMPs. Essentially, FERC allowed pipelines, on a voluntary basis, to offer transportation services to customers who requested them on a first come, first served basis. The interstate pipelines were barred from discriminating against transportation requests based on protecting their own merchant services. Transportation rate minimums and maximums were set, but within those boundaries the pipelines were free to offer competitive rates to their customers. Although the framework established by Order 436 was voluntary, all of the major pipeline systems eventually took part.

FERC Order No. 436 had a number of immediate effects, including:

- Pipelines began offering transportation service to all customers
- Pipeline customers realized cost savings, in that the spot market prices of natural gas were much lower than the prices offered for natural gas by the pipelines (due to the long term 'take-or-pay' contracts that the pipelines were bound under)
- The payments necessary under these 'take-or-pay' contracts increased for pipelines, as few customers were willing to purchase higher priced gas from the pipelines

- Pipelines and producers were often forced into litigation to resolve issues surrounding 'take-or-pay' contracts

FERC Order No. 436 also had a number of longer term effects, including:

- The transportation function became the primary function of pipelines, as opposed to offering the bundled merchant service
- A wide variety of natural gas purchasing and transportation patterns and practices emerged due to the availability of choices to the end user
- New pricing patterns emerged, known as 'netback' pricing, in which a reasonable price was set at the point of consumption, and that minus the cost of distribution, minus the cost of transportation, gave the 'netback' price to the producer at the wellhead

The movement towards allowing pipeline customers the choice in the purchase of their natural gas and their transportation arrangements became known 'open access'. Order No. 436 thus became generally known as the Open Access Order.

While the general thrust of Order 436 was upheld in Court, several problems arose regarding the 'take-or-pay' contracts under which the pipelines were still obliged. Given these problems, and under remand from the D.C. Circuit Court of Appeals, FERC issued Order No. 500 in 1987. This order essentially encouraged interstate pipelines to buy out the costly take-or-pay contracts, and allowed them to pass a portion of the cost of doing so through to their sales customers. The LDCs to which these costs were passed through were allowed by state regulatory bodies to further pass them on to retail customers. However, the open access provisions of Order No. 436 remained intact.

### **The Natural Gas Wellhead Decontrol Act of 1989**

As mentioned, under the NGPA, the deregulation of natural gas producers sale prices at the wellhead had begun. However, it wasn't until Congress passed the Natural Gas Wellhead Decontrol Act (NGWDA) in 1989 that complete deregulation of wellhead prices was carried forth. Under the NGWDA, the NGPA was amended and all remaining regulated prices on wellhead sales were repealed. As of January 1, 1993, all remaining NGPA price regulations were to be eliminated, allowing the market to completely determine the price of natural gas at the wellhead.

The NGWDA stated that 'first sales' of natural gas were to be free of any federal price regulations. The Act defined 'first sales' as the sale of gas:

- To a pipeline
- To a local distribution company
- To an end user
- Preceding the sale to any of the above
- Determined by FERC to be a first sale

Excluded from falling under the definition of a first sale were any sales of gas by pipelines and local distribution companies, including interstate pipelines.

### **FERC Order No. 636**

While FERC Order No. 436 made the unbundling of pipeline services possible, the establishment of transportation only services by a pipeline continued to be only voluntary. FERC Order No. 636 completed the final steps towards unbundling by making pipeline unbundling a requirement. Issued in 1992, the Order states that pipelines must separate their transportation and sales services, so that all pipeline customers have a choice in selecting their gas sales, transportation, and storage services from any provider, in any quantity. Order 636 is often referred to as the Final Restructuring Rule, as it was seen as the culmination of all of the unbundling and deregulation that had taken place in the past 20 years. Essentially, this Order meant that pipelines could no longer engage in merchant gas sales, or sell any product as a bundled service. This Order required the restructuring of the interstate pipeline industry; the production and marketing arms of interstate pipeline companies were required to be restructured as arms-length affiliates. These affiliates, under Order 636, could in no way have an advantage (in terms of price, volume, or timing of gas transportation) over any other potential user of the pipeline.

FERC Order No. 636 is the culmination of deregulating the interstate natural gas industry. Distilled to its main purpose, the Order gives all natural gas sellers equal footing in moving natural gas from the wellhead to the end-user or LDC. It allows the complete unbundling of transportation, storage, and marketing; the customer now chooses the most efficient method of obtaining its gas.

Order 636 also requires that interstate pipelines offer services that allow for the efficient and

reliable delivery of natural gas to end users. These services include the institution of 'no-notice' transportation service, access to storage facilities, increased flexibility in receipt and delivery points, and 'capacity release' programs. No-notice transportation services allow LDCs and utilities to receive natural gas from pipelines on demand to meet peak service needs for its customers, without incurring any penalties. These services were provided based on LDC and utility concerns that the restructuring of the industry may decrease the reliability needed to meet their own customers' needs. The capacity release programs allow the resale of unwanted pipeline capacity between pipeline customers. Order 636 requires interstate pipelines to set up electronic bulletin boards, accessible by all customers on an equal basis, which show the available and released capacity on any particular pipeline. A customer requiring pipeline transportation can refer to these bulletin boards, and find out if there is any available capacity on the pipeline, or if there is any released capacity available for purchase or lease from one who has already purchased capacity but does not need it.