# Regulated Enterprise: Natural Gas Pipelines and the Competition for Northeastern Markets, 1938-1954

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The rapid growth of the American natural gas industry between 1938 and 1954 provides an important case study of industrial expansion in a highly regulated, market driven industry. The most instructive episode of industry growth in this period occurred as long distance pipelines for the first time connected the massive Gulf Coast natural gas reserves with the northeastern energy market, much of which previously had little or no access to natural gas. My dissertation examines this episode in detail, and my thesis is that federal regulation of the industry during this period proved beneficial to both the pipeline industry and gas consumer.

Aggressive and politically sensitive entrepreneurs based in southwestern headquarters took advantage of an economic and regulatory environment conducive to industry growth; they organized and operated three of the nation's longest gas pipelines to connect southwestern gas supply with northeastern customers. These entrepreneurs included Gardiner Symonds at Tennessee Gas & Transmission Company (now Tenneco, Inc.), George and Herman Brown at Texas Eastern Transmission Corporation (now a subsidiary of Panhandle Eastern Corporation), and Claude Williams at Trans-continental Gas Pipe Line Company (now Transco Energy); together they represented a vast quantity of natural gas which remained unmarketable without a pipeline connection. The three companies competed against each other as well as with coal, railroad, and fuel oil businesses in their efforts to sell natural gas. These three pipelines eventually introduced natural gas into the Northeast on a scale large enough to ensure a long-lasting and generally stable supply for the entire region, and they remain today as major suppliers of natural gas into the Northeast.

My work draws extensively on corporate records from each of the three pipeline companies. In particular, records from Texas Eastern Corporation were made available in conjunction with a corporate history project, and that company's significant historical documents encompass not only its early history but that of its competitors, regulators, and lobbyists. Similarly, Tenneco, Inc. made available its corporate records in conjunction with its own planning process for a history project. These records include numerous oral history interviews conducted during the early 1960s as well as correspondence and business records. I have also drawn heavily on published regulatory materials,

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Federal Power Commission hearings testimony, and numerous other sources to provide a regulatory and industrial context for this episode.

My study begins with an overview of the condition of the gas industry prior to 1938 and thereafter charts the expansion of the gas pipeline industry from the southwest first to Appalachia, then to Philadelphia, New York City, and finally into New England.

Prior to 1938, the interstate gas pipeline industry was not fully developed. Several gas pipelines transported natural gas from the southwest to the midwest. There was also an extensive gas pipeline system in the Appalachian region. But the depression halted the growth of the pipeline industry before pipelines could connect southwestern reserves with potential gas markets to the northeast of Appalachia; Appalachian reserves were considered insufficient to justify a pipeline connection to the large metropolitan areas in the Northeast. For gas heating and cooking, consumers in cities such as Philadelphia, New York, and Boston remained dependent upon a nineteenth century technology which produced manufactured coal gas.

The year 1938 marked the Natural Gas Act and the beginning of federal regulation of the interstate transmission and sale of natural gas; before 1938 interstate natural gas commerce was ineffectively regulated by various state regulatory commissions. The Natural Gas Act empowered the Federal Power Commission (FPC) to regulate the interstate transmission and sale of natural gas through its authority to issue a "certificate of public convenience and necessity" without which a pipeline could not operate. To receive a certificate, the FPC required the applicant to prove in public hearings that it had commitments for 20 years of gas reserves to meet its proposed market demand, that sufficient market demand existed, that the applicant had the necessary engineering capability to operate the line, and had the necessary financial resources to build it.

The catalyst for expansion came during World War II. Vital war production factories in Appalachia required more natural gas than local producers could supply. In response to this business opportunity, a small group of entrepreneurs led by Curtis Dall, former son-in-law of Franklin Roosevelt, organized Tennessee Gas and Transmission Company. His initial efforts to acquire a certificate were thwarted by Section 7(c) of the Natural Gas Act which, though ambiguously worded, granted the FPC jurisdiction to issue certificates only to gas pipelines extending service to areas already receiving natural gas. In 1942, Congress, under pressure from both natural gas and coal interests, modified Section 7(c) allowing gas pipelines to extend service into areas not currently being served. This modification was vitally important for the prospects of an expanding industry.

But difficulties in acquiring financing, gas supply, and steel during wartime conditions forced the original promoters of Tennessee Gas to sell their company to The Chicago Corporation which perceived the line as a means to market its own South Texas gas reserves. Curtis Dall believed that his relationship with Roosevelt backfired on his company by preventing government officials from bestowing favor which might be seen as favoritism. The new owners quickly built the pipeline with a $44 million loan from the Reconstruction Finance Corporation and assistance in acquiring steel from the

War Production Board. Tennessee Gas went on to assist in the alleviation of the Appalachian gas shortage.

After World War II, in a continuing episode of federal war-agency involvement in the gas industry, the War Assets Administration auctioned in a highly politicized bidding competition two war emergency petroleum pipelines, the Big Inch and Little Big Inch Lines, which extended from Texas to New York. This episode involved many prominent business and government figures including Jesse Jones, Harold Ickes, George Allen, Thomas Corcoran, and Thurman Arnold. Texas Eastern, bidding against Tennessee Gas and Transcontinental among others, won the bid, to the great distress of Gardiner Symonds of Tennessee Gas and Transcontinental's officials.

Texas Eastern's promoters won not only the longest pipeline in North America, they acquired the opportunity to profit greatly. Just prior to the bid, Texas Eastern's twenty-eight original stockholders privately purchased a total of 150,000 shares priced at $1.00 each in order to provide the company capital for the $100,000 deposit required with the bid. Less than one year later, after the company purchased the lines from the government, those 150,000 share were worth $9,975,000. These large profits from the sale of government "war surplus property" resulted in widespread publicity including two opposing articles which appeared in the *Harvard Business Review*.

Two months before the bid, Tennessee Gas had begun operating the Inch Lines under a temporary government lease to transport natural gas into Appalachia. Thus, after purchasing the Inch Lines Texas Eastern acquired a full set of Appalachian area customers. The company also began increasing the capacity of the lines to transport more natural gas and targeted the Philadelphia area as its first new gas market. Pennsylvania's strongly pro-coal government, initially aligned with coal and railroad interests, impeded Texas Eastern's plans until company officials personally wrote and promoted a federal eminent domain bill for natural gas pipelines. These efforts resulted in a statutory amendment to the Natural Gas Act signed by President Truman on July 25, 1947, which granted eminent domain powers to gas pipelines. Texas Eastern's two new customers, the Philadelphia Gas Works and the Philadelphia Electric Company, soon began distributing natural gas to their customers for the first time.

Transcontinental's promoters, having lost the bid for the Inch Lines, planned to build a new pipeline to serve New York City, the largest manufactured gas market in the nation. The New York City area attracted the attention of all three pipelines which scrambled to contract the gas supply to satisfy the large demand, but Tennessee Gas and Texas Eastern were tied into their existing markets. Transcontinental was not burdened with existing customers, and it was able to contract for gas sales with the five major Manhattan area utilities with the blessings of state regulators who were anxious for the city to convert its century-old manufactured gas system to more clean and efficient natural gas.

The final competition for new markets took place over New England. Initially, all three companies planned pipeline expansions into New England which had virtually no access to natural gas. However, Transcontinental soon

decided to become a supplier of gas to Tennessee Gas. Through their New England pipeline subsidiaries, Tennessee Gas and Texas Eastern competed vehemently, in a highly regulated environment, to be the sole natural gas supplier to New England. After nearly four years of battles at the FPC, in the courts, the media, and among lobbyists, the FPC divided the market between the two subsidiaries; Symonds of Tennessee Gas also demanded FPC permission to import natural gas from Canada, thereby further expanding the possible supply areas for northeastern natural gas consumers. The New England pipeline systems of Texas Eastern and Tennessee Gas were interconnected so that they could quickly and easily exchange gas from each other.

By the early 1950s, the dramatic competition among the three pipeline companies for new northeastern markets ended. Reginald Hargrove, Texas Eastern's President, reflected on the ending of this episode in a speech to a group of investment bankers. Hargrove observed that "if the era of territorial expansion of our industry is coming to an end, that of developing the potentialities of our present areas has scarce begun."

Significantly, this period of rapid territorial expansion of the natural gas industry ended just as the U. S. Supreme Court in 1954 promulgated the "Phillips Decision" which heralded a new era in the FPC's policy history; the "Phillips Decision" authorized the FPC to regulate the price of wellhead gas sold in interstate commerce. Subsequently, the FPC imposed strict price controls on the gas producing industry. These new responsibilities would overshadow the FPC's pre-1954 role of regulating only the interstate gas pipeline industry.

My study ends in 1954 at the conclusion of a unique and largely unstudied industrial and regulatory episode. The three gas pipelines were delivering voluminous quantities of natural gas into the major northeastern metropolitan regions of Appalachia, Philadelphia, New York City, and New England. Utility companies were rapidly phasing out their manufactured coal gas plants and contracting for as much southwestern natural gas as possible.

The entrepreneurs who formed these three pipeline companies acquired great profit from these efforts and opened up a new phase of gas industry expansion while the FPC as well as other war time regulatory agencies had worked to ensure that the pipelines serving their markets would be efficient transporters of sufficient quantities of natural gas into the areas which most needed and desired the fuel. This episode, then, serves as an instructive case study of regulated enterprise.