

Gas pipelines and the emergence of America's regulatory state

A history of
Panhandle Eastern Corporation,
1928–1993

Christopher J. Castaneda
California State University
Sacramento

Clarence M. Smith



CAMBRIDGE
UNIVERSITY PRESS

PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE
The Pitt Building, Trumpington Street, Cambridge, United Kingdom

CAMBRIDGE UNIVERSITY PRESS

The Edinburgh Building, Cambridge CB2 2RU, UK
40 West 20th Street, New York NY 10011-4211, USA
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
Ruiz de Alarcón 13, 28014 Madrid, Spain
Dock House, The Waterfront, Cape Town 8001, South Africa

<http://www.cambridge.org>

© Cambridge University Press 1996

This book is in copyright. Subject to statutory exception
and to the provisions of relevant collective licensing agreements,
no reproduction of any part may take place without
the written permission of Cambridge University Press.

First published 1996
First paperback edition 2002

A catalogue record for this book is available from the British Library

ISBN 0 521 56166 3 hardback
ISBN 0 521 56732 7 paperback

Contents

| | |
|---|------|
| <i>Illustrations</i> | ix |
| <i>Editor's preface</i> | xiii |
| <i>Author's preface</i> | xv |
| 1 Introduction | 1 |
| Part I Free competition: Captive markets | |
| 2 Promoting Panhandle Eastern | 15 |
| 3 The Power Trust at bay | 50 |
| 4 The triumph of William Maguire | 80 |
| Part II Managing regulation: The challenge | |
| 5 Competing in new forums | 109 |
| 6 Regulatory dynamics and market control | 135 |
| 7 Strategic diversifications | 162 |
| Part III Search for a new equilibrium | |
| 8 Strategic innovations | 183 |
| 9 Struggle for corporate control | 215 |
| 10 The new order | 250 |
| <i>Appendix 1: An earlier effort</i> | 275 |
| <i>Appendix 2: Interview list</i> | 278 |
| <i>Index</i> | 281 |

Illustrations

Charts

| | | |
|-----|--|-----|
| 2.1 | Organization of Mo–Kan interests | 27 |
| 4.1 | Panhandle Eastern organization chart (1937) prior to change of control | 85 |
| 4.2 | Panhandle Eastern organizational structure after regaining independence | 100 |
| 5.1 | United Light and Power System, December 31, 1939 | 110 |

Figures

| | | |
|-----|--|-----|
| 2.1 | Frank Parish and Mo–Kan executives, 1930 | 25 |
| 2.2 | <i>Mo–Kan Bulletin</i> : “The New Giant,” June 1930 | 36 |
| 3.1 | Pipeline survey crew, 1930 | 58 |
| 3.2 | Horse-drawn pipeline welding equipment, 1930 | 59 |
| 3.3 | Welders, 1930 | 59 |
| 4.1 | William G. Maguire | 81 |
| 4.2 | Lowering a section of the Michigan Gas Transmission line into the ditch, 1936 | 91 |
| 5.1 | Boring under a highway during Trunkline construction, 1951 | 130 |
| 5.2 | William G. Maguire turns the gas flow valve at Trunkline dedication, 1951 | 132 |

| | | |
|------|--|-----|
| 6.1 | Liberal, Kansas compressor station | 141 |
| 6.2 | Houstonia compressor station | 144 |
| 6.3 | Trunkline Gas Company control room | 151 |
| 7.1 | National Helium Corporation (cryogenic section) | 175 |
| 7.2 | Robert Dole and William G. Maguire at National Helium dedication | 176 |
| 7.3 | After Maguire: Fred Robinson, W. K. Sanders, and William C. Keefe | 178 |
| 8.1 | Y&O Coal Company, 1976 | 193 |
| 8.2 | Stingray City under construction | 204 |
| 8.3 | Signing the LNG contract in Algiers, 1972 | 208 |
| 9.1 | The <i>Lake Charles</i> unloads LNG at Trunkline's Lake Charles, LA, LNG plant | 216 |
| 9.2 | Richard L. O'Shields and Robert D. Hunsucker | 220 |
| 9.3 | "Staying Power" advertisement (John Wooden) | 239 |
| 9.4 | Panhandle Eastern Corporation headquarters complex in Houston, Texas | 248 |
| 10.1 | Office of the CEO, 1993: Paul Anderson, Dennis Hendrix, and George Mazanec | 263 |
| 10.2 | Associated Natural Gas trading room | 269 |
| 10.3 | Panhandle Eastern Corporation board of directors, 1994 | 272 |

Maps

| | | |
|-----|--|---------------|
| 1.1 | Natural gas pipelines in the United States, 1993 | facing page 1 |
| 2.1 | Major natural gas pipeline systems, 1929 | 16 |
| 2.2 | Missouri–Kansas Pipe Line Company & gas fields, 1929 | 29 |
| 3.1 | Panhandle Eastern Pipe Line Company and Columbia Gas & Electric Company, 1931 | 61 |
| 3.2 | Major natural gas pipeline systems, 1936 | 70 |
| 4.1 | Michigan Gas Transmission Corporation, 1936 | 90 |
| 5.1 | United Light and Power Company: Areas served by utility subsidiaries | 110 |
| 5.2 | Trunkline Gas Company and Panhandle Eastern Pipe Line Company, 1950 | 131 |
| 6.1 | Michigan–Wisconsin Pipeline Company and American Louisiana Pipe Line Company, 1958 | 155 |

Illustrations

xi

| | | |
|------|--|-----|
| 7.1 | Helium production plants | 173 |
| 8.1 | Stingray Pipeline Company | 202 |
| 8.2 | Alaska natural gas transportation system | 206 |
| 9.1 | Trunkline LNG route: Algeria to Lake Charles | 216 |
| 10.1 | Panhandle Eastern Corporation, 1993 | 270 |

Tables

| | | |
|------|---|-----|
| 2.1 | Major public utility holding companies: Natural gas market control, 1930 | 18 |
| 2.2 | Total amount of Mo-Kan stock underwriting, 1929-1930 | 30 |
| 2.3 | Total purchases of Mo-Kan common stock, 1929-1930 | 34 |
| 2.4 | Mo-Kan stock bear raid, June 1930 | 44 |
| 4.1 | Columbia System: Principal active companies, December 31, 1937 | 83 |
| 4.2 | Panhandle Eastern Pipe Line Company and subsidiary companies: Statement of Income - 1931-1936 | 92 |
| 4.3 | Natural gas sales by utilities in Michigan, 1933-1953 | 97 |
| 5.1 | Marketed production of natural gas in the Southwest and Northeast, 1935-1953 | 129 |
| 5.2 | Growth of the transmission system, 1952-1968 | 133 |
| 6.1 | Panhandle Eastern Corporation: Natural gas sales, 1950-1969 | 137 |
| 6.2 | Panhandle Eastern Pipe Line Company: Earnings and financial data, 1948-1968 | 153 |
| 8.1 | Natural gas supply in the United States, 1958-1973 | 184 |
| 8.2 | Curtailments by U.S. interstate pipelines, 1970-1977 | 185 |
| 8.3 | Panhandle Eastern Pipe Line Company: Earnings and financial data, 1968-1977 | 186 |
| 9.1 | LNG deliveries from Sonatrach, 1982-1983 | 232 |
| 9.2 | PEC consolidated financial data, 1978-1988 | 246 |
| 10.1 | Mergers and acquisitions of natural gas pipelines, 1982-1989 | 256 |
| 10.2 | Texas Eastern asset sales, 1989 | 258 |
| 10.3 | Gas sales vs. transportation, 1983-1993 | 265 |

| | | |
|------|--|-----|
| 10.4 | PEC consolidated financial data, 1989–1994 | 266 |
| 10.5 | Composite financial information: U.S. gas pipelines and distribution companies, 1981–1993 | 268 |
| 10.6 | PEC common stock price range and dividends paid, 1988–1994 | 274 |

1

Introduction

At a spring 1991 meeting of his pipeline company managers, Paul Anderson, then Panhandle Eastern Corporation's group vice-president, wrote the phrase "merchant service" on the blackboard, sketched a circle around the words, and drew a diagonal line across them. "We are going to assume," he announced, "the merchant service is dead. We are going to go forward on that basis."¹ As Anderson's comments indicated, the pipeline firm had accepted the fact that an entirely new regulatory policy had emerged; he was preparing a strategy that would enable the company to operate successfully under the new rules.

Within a year, the Federal Energy Regulatory Commission (FERC) issued Order 636, which chairman Martin L. Allday said ". . . will signal the end of the seemingly endless transition period the gas industry has been in. . . . [Order 636] is the next and hopefully last major step in the Commission's efforts to allow competition rather than regulation to govern how pipelines function."² Responding to years of failed regulatory policy, the FERC installed a new approach for the U.S. pipeline industry (Map 1.1) that involved replacing the traditional mer-

¹ Paul M. Anderson, interview by Christopher J. Castaneda and Clarence M. Smith, December 21, 1993, PECA.

² See FERC, *Fact Sheet*, Remarks of FERC Chairman Allday, April 8, 1992.

chant function – the purchase and sale of natural gas – with a modified common carrier status.

Much earlier in the twentieth century, pipelines had been important parts of large, vertically integrated utility companies which in most cases were in the business of discovering, producing, transporting, and distributing gas as well as electricity. Regulatory reforms of the 1930s broke apart these large combines and allowed merchant oriented pipeline firms to exist in smaller systems which were more commonly integrated with a gas production subsidiary rather than a local gas distribution firm. Beginning in the 1950s, increasingly restrictive regulations prompted many pipeline firms to begin diversifying into a wide range of related (as in oil production) and unrelated (real estate development) activities. By the 1970s and 1980s, numerous pipeline systems were the core business of diversified energy firms struggling to respond to rapidly changing market conditions and economic conditions. Order 636 was a decisive regulatory answer to uncertainty in the gas pipeline business as it transformed interstate pipeline companies into “non-discriminatory, open access transportation systems,” or contract carriers (pipelines which transport, but do not buy and sell, gas for producers and/or consumers). While this new policy does not prohibit vertical integration, it segments gas pipelines so that they compete only against other pipelines in the single economic dimension of transporting natural gas.

The Panhandle Eastern meeting in 1991 and the Commission’s Order 636 presented two contrasting visions of the American political economy. These two concepts of how the economy should work, whom it should benefit, and what roles private and public decision making should play in its development had been central features of American political and business affairs for over a century. At Panhandle Eastern and elsewhere in American business, the primary ideology stressed entrepreneurship and the achievement of economic efficiency in a long-run process of capital formation. Where political authority intruded on business activity – as it had increasingly done in the past century – the government was one among other constraints that had an impact on competitive performance. Like markets, regulatory agencies had to be understood, their rulings anticipated, and managed so as to acquire competitive advantage in this realm as in others.

The contrasting visions embodied in the FERC Order 636

stressed equity and economic security, and this outlook featured an emphasis on existing stakeholders and the short-run development of the industry and its markets. The nation's regulatory state emerged in large part because many Americans became convinced that markets alone could not protect consumers and employees from the power exercised by business interests. For more than a century, the United States searched for a workable balance between regulatory control and a market-oriented, entrepreneurial brand of capitalism. Order 636 was merely one of the many recent efforts to change that balance, and this on-going process had done much to shape the nation's natural gas industry and Panhandle Eastern.

Evolution of a firm and a policy

Panhandle Eastern's evolution provides an informative historical perspective on the development of regulatory policy and the modern corporation. This firm's history traverses three significant eras in the growth of gas pipelines and the complex interactions of entrepreneurs, managers, regulators, technicians, and judges in that process. The first era, in which the foundation of the new industry was laid, was characterized by intense business development and competition with minimal regulation or antitrust activity. The second was the era of the regulated merchant function – buying and selling gas, in which pipelines enjoyed a long period of expansion in spite of the increasingly complex regulations imposed on the firms. The third was characterized by regulatory failure, regulatory change, and a decisive reorganization of the industry as the market for corporate control – defined as those market transactions which result in a change of leadership and/or ownership of a corporation – developed in America and abroad.

Free competition: Captive markets

This history begins at a time characterized simultaneously by great strides in industrial innovation and, in the words of historian Richard Vietor, “the failure of competition.”³ In the mid-

³ See, Richard H. K. Vietor, *Contrived Competition: Regulation and Deregulation in America* (Cambridge, Mass.: The Belknap Press of Harvard University Press, 1994), p. 2.

1920s, American business interests were relatively free of political controls. It was a time of rapid and unrestrained economic expansion coupled with fierce competition; yet society honored its entrepreneurs and their business vision. The fruits of economic expansion were of great value to Americans, who appreciated the jobs, new products, and services they received from several industries, including gas and electric, which were growing extremely fast and extending their influence into new markets throughout the country.

The “roaring twenties” witnessed an extended period of peace and prosperity in the United States. Innovations in electric power generation and transmission were reshaping industry and urban life, while improvements in the manufacture of airplane and truck engines, as well as tires, gave these forms of transportation new advantages over older industries like railroads. In the natural gas industry, technological and market developments were beginning to propel industry growth.⁴

Until the mid-1920s, the natural gas industry remained undeveloped. Existing pipeline technology could not prevent pipelines of significant length from leaking; prior to 1925, only one line reached 183 miles and this one was the exception. Industry development was thereby restricted to parts of the Appalachian and Gulf Coast regions where natural gas production was located near industrial and commercial customers. The majority of large energy consumers were not located near significant quantities of natural gas, and they relied on other sources of energy, typically coal. In many towns across the nation, manufactured coal gas plants produced a comparatively inefficient synthetic gas which could be piped locally. Manufactured gas provided lighting and heating for those who could afford it.

The development and application of electric arc welding in the mid-1920s made possible the construction of long-distance, leakproof pipelines. At that point, several entrepreneurs began to consider the possibility of building pipelines to transport gas from the huge and newly discovered fields in the southwest to existing manufactured gas markets in large midwestern urban areas. Thus, the discovery of massive gas fields in the Texas Panhandle during the first two decades of the twentieth century combined with improvements in pipeline technology cre-

⁴ Vietor, *Contrived Competition*, pp. 2–3.

ated unusual opportunities for those willing to invest in this new industry. The result was a dramatic surge in long-distance pipeline construction during the late 1920s.⁵

An assortment of independent entrepreneurs and representatives of large public utility companies with secure access to metropolitan energy markets set out to connect energy hungry markets with newly available natural gas. During the late 1920s, they organized pipelines, including Panhandle Eastern, to buy natural gas from producers and sell it to their own local distribution companies or directly to industrial firms. These lines were, from the beginning, in the merchant-gas business as well as the transportation business.

There were no federal agencies or regulations which oversaw the natural gas industry. The Interstate Commerce Commission which regulated interstate railroad and oil pipeline rates was barred from doing the same for gas and electric firms. Only state regulatory agencies oversaw pipeline operations, and their influence was generally limited to setting the price of gas sold to local distribution companies for resale to residential and commercial customers within city or county jurisdiction. Pipelines which transported gas across state lines escaped for all practical purposes any regulatory oversight. Even intra-state lines could avoid state regulation simply by routing gas across the nearest state border and then bringing it back into the original state for sale. Some firms simply obfuscated regulatory officials by claiming that any interstate business done by their firm exempted all their operations from state regulation. In these years, state regulators simply could not regulate either the performance or the financial structure of interstate utilities like the pipelines.

Constrained only by market forces, gas pipelines rapidly expanded and became heavily involved in the process of combination that was taking place in most public utilities. Like other capital-intensive industries, pipelines were drawn by the carrot of economies of scale and repelled by the stick of intense competi-

⁵ Ralph E. Davis, "Natural Gas Pipe Line Development During the Past Ten Years," *Natural Gas*, vol. 16, no. 12 (December 1935), pp. 3–8. Also see E. Holley Poe & Associates, *Development of Natural Gas Transportation in the United States* (E. Holley Poe & Associates, New York, 1946) and C. Emery Troxel, "Natural Gas Pipe Lines," *The Journal of Land & Public Utility Economics*, vol. 12, no. 4 (November 1936), pp. 344–54.

tion. Throughout the country, large gas and electric distribution systems and coal firms were being consolidated into multi-layered public utility holding company systems. Pipelines were drawn into these combines, which could take advantage of the growing national market for securities to raise the capital they needed. Panhandle Eastern, which had begun as an independent pipeline, was acquired – temporarily – by one of these giant utility holding companies. These combines had significant “first-mover” advantages; and captains of public utility firms were not hesitant to use them in an era in which enforcement of the antitrust laws was in abeyance.⁶

While the unregulated utility holding companies had done much to extend service rapidly to American consumers, they were politically vulnerable on two fronts. Many of them held virtual monopolies in large metropolitan areas and even in entire regions of the country. Americans were generally fearful of monopoly, especially where goods and services they considered to be necessities were concerned. This was particularly the case where utilities had become involved in illegal or suspect financial manipulations. Many utility companies were heavily leveraged, using debt rather than equity to finance their operations. That worked very well in a growing market, but when the great contraction began in the fall of 1929 the weaknesses of these leveraged holding companies became obvious. The collapse of the Insull System left little doubt in the public’s mind that something had to be done to these businesses.⁷

Financial mismanagement in the utility industry, monopolistic practices, and suspiciously high energy costs became even more objectionable after the Great Depression which began in the early 1930s. In response, reform minded New Dealers insti-

⁶ Alfred D. Chandler, Jr., *Scale and Scope: The Dynamics of Industrial Capitalism* (Cambridge, Mass.: The Belknap Press of Harvard University Press, 1990), p. 34. Also see, Jerome K. Kuykendall, “Antitrust Laws and Regulated Companies under the FPC,” *Public Utilities Fortnightly*, March 17, 1960, pp. 373–81. Kuykendall, chairman of the Federal Power Commission in 1960 wrote: “utilities, including those subject to the Federal Power Commission, are not readily controlled by market forces and the antitrust laws are therefore not an apt means of regulation.”

⁷ See, Harold L. Platt, *Electric City: Energy and the Growth of the Chicago Area, 1880–1930* (Chicago: University of Chicago Press, 1991) and Forrest McDonald, *Insull* (Chicago: University of Chicago Press, 1962).

tuted an array of new regulatory agencies and controls designed to impose order on, and to ensure equity in, an economy and society as yet unclear how to respond to the changes taking place during those years. Seeking recovery and reform, the country's political leaders reinvigorated existing business policies such as antitrust and created a number of new federal agencies and laws to regulate firms made independent by new antitrust enforcement policy. The antitrust laws had been passed in an effort to ensure that American markets remain competitive and free from domination by large, corporate monopolies. The application of this policy to utilities and natural gas began in earnest after the passage of the Public Utility Holding Company Act of 1935 (PUHCA). This Act allowed the government to break apart the large public utility holding companies, and it separated many gas pipelines, local distribution companies (LDCs), and producers.

Single industry regulation could now be imposed on the utility industry. The Natural Gas Act (1938) gave the Federal Power Commission (FPC) authority to regulate the interstate natural gas industry, and the Federal Power Act (1935) gave the same agency oversight of electric power. Meanwhile, the Securities & Exchange Commission (SEC) acquired the authority to regulate the securities markets in which pipeline companies and other firms acquired their capital. The subsequent history of Panhandle Eastern and the industry was to a considerable extent a narrative of regulatory experimentation and entrepreneurial efforts to continue to develop the industry under the new conditions these public controls created.

New Deal antitrust policy had allowed Panhandle Eastern to regain its independence from one of the largest public utility holding companies, but it shed one form of central control only to be subjected to another. Now the firm had to operate under the cost-of-service regulation introduced by the Natural Gas Act. This law did not eliminate competition in the industry; it merely shifted it to a new arena. To be successful, entrepreneurs had to be as adept at dealing with regulatory institutions as they were at handling markets. By the early 1940s, the national regulatory system spawned by the New Deal was solidly in place (in this industry and others), bringing new measures of order and economic security to these markets. So long as the regulatory state's basic economic context did not change, it would be able to

keep this “state cartel” functional.⁸ Ultimately, that system too would be forced to give way, but for a number of years it appeared that Americans had been able to blend the best aspects of the entrepreneurial and the regulatory visions.

Managing regulation: The challenge

The second era of this history was highlighted for some years by post–World War II economic growth, prosperity, and stability. A variety of New Deal era regulations and regulatory agencies designed to promote stability – those for pipelines included – seemed to do just that. Market forces were so strong, it appears, and the nation’s potential competitors so weak that even poorly conceived regulations could not hinder the progress of U.S. capitalism. Between 1939 and 1968, the financial, banking, oil, electric, airline, trucking, and telecommunication businesses all grew at a rapid rate. So, too, did the natural gas industry and the pipeline companies which now played a central role in the development of new markets for this fuel.

The rules set by the Natural Gas Act were not all particularly clear or concise, and the Federal Power Commission which administered it depended to a considerable extent upon the judicial system to define the regulatory context more clearly. For pipeline company managers such as Panhandle Eastern’s William Maguire, this fluid situation offered many opportunities to achieve competitive advantage.⁹ Maguire incessantly sought solutions to the problems posed by regulation, and he was as successful at regulatory competition as he was at market competition. While government regulators sought to stabilize the industry, Maguire sought innovation and economic change. To his credit, he made Panhandle Eastern a powerful force in the industry, while irritating his competitors, federal regulators, and several of his best customers.

⁸ Jordan A. Schwarz, *The New Dealers: Power Politics in the Age of Roosevelt* (New York: Alfred A. Knopf, 1993), p. xi.

⁹ See, Neil A. Fligstein, *The Transformation of Corporate Control* (Cambridge, Mass.: Harvard University Press, 1990), p. 2. Fligstein described well the behavior of managers such as Maguire in regulated industries when he wrote: “When one solution was blocked by the actions of the government, new solutions were created and diffused.”

Panhandle Eastern had, for instance, tremendous natural gas reserves. In order to avoid federal regulation of these holdings, Maguire spun off a significant percentage of the reserves into a separate intrastate production company. He also sought to sell natural gas directly to industrial consumers, bypassing local distribution companies as well as FPC rate regulation. These efforts were vociferously opposed by Panhandle's largest customer, the Michigan-Consolidated Gas Company of Detroit, which did not want to lose its valuable industrial customers to Maguire's pipeline. This launched an extended regulatory-judicial struggle as to which company would be allowed to serve this market. These were the sorts of competitive struggles that characterized this middle era of Panhandle's history and the history of business-government relations in post-World War II America.

These struggles also help explain why the government inevitably sought to extend regulatory control. Cartels, state cartels included, are always fragile, always threatened from outside. The solution that usually seems logical to regulators is to extend control to cover the threat to stability. Originally, the Natural Gas Act of 1938 did not authorize the FPC to regulate gas production. The FPC only regulated the price at which pipelines sold gas. This gave pipelines opportunities to justify higher sales prices by controlling the transactions through which they purchased natural gas. Even more complicating was the fact that many pipeline firms owned significant reserves, again giving them leeway in setting prices for their gas.

Not surprisingly, the FPC sought to solve this problem by extending its control to gas production. In 1954, the U.S. Supreme Court's Phillips Decision mandated the regulatory agency to begin regulating the wellhead price of independently produced natural gas. While the case and the decision were complicated, the impact of this extension by the regulatory state was fairly easy to understand. It left the industry encased in a complex system of price controls and encouraged pipelines to begin diversifying into unregulated businesses. The FPC's stringent regulatory policies would become obsolete when the energy economy changed decisively as it did in the 1970s. While this outcome was predictable, the traumatic manner in which it would take place was not.

Search for a new equilibrium

America's long era of post-World War II growth and prosperity came to an end in the late 1960s. Domestic inflation started to rise and the rate of increase of the Gross National Product (GNP) began to decline. By the early 1970s, commercial banks started failing; airlines were losing money on once profitable routes; and natural gas and electricity shortages plagued north-eastern cities. Mergers and acquisitions became the order of the day as many U.S. businesses underwent restructuring in an unpredictable economic environment. Global competition was already cutting into the markets of American firms, long before the nation began to question its military resolve in the wake of the Vietnam debacle.

According to economists such as Alfred Kahn and George Stigler, one of the major sources of U.S. economic malaise was a rigid regulatory system.¹⁰ In natural gas, there could be no other conclusion.¹¹ The dramatic East Coast natural gas shortages were the direct result of the Phillips Decision which had allowed regulators to depress the price, and therefore supply, of interstate natural gas well below market requirements. Certainly, the 1973 Arab oil embargo aggravated the natural gas shortages because industry needed to use natural gas in place of embargoed oil. But sufficient quantities of natural gas were not available because producers had been given little profit incentive to find and develop new gas reserves dedicated for the interstate market. FPC regulations had simply deprived the natural gas pipeline industry of its ability to develop an adequate supply for the markets it had created. With the regulatory state in crisis, many sought a return to the entrepreneurial vision. If pipelines could be made competitive, most businessmen and academics argued, market forces rather than regulation would con-

¹⁰ For a brief and concise overview of this era see Vietor, *Contrived Competition* pp. 12–14. Also see Alfred E. Kahn, *The Economics of Regulation: Principles and Institutions* 2 vols. (New York: Wiley); and George J. Stigler, "The Theory of Economic Regulation," *Bell Journal of Economics and Management Science* vol. 2, no. 1 (1971), pp. 3–21.

¹¹ Paul W. MacAvoy and Robert S. Pindyck, *The Economics of the Natural Gas Shortage (1960–1980)* (Amsterdam: North-Holland Publishing Company, 1975), pp. 16–17.

trol the industry and ensure that business and residential users would have the energy supply they needed.¹²

As regulators, politicians, consumer groups, and business debated the industry's structure, the pipeline companies, still responsible for supplying gas, sought alternative sources for their customers. Panhandle Eastern invested in all of the major sources of supplemental gas. Supplemental gas projects included coal and synthetic coal gas development; initiatives to import natural gas from Canada and Alaska; and the importation of liquefied natural gas (LNG) from North Africa. Despite the tremendous costs involved in these developmental projects, the economics appeared reasonable in the mid-1970s when some economists predicted that the price of oil would hit \$100 per barrel in the 1990s.

Then, however, deregulation quickly eliminated the gas shortage, undercutting the very supplementary fuel ventures the prior regulations encouraged. The pipeline industry entered a period of organizational turmoil comparable to the late 1920s and 1930s. New combines emerged and diversified companies began to shed those functions not directly related, technologically and economically, to their core businesses. Against this background, the federal government launched one more experiment with regulatory control. It determined now that producers should compete only against other producers for gas sales, not against pipelines. Pipelines, as open access transporters, would compete only for the opportunity to transport gas contracted between producers and consumers. Order 636 determined that pipelines would operate somewhat like common carriers, barred from direct participation in the merchant service. It was this latest turn in the regulatory/entrepreneurial mix that prompted Paul Anderson to call his meeting and to encourage his managers to begin planning at once how they would keep the spirit of innovation alive under these new conditions. The story told in the pages that follow, the history of Panhandle Eastern and the regulatory state, will, we trust, help you understand these events and their meaning in America today.

¹² Stephen F. Williams, *The Natural Gas Revolution of 1985* (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1985), p. 22. Also see Edward C. Gallick, *Competition in the Natural Gas Pipeline Industry: An Economic Policy Analysis* (Westport, CT: Praeger, 1993).