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# ARTICLE

## OUR EXPERIENCE UNDER THE NATURAL GAS POLICY ACT OF 1978, AND ITS RELEVANCE TO THE NATURAL GAS WELLHEAD DECONTROL ACT OF 1989

Steven M. Spaeth\*

### I. INTRODUCTION

The history of natural gas wellhead regulation has been marked by conceptual and practical difficulties, both under the Federal Power Commission ("FPC" or "Commission") and under its successor the Federal Energy Regulatory Commission ("FERC" or "Commission").<sup>1</sup> The market distortions in the natural gas market resulting from wellhead regulation have been widely discussed.<sup>2</sup> Most commentators have been severely critical of the effects of wellhead price regulation on the natural gas industry. Nevertheless, Congress recently enacted deregulatory legislation that tends to perpetuate these effects.

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The views expressed are those of the author and not necessarily those of the Commission. The author would like to thank Professor Jordan Jay Hillman of Northwestern University for his helpful comments during the early stages of this article and his continued valued friendship.

1. Cormie, *Incremental Pricing Under the Natural Gas Policy Act of 1978*, 57 DEN. L.J. 1 (1979); Crump, *Natural Gas Price Escalation Clauses: A Legal and Economic Analysis*, 70 MINN. L. REV. 61 (1985); Harrison and Formby, *Regional Distortions in Natural Gas Allocations: A Legal and Economic Analysis*, 57 N.C.L. REV. 57 (1978); MacAvoy, *The Natural Gas Policy Act of 1978*, 19 NAT. RESOURCES J. 811 (1979); Morgan and Patterson, *The Natural Gas Policy Act of 1978: Four Years of Practice and Two to Make Perfect*, 71 KY. L.J. 105 (1982); Pierce, *Natural Gas Regulation, Deregulation, and Contracts*, 68 VA. L. REV. 63 (1982); Ringleb, *Natural Gas Producer Price Regulation Under the NGPA: Regulatory Failure, Alternatives, and Reform*, 20 HOUS. L. REV. 709 (1983); Shoneman and McConnell, *FERC Order No. 451: Freedom (Almost) For Old Gas*, 7 ENERGY L.J. 299 (1986).

2. Crump, *supra* note 1, at 70; Harrison and Formby, *supra* note 1, at 63-67; MacAvoy, *supra* note 1, at 813-14; Morgan and Patterson, *supra* note 1, at 140-47; Ringleb, *supra* note 1, at 714-16.

Wellhead price regulation began in 1954 when the Supreme Court ordered the FPC to exercise jurisdiction over natural gas producers.<sup>3</sup> After the FPC struggled for twenty-four years to develop workable wellhead regulation, Congress passed the Natural Gas Policy Act of 1978 (NGPA).<sup>4</sup> The NGPA created several different categories of natural gas<sup>5</sup> and the act gradually deregulated most, but not all, of these categories between 1978 and 1985.<sup>6</sup> Congress hoped the NGPA would correct the existing problems of wellhead price regulation without placing too much of the burden of increased natural gas prices on residential consumers.<sup>7</sup> Shortly after the enactment of the NGPA, commentators criticized Congress' deregulation of wellhead prices as much as they criticized wellhead price regulation itself. The commentators were convinced that the complex system established by the NGPA would create more problems for the natural gas market than it solved.<sup>8</sup>

Recently, Congress passed the Natural Gas Wellhead Decontrol Act of 1989 (Decontrol Act)<sup>9</sup> to deregulate the categories of gas left untouched by the NGPA. Past experience with the NGPA may be helpful in evaluating the new deregulatory law and its possible effects on gas producers and consumers. Section II of this article reviews the history of natural gas regulation prior to 1978 and the effect of regulation on the gas market. Section III examines the NGPA in detail, and Section IV considers the criticisms leveled against the NGPA at the time of its enactment. Section V discusses the commentators' criticisms and the accuracy of their accompanying predictions. Finally, Section VI discusses the Decontrol Act, and Section VII sets out conclusions regarding the possible effects of the Decontrol Act on the gas market.

## II. NATURAL GAS REGULATION BEFORE 1978

The natural gas industry is somewhat fragmented. Each step of the process of getting the gas from the ground to the consumer is performed in a separate, distinct market.<sup>10</sup> The market in which gas

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3. Phillips Petroleum Co. v. Wisconsin, 347 U.S. 672 (1954).

4. 15 U.S.C. §§ 3301-3432 (1988).

5. 15 U.S.C. §§ 3311-3320 (1988).

6. 15 U.S.C. §§ 3331-3332 (1988).

7. H.R. REP. No. 5289, 95th Cong., 2d Sess. 1-2 (1978); MacAvoy, *supra* note 1, at 824.

8. Cormie, *supra* note 1, at 19-20; MacAvoy, *supra* note 1, at 828; Morgan and Patterson, *supra* note 1, at 105-07; Pierce, *supra* note 1, at 114-15; Ringleb, *supra* note 1, at 768-69.

9. Pub. L. No. 101-60, 103 Stat. 157 (1989).

10. D. ZILLMAN & L. LATTMAN, ENERGY LAW 489 (1983).

well operators sell to pipelines is called the "wellhead market."<sup>11</sup> There are usually hundreds of gas producers in any field, ranging from large integrated or independent producers who operate a large portion of the field to "wildcatters" who operate only a small number of wells.<sup>12</sup> As a result, the wellhead market is usually very competitive.<sup>13</sup> The pipelines transport the gas from the fields to the point or measuring station where it is sold to and received by local distributors. The market where the pipelines sell the gas to local distributors is called the "city gate market." Pipelines have declining marginal costs, and usually only one pipeline serves a city. Therefore, pipelines are considered natural monopolies,<sup>14</sup> and it is generally agreed that they must be regulated.<sup>15</sup> The market between the local distributors and the final consumers is called the "burner-tip market," and this market is also considered a natural monopoly.<sup>16</sup> While state public service commissions regulate the burner-tip market, the other gas markets fall under federal jurisdiction.<sup>17</sup> This article will focus on federal gas regulation.

In 1923 the Supreme Court held in *Missouri v. Kansas Natural Gas Co.*<sup>18</sup> that state agencies could not regulate interstate pipelines without unconstitutionally restricting interstate commerce.<sup>19</sup> Congress enacted the Natural Gas Act (NGA)<sup>20</sup> in 1938 to fill the regulatory gap created when natural gas pipelines began to expand across state boundaries. The NGA gave the FPC jurisdiction over all "natural-gas compan[ies]."<sup>21</sup> This Act defined a natural-gas company as "a person engaged in the transportation of natural gas in interstate commerce, or the sale in interstate commerce of such gas for resale."<sup>22</sup>

While the NGA gave the FPC the power to set rates for the

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11. *Id.*

12. *Id.*

13. Pierce, *Reconsidering the Roles of Regulation and Competition in the Natural Gas Industry*, 97 HARV. L. REV. 345, 347 (1983).

14. Pierce, *supra* note 13, at 352; L. SCHWARTZ, J. FLYNN, & H. FIRST, FREE ENTERPRISE AND GOVERNMENT ORGANIZATION 31 (1985).

15. L. SCHWARTZ, J. FLYNN, & H. FIRST, *supra* note 14, at 31. *But see* Pierce, *supra* note 13 (arguing that the pipeline industry has become competitive in many city gate markets and should be deregulated).

16. L. SCHWARTZ, J. FLYNN, & H. FIRST, *supra* note 14, at 31.

17. *Id.*

18. 265 U.S. 298 (1923).

19. D. ZILLMAN & L. LATTMAN, *supra* note 10, at 490-92; Morgan and Patterson, *supra* note 1, at 107-08; Ringleb, *supra* note 1, at 713.

20. 15 U.S.C. §§ 717-717w (1988).

21. 15 U.S.C. § 717c(d) (1988).

22. 15 U.S.C. § 717a(6) (1988).

transportation and resale of natural gas, it specifically excluded "the production or gathering of natural gas" from the Commission's jurisdiction.<sup>23</sup> Since gas producers and gatherers sell gas in interstate commerce for resale, these two clauses created an ambiguity in the NGA.<sup>24</sup> The FPC tried to resolve this ambiguity in the *Phillips Petroleum Co.* rate hearing.<sup>25</sup> Phillips produced and gathered gas but did not engage in interstate transportation of gas to consumers.<sup>26</sup> The FPC construed its jurisdiction under the NGA as not extending to Phillips.<sup>27</sup> The Commission based this construction of the NGA on the legislative history of the NGA, focusing particularly on a 1935 Federal Trade Commission (FTC) report requested by Congress concerning the natural gas industry.<sup>28</sup> The FTC found that producers had no monopoly power but rather were victimized by the monopoly power of pipelines in the wellhead market.<sup>29</sup> However, in *Phillips Petroleum Co. v. Wisconsin*,<sup>30</sup> the United States Supreme Court affirmed a lower court holding which overturned the Commission's finding. In construing the legislative history of the NGA, the Court found that Congress only intended the NGA to "plug the 'gap'" left by *Missouri v. Kansas Natural Gas Co.* and did not intend to leave wellhead prices unregulated.<sup>31</sup> Therefore, the Court held that Phillips was a natural gas company for purposes of the NGA and required the FPC to regulate wellhead gas prices.<sup>32</sup>

Prior to the *Phillips Petroleum Co. v. Wisconsin* decision in 1954, the FPC had gained a great deal of experience with rate of return regulation in regulating pipelines. Therefore, the Commission chose to use rate of return regulation to comply with *Phillips*, even though this form of regulation is not particularly suitable for competitive industries like gas production.<sup>33</sup> In fact, rate of return regulation soon

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23. 15 U.S.C. § 717(b) (1988).

24. Ringleb, *supra* note 1, at 714; Pierce, *supra* note 1, at 66.

25. Phillips Petroleum Co., 10 F.P.C. 246 (1951).

26. *Id.* at 249; Phillips Petroleum Co. v. Wisconsin, 347 U.S. 672, 675 (1954). Phillips did transport gas across state lines from its fields to its processing plants. *Id.*

27. 10 F.P.C. at 276.

28. *Id.* at 261-76 (citing REPORT OF THE FTC TO THE U.S. SENATE, S. DOC. NO. 92, 70th Cong., 1st Sess. 132-33, 590-91 (1928-36)).

29. REPORT OF THE FTC TO THE U.S. SENATE, S. DOC. NO. 92, 70th Cong., 1st Sess. 132-33, 590-91 (1928-36); 10 F.P.C. at 263.

30. 347 U.S. 672 (1954).

31. *Id.* at 682-84.

32. *Id.* at 677.

33. D. ZILLMAN & L. LATTMAN, *supra* note 10, at 511; Morgan and Patterson, *supra* note 1, at 109.

"Rate of return" regulation is the traditional method of regulating natural monopolies.

became unworkable due to the massive increase in workload which burdened the FPC. Before *Phillips* increased the Commission's jurisdiction, the FPC processed an average of 700 gas rate filings per year.<sup>34</sup> After *Phillips* the Commission was expected to process over 11,000 filings annually.<sup>35</sup> In 1955 Congress attempted to relieve the FPC of this burden by specifically exempting producers and gatherers from regulation. However, President Eisenhower vetoed the bill in the face of allegations that a gas industry lobbyist offered a bribe to a legislator.<sup>36</sup> This forced the FPC to find another way to deal with the overwhelming problem imposed on it by the Supreme Court.

In 1960 the FPC attempted to deal with the problems created by *Phillips* by establishing uniform rates for all producers in one area of the country based on average costs of production in those areas.<sup>37</sup> It was under this "area rate" method that the FPC introduced "vintaging" to wellhead regulation. "Vintaging" refers to the allowance of a higher rate for gas produced from wells drilled after a certain date, which in this case was January 1, 1961.<sup>38</sup> New gas is more expensive than old gas because of geological survey costs and costs resulting from wells which turn out to be dry.<sup>39</sup> Therefore, the Commission felt that basing wellhead price ceilings on historical costs would dis-

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Under this method, the monopoly is guaranteed recoupment of its investment, plus a fair rate of return. Rate of return regulation has one obvious inefficiency in that it removes all incentives for the monopoly to improve its quality of service. Regulators continue to use rate of return regulation because subjecting consumers to this inefficiency is preferable to subjecting them to unrestrained monopoly power. However, in markets in which prices are controlled by competitive pressures, there is no good reason to impose the inefficiency of rate of return regulation.

For a more complete discussion of natural monopolies and rate of return regulation, see J. BONBRIGHT, *PRINCIPLES OF PUBLIC UTILITY REGULATION* (1961); A. KAHN, *THE ECONOMICS OF REGULATION* (1970); L. SCHWARTZ, J. FLYNN & H. FIRST, *supra* note 14, at 68-71; W. BAUMOL & A. BLINDER, *ECONOMICS: PRINCIPLES AND POLICY*, 497-503 (1982). For a discussion focusing on the inefficiency of rate of return regulation and a recently developed alternative, see Policy and Rules Concerning Rates for Dominant Common Carriers, 4 FCC Rcd. 2783 (1989); J. HILLMAN & R. BRAEUTIGAM, *PRICE LEVEL REGULATION FOR DIVERSIFIED PUBLIC UTILITIES* (1989). For a discussion of the inappropriateness of rate of return regulation to the wellhead market, see *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 628 (1944) (separate opinion of Jackson, J.).

34. Harrison and Formby, *supra* note 1, at 65.

35. *Id.* It was estimated that, if the Commission's staff was tripled, it would still take 83 years to get through the backlog. D. ZILLMAN & L. LATTMAN, *supra* note 10, at 511.

36. Crump, *supra* note 1, at 70.

37. *Area Rate Proceedings*, 24 F.P.C. 1121 (1960), 34 F.P.C. 159-168 (1965). For more on area rates, see D. ZILLMAN & L. LATTMAN, *supra* note 10, at 511; Morgan and Patterson, *supra* note 1, at 110.

38. *Area Rate Proceedings*, 34 F.P.C. 185-88. D. ZILLMAN & L. LATTMAN, *supra* note 10, at 511; Harrison and Formby, *supra* note 1, at 66.

39. 34 F.P.C. 192-93.

courage exploration, but they also felt that vintaging would counteract this effect without giving a windfall to owners of old gas wells.<sup>40</sup> However, the Commission did not develop area rates for the first area until 1965, and these rates did not take effect for another three years while the area rate method was withstanding court challenges.<sup>41</sup> Consequently, the area rates were based on costs that were outdated and unrealistically low by the time the rates were enacted.<sup>42</sup>

The area rates contributed in several ways to the severe gas shortages of the early 1970s. First, the vintage price for new gas was not high enough to encourage exploration for new gas supplies.<sup>43</sup> Second, the rates caused the diversion of existing gas supplies from the interstate market to the intrastate market where the FPC did not have jurisdiction and where producers were allowed to charge market rates.<sup>44</sup> Finally, the low vintaged prices encouraged industrial users to switch from coal or fuel oil to natural gas for boiler fuel, which resulted in abnormally high industrial gas demand.<sup>45</sup> The FPC responded to these problems in 1974 by setting national rates,<sup>46</sup> which introduced more vintaging to its pricing structure<sup>47</sup> and used future cost projections to set rates.<sup>48</sup> However, the national rates were still not high enough to encourage new exploration and, consequently, the gas shortage grew worse as the 1970s progressed.<sup>49</sup>

### III. THE NGPA

Natural gas was persistently in short supply throughout the 1970s, largely because of wellhead price regulation and the 1973 OPEC oil embargo.<sup>50</sup> Because of these shortages, and after more than a year of debate, Congress enacted the NGPA.<sup>51</sup> The NGPA was intended to raise natural gas rates to market clearing levels. Congress

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40. *Id.* at 185-88; Harrison and Formby, *supra* note 1, at 66.

41. The Supreme Court held the area rate method constitutional in the *Permian Basin Area Rate Cases*, 390 U.S. 747 (1968).

42. Pierce, *supra* note 1, at 67.

43. *Id.* at 69; D. ZILLMAN & L. LATTMAN, *supra* note 10, at 516.

44. D. ZILLMAN & L. LATTMAN, *supra* note 10, at 499; Morgan and Patterson, *supra* note 1, at 112.

45. D. ZILLMAN & L. LATTMAN, *supra* note 10, at 516; Harrison and Formby, *supra* note 1, at 67-68.

46. *Just and Reasonable National Rates for Sales of Natural Gas*, 51 F.P.C. 2212 (1974).

47. *Id.* at 2215; Cormie, *supra* note 1, at 2-3.

48. 51 F.P.C. at 2245; Pierce, *supra* note 1, at 68.

49. Pierce, *supra* note 1, at 69.

50. D. ZILLMAN & L. LATTMAN, *supra* note 10, at 516.

51. 15 U.S.C. §§ 3301-3432. For an excellent summary of the Congressional debate, see Morgan and Patterson, *supra* note 1, at 114-16.

hoped this would encourage exploration, correct the disparity between the interstate and intrastate markets, and make other fuels competitive with natural gas. However, Congress also sought to avoid placing most of the brunt of the price increases on residential consumers.<sup>52</sup>

The NGPA created over thirty classifications of natural gas. These classifications fall into three general groups: high-cost gas, new gas, and old gas.<sup>53</sup> The Act defined "high-cost gas" as gas from a new well deeper than 15,000 feet, gas from geopressurized brine, occluded gas from coal seams, or gas from Devonian shale.<sup>54</sup> The Act deregulated high-cost gas as of November 1979.<sup>55</sup> Analysts project that high-cost gas will make up only 5% of known gas reserves by 1990.<sup>56</sup>

The Act defined new gas roughly as gas produced from Outer Continental Shelf leases established after April 20, 1977,<sup>57</sup> and from onshore wells drilled after February 19, 1977, which are two and a half miles away from a marker well.<sup>58</sup> A "marker well" is a well which was producing gas in commercial quantities between January 1, 1970, and April 20, 1977. Congress did not want to classify wells drilled within 2.5 miles of a marker well as new gas wells,<sup>59</sup> presumably because the risks associated with drilling near an established well are much lower than the risks associated with drilling the first well in a field. The Act provided for monthly increases in the price ceilings for most new gas at a rate 3.5% above inflation before April 1981, and at a rate of 4% above inflation from April 1981 to December 1984, and then the Act deregulated most new gas prices entirely on January 1, 1985.<sup>60</sup> New gas from onshore wells less than 5000 feet in depth was to be regulated until July 1, 1987,<sup>61</sup> and gas from Prudhoe Bay in Alaska and some intrastate gas was to be regulated indefinitely.<sup>62</sup> In 1978, new gas made up about one-half of known gas reserves.<sup>63</sup>

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52. MacAvoy, *supra* note 1, at 812.

53. Ringleb, *supra* note 1, at 737.

54. 15 U.S.C. § 3317(c)(1)-(4) (1988).

55. 15 U.S.C. § 3331(b) (1988); Ringleb, *supra* note 1, at 737.

56. Ringleb, *supra* note 1, at 738.

57. 15 U.S.C. § 3312(c)(1)(A) (1988); 18 C.F.R. § 271.203(d) (1989).

58. 15 U.S.C. § 3312(c)(1)(B) (1988); 15 U.S.C. § 3312(c)(2)(A)(ii)(I) (1988); Cormie, *supra* note 1, at 3.

59. H.R. REP. NO. 1752, 95th Cong., 2d Sess. 69-70 (1978). The legislative history does not explain why two and one-half miles was used.

60. 15 U.S.C. § 3331(a) (1988); Ringleb, *supra* note 1, at 719 n.43.

61. 15 U.S.C. § 3331(c) (1988).

62. 15 U.S.C. § 3331(d), (e) (1988).

63. Ringleb, *supra* note 1, at 738.



The NGPA defined "old gas" as gas dedicated<sup>64</sup> to interstate commerce before November 8, 1978.<sup>65</sup> Under the Act, old gas continued to be regulated indefinitely by the area and national rates established under the NGA<sup>66</sup> with rate-adjustments for inflation<sup>67</sup> based upon the GNP implicit price deflator plus 0.2%.<sup>68</sup> Congress chose this method because the market basket for the Consumer Price Index was about to be revised at that time and because, historically, the CPI ran about 0.2% higher than the implicit price deflator.<sup>69</sup> Old gas was expected to constitute about one-half of known gas reserves in 1985, but most of these reserves were expected to be depleted fairly quickly.<sup>70</sup> As old gas reserves were depleted, the proportion of regulated wellhead prices was expected to decrease over time, providing a smooth transition to complete decontrol.<sup>71</sup>

The reason for deregulating only high-cost and new gas was the same as the reason for vintaging under the area and national rates; the risk of drilling a dry well makes high-cost and new wells much costlier than old wells.<sup>72</sup> Therefore, once a well is producing, rates only need to cover the operating costs to keep the well in operation because the risk is greatly reduced. However, rates must be higher on new wells in order to encourage exploration.<sup>73</sup> The NGPA's classification system was meant to encourage exploration to find new supplies while keeping the price of old gas low in order to prevent producers from receiving a windfall.<sup>74</sup>

In order to make other fuels competitive with natural gas, Congress included "incremental pricing" provisions in the NGPA.<sup>75</sup> Instead of averaging the rates of all gases together, or "rolling in" prices

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64. Gas is "dedicated" to a market when the FPC or FERC has granted the natural gas company a certificate of convenience and necessity under § 7 of the NGA, giving the company permission to sell gas in either the interstate or intrastate market. 15 U.S.C. § 717g (1988). For more on the dedication of gas, see D. ZILLMAN & L. LATTMAN, *supra* note 10, at 500-08.

65. 15 U.S.C. § 3314(a) (1988).

66. 15 U.S.C. § 3314(b)(2)(B) (1988).

67. 15 U.S.C. § 3314(b)(1)(A)(ii) (1988).

68. *Id.*

69. H.R. REP. NO. 1752, 95th Cong., 2nd Sess. 72-74 (1978).

70. Pierce, *supra* note 1, at 89.

71. Ringleb, *supra* note 1, at 740.

72. See *supra* notes 38-40, and accompanying text; Ringleb, *supra* note 1, at 731.

73. Cormie, *supra* note 1, at 4.

74. *Id.*; Ringleb, *supra* note 1, at 731.

75. 15 U.S.C. §§ 3341-3348 (1982). The incremental pricing provisions of the NGPA were repealed by an amendment to the Industrial Fuel Use Act. Pub. L. No. 100-42, § 2(a); 101 Stat. 310, 314 (1987). However, rules promulgated under the authority of the incremental pricing provisions were to continue in effect with respect to the flow-through of costs incurred prior to the enactment of this amendment.

for all consumers, as was commonly done before 1978,<sup>76</sup> the NGPA called for the direct pass-through of certain costs to large industrial consumers.<sup>77</sup> These pass-through costs were the acquisition costs of new natural gas exceeding \$1.48 per thousand cubic feet (Mcf) in March 1978, adjusted for inflation, the acquisition costs of natural gas imports and stripper well gas that are greater than the new gas price, and the acquisition costs of high-cost gas that exceeds the price of No. 2 fuel oil by 130%.<sup>78</sup> The Act provided for the pass-through to continue until either gas rates were decontrolled in 1985 or until the gas rates paid by consumers were equivalent to the price of No. 2 fuel oil in that consumer's region of the country on a Btu basis.<sup>79</sup> This provision was intended to force industrial users to bear more of the price increases than residential users.

Finally, the NGPA applied the interstate price ceilings for new gas to the previously unregulated intrastate market.<sup>80</sup> For intrastate gas priced less than the NGPA new gas price ceiling prior to November 8, 1978, the Act set the price at the lower of either the contract price or the new gas price.<sup>81</sup> For intrastate gas priced higher than the new gas price on this date, the price was set at the higher of the two.<sup>82</sup> Congress intended this provision to limit the operation of escalation clauses to the monthly increases in the NGPA interstate new gas price ceilings.<sup>83</sup> Also, the NGPA gave the FPC power to authorize intrastate pipelines to sell gas in interstate commerce, as long as the rates are just and reasonable within the meaning of the NGA. This provision encouraged expansion of interstate supplies.<sup>84</sup>

#### IV. EXPECTED PROBLEMS WITH THE NGPA

The commentators who examined the NGPA gave it almost universally negative reviews. Many criticized it for being too complicated and difficult to administer.<sup>85</sup> Some thought that the ceilings for old gas would discourage production by forcing the early abandon-

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76. Cormie, *supra* note 1, at 3.

77. 15 U.S.C. § 3341(b) (1988). D. ZILLMAN & L. LATTMAN, *supra* note 10, at 520-21.

78. 15 U.S.C. § 3343 (1988).

79. 15 U.S.C. § 3344(e)(1) (1988).

80. 15 U.S.C. § 3315(b)(1) (1988). *See also* D. ZILLMAN & L. LATTMAN, *supra* note 10, at 499.

81. 15 U.S.C. § 3315(b)(1) (1988).

82. *Id.*; Morgan and Patterson, *supra* note 1, at 122.

83. H.R. REP. NO. 1752, 95th Cong. 2d Sess. 82-83 (1978).

84. 15 U.S.C. § 3371(b)(1) (1988); D. ZILLMAN & L. LATTMAN, *supra* note 10, at 517.

85. Cormie, *supra* note 1, at 14-15.

ment of stripper wells<sup>86</sup> and by discouraging research for new methods of increasing production from very old wells.<sup>87</sup> Others noted that the NGPA mandated another seven years of price distortion by delaying the time when gas prices would be equivalent to oil prices until 1985.<sup>88</sup>

The price ceilings were designed to bring gas prices into parity with oil prices by 1985. When the NGPA was enacted in 1978, this price was expected to be about \$12 to \$14 per barrel, but in 1979, oil prices jumped to \$30 per barrel.<sup>89</sup> This led commentators to conclude that gas prices would double almost overnight when the ceilings were removed.<sup>90</sup> In addition, many commentators feared that the incremental pricing provisions of the NGPA, designed to foster efficient economic decisions by industrial consumers, would hurt residential consumers. These writers feared that encouraging industrial consumers to switch to other fuels would force residential consumers to pay for more than their fair share of the fixed costs of the pipelines.<sup>91</sup>

There were also many doubts as to whether the NGPA would correct the disparity between the intrastate and interstate gas markets. One commentator noted that even though the NGPA gave interstate pipelines access to intrastate gas supplies, intrastate pipelines were not given similar access to interstate supplies.<sup>92</sup> Because of this, the author feared that gas supplies might be diverted to interstate consumers whether or not these consumers had a higher valued use for the gas than the intrastate consumers.<sup>93</sup> Morgan and Patterson contended that the NGPA might cause shortages in the intrastate market.<sup>94</sup> These authors assumed that the NGPA would merely lock old intrastate and old interstate prices at pre-NGPA levels.<sup>95</sup> Since gas dedicated to interstate pipelines was priced lower than intrastate gas, interstate pipelines were expected to have a larger "cushion" than intrastate pipelines. This would enable them to bid more for new gas supplies.<sup>96</sup> Consequently, the interstate pipelines would have an advantage over intrastate pipelines in bidding for newly developed gas

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86. Pierce, *supra* note 1, at 90-91.

87. *Id.*, at 91-92.

88. Ringleb, *supra* note 1, at 742.

89. D. ZILLMAN & L. LATTMAN, *supra* note 10, at 520-21.

90. *Id.*

91. Cormie, *supra* note 1, at 14.

92. Ringleb, *supra* note 1, at 755-57 (citing 15 U.S.C. § 3371(b)(1) (1988)).

93. *Id.* at 756.

94. Morgan and Patterson, *supra* note 1, at 141-43.

95. *Id.*

96. *Id.*

supplies because the "rolling in" of the old gas rates allows them to bid more for new supplies.<sup>97</sup>

Morgan and Patterson felt that this problem would be exacerbated by the problem of "fly-up," a problem which also concerned many other writers.<sup>98</sup> These other writers theorized that "fly-up" would result from the interaction of long-term natural gas contracts subject to burner-tip price regulation with the partial decontrol of wellhead prices. Since pipelines prefer reliable, long-term gas supplies, most gas supply contracts last for decades.<sup>99</sup> These contracts usually contain provisions dealing with the possibility of fluctuating gas prices during the life of the contract.<sup>100</sup> One of the most popular pricing provisions is the "favored nation" clause.<sup>101</sup> Under a favored nation clause, a pipeline agrees either to pay the producer the highest rate it pays to any other producer or to pay the highest rate any pipeline company agrees to pay to any producer in a given area.<sup>102</sup>

Burner-tip prices play a role in this predicted "fly-up" because they are divided into a demand component and into a commodity component.<sup>103</sup> The demand component is based on the customer's peak demand and is fixed for each customer.<sup>104</sup> The commodity component is based on the customer's actual gas usage and varies with the amount of gas consumed.<sup>105</sup> Burner-tip rates are set so that 75% of the pipeline's fixed costs are recovered by the commodity component and 25% by the demand component when the pipeline sells a certain amount of gas.<sup>106</sup> However, since the commodity charge is not reduced after these fixed costs have been met, this creates an incentive for the pipeline to sell as much gas as it can at current prices. The commodity charge of any gas sold above the expected amount greatly

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97. *Id.* "Rolling in" refers to the averaging of natural gas rates transported in a pipeline at the same time. See text accompanying note 76, *supra*.

98. Morgan and Patterson, *supra* note 1, at 143; Pierce, *supra* note 1, at 96-99; Ringleb, *supra* note 1, at 747-50.

99. Crump, *supra* note 1, at 63; Pierce, *supra* note 1, at 77.

100. Crump, *supra* note 1, at 63-64; Pierce, *supra* note 1, at 78.

101. Crump, *supra* note 1, at 65; Pierce, *supra* note 1, at 80-81.

102. Crump, *supra* note 1, at 65-66; Pierce, *supra* note 1, at 80-81. Professors Crump and Pierce noted that, according to a study of long term natural gas prices sponsored by the American Gas Association, 83% of all old interstate gas contracts have some kind of favored nation clause, but the study did not show the relative popularity of both forms of favored nation clauses, nor did it reveal when either form was more likely to be used. Pierce, *supra* note 1, at 81 n.70.

103. Pierce, *supra* note 1, at 84.

104. *Id.* at 83.

105. *Id.*

106. *Id.* at 84 n.84.

increases the profits of the pipeline. Therefore, the pipeline would be willing to pay more than the burner-tip price for extra gas supplies whenever it has lower priced supplies that can act as a "cushion" for the higher prices.<sup>107</sup>

The interaction of favored nation clauses and burner-tip rates with partial decontrol of wellhead prices may be illustrated with a numerical example.<sup>108</sup> Assume a pipeline gets 50% of its supplies from old gas sources and it gets 50% of its supplies from new gas sources. Assume also that the price ceiling on old gas is \$2 per Mcf and the consumers in the burner-tip market are willing to pay \$5 per Mcf. Finally, assume that the pipeline is currently in short supply. In this case, the pipeline would be willing to pay up to \$8 per Mcf for new gas supplies. This is because the \$8 price would be averaged with the \$2 price and yield \$5 as a final price. In addition, the commodity component of any additional gas sales would make the \$8 price profitable to the pipeline. This \$8 price would trigger the favored nation clauses of other contracts, causing gas prices to skyrocket.

In summary, many commentators expected the NGPA to be detrimental to consumer interest because of "fly-up" and because of shortages caused by the premature abandonment of old wells. These writers also thought the NGPA would shift pipeline costs from industrial to residential consumers. They expected the political reaction to this to be so severe that Congress would be forced to either postpone the date when price ceilings would be lifted completely from new gas or to enact new regulatory legislation in 1985.<sup>109</sup>

## V. ACTUAL RESULTS UNDER THE NGPA

In almost all respects, the NGPA did exactly what Congress intended it to do. For example, the NGPA encouraged new production. Exploratory gas well completions increased from 1560 in 1977 to 2550 in 1981.<sup>110</sup> Additions to gas reserves as a proportion of production increased from an average of 46% for the eleven years prior to the passage of the NGPA to an average of over 90% for the seven years after the NGPA.<sup>111</sup> Therefore, the gas industry had replaced

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107. *Id.* at 84-85.

108. This example was first used by Pierce, *supra* note 1, at 96-97.

109. Cormie, *supra* note 1, at 17-19; MacAvoy, *supra* note 1, at 822, 828; Morgan and Patterson, *supra* note 1, at 160.

110. FERC Order No. 451, 51 Fed. Reg. 22,168 at 22,174 (1986).

111. Reif, *Natural Gas Today and Tomorrow*, 116 PUB. UTIL. FORT. Oct. 17, 1985, at 15. The article does not specify whether or not these are compounded percentages.

almost all the gas consumed in this country.<sup>112</sup>

The gas market also became more competitive due to the development of a spot market.<sup>113</sup> In 1984 over two billion Mcf were traded on the spot market.<sup>114</sup> In addition, brokerage firms started to facilitate the operation of the spot market by soliciting buy-sell orders, arranging transportation, standardizing transactions, and providing financing and storage services.<sup>115</sup> This ordinarily decreases the amount of time required for spot gas prices to move to market clearing levels.

Also, the elimination of market distinctions and the release of market forces did not result in the projected negative results. The disparity between the interstate and intrastate markets was practically eliminated.<sup>116</sup> Apparently the cessation of the different regulatory treatment of the two markets allowed market forces to bring them into equilibrium with each other. Likewise, the anticipated "fly-up" problem did not materialize. The average wellhead price of new gas fell from \$3.78 per Mcf in January 1985 to \$3.33 per Mcf in December 1985.<sup>117</sup> The decline in gas rates from 1984 to 1988 was 14% for residential consumers, 16% for commercial consumers, and 26% for industrial consumers and utility companies.<sup>118</sup> Again, the release of market forces apparently allowed the increase in supply to prevent any excessive increases in price.

However, the natural gas market did not function perfectly after the NGPA nor did all the criticisms directed at the NGPA turn out to be unfounded. Although gas supplies increased in response to higher prices, the increases came mainly from new and high-cost sources.<sup>119</sup> As FERC pointed out:

As of March, 1986, the average cost of new and high-cost gas was \$3.38 per Mcf, while the Energy Information Administration estimates over 11 Tcf (trillion cubic feet) of additional old gas could be recovered at \$2.57 per MMBtu (million Btu). Thus, valuable sup-

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112. *Id.*

113. The "spot market" is a market for gas sold under contracts of one year duration or less. See Cochran and DeNero, *Capitalizing on the Buyers Market for Natural Gas*, 116 PUB. UTIL. FORT. Oct. 3, 1985, at 34, 36.

114. *Id.*

115. *Id.*

116. Shoneman & McConnell, *supra* note 1, at 302-03.

117. FERC Order No. 451, 51 Fed. Reg. at 22,175 (1986). See also 135 CONG. REC. H1262 (daily ed., Apr. 17, 1989) (statement of Rep. Sharp); *id.* at H1265 (statement of Rep. Fields).

118. 135 CONG. REC. H1262 (daily ed., Apr. 17, 1989) (statement of Rep. Moorhead).

119. FERC Order No. 451, 51 Fed. Reg. at 22,172 (1986).

plies of inexpensive old gas are being inadequately developed or prematurely abandoned, while investment capital is being inefficiently allocated to more expensive supplies of new gas.<sup>120</sup>

Since old gas prices did not cover the cost of developing replacement reserves, producers were leaving their old gas in the ground in favor of more expensive sources of gas.<sup>121</sup>

In addition, pipelines became obligated to buy these new, relatively expensive supplies because of "take or pay" contracts they formed during the shortages of the 1970s.<sup>122</sup> These take or pay contracts obligated pipelines to pay for a certain amount of gas, regardless of the amount of gas actually taken.<sup>123</sup> After the pipelines obligated themselves to these contracts, gas demand decreased in response to several factors, including higher prices, a decrease in oil prices, a recession in the economy as a whole, and warmer than average weather during the early 1980s.<sup>124</sup> Consequently, pipelines accumulated an excess of gas at prices too high to sell. In spite of this surplus, consumers still faced steady or increasing prices caused by a decreasing customer base as a result of industrial consumers switching to alternative fuels.<sup>125</sup> This surplus has come to be known as the "bubble."

The bubble caused difficulties not only for residential consumers but for many producers as well. In spite of excess pipeline capacity,<sup>126</sup> pipelines were forced to refuse to transport lower priced gas from some producers because of their take or pay obligations.<sup>127</sup> This untransported gas is referred to as being "shut in," and having their gas shut in put a financial strain on these producers.<sup>128</sup>

FERC tried to solve the bubble problem by altering the way it set rates for old gas under its NGA jurisdiction.<sup>129</sup> First, the Commission noted that the NGPA incorporates the "just and reasonable" price ceilings for old gas established under the NGA.<sup>130</sup> The Com-

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120. *Id.* One MMBtu is roughly equivalent to one Mcf. See also 135 CONG. REC. H1263 (daily ed., Apr. 17, 1989) (statement of Rep. Tauzin).

121. *Id.*

122. Shoneman & McConnell, *supra* note 1, at 302; White, *The Right to Recover Royalties on Natural Gas Settlements*, 41 OKLA. L. REV. 663, 677 (1988).

123. H.R. REP. NO. 814, 98th Cong., 2d Sess. 23 (1984).

124. FERC Order No. 451, 51 Fed. Reg. at 22,174 (1986).

125. FERC Order No. 451, 51 Fed. Reg. at 22,175 (1986).

126. *Id.*

127. H.R. REP. NO. 814, 98th Cong., 2d Sess. 24-25 (1984).

128. Shoneman & McConnell, *supra* note 1, at 302.

129. FERC Order No. 451, 51 Fed. Reg. 22,168 (1986).

130. 15 U.S.C. § 3431 (1978).

mission also argued that factors other than original costs could be considered in setting "just and reasonable" rates<sup>131</sup> as long as the rates fell within "a zone of reasonableness" as required by *FPC v. Hope Natural Gas Co.*<sup>132</sup> The Commission concluded that it could consider replacement costs in setting rates that were "just and reasonable" for purposes of the NGA.<sup>133</sup> Next, the Commission discarded all of the various price ceilings on different vintages of old gas that were left over from the area and national rates and replaced them with a uniform \$2.57 per MMBtu, the ceiling price for post-1974 old gas.<sup>134</sup> Finally, the Commission established a procedure for "good faith negotiation" under which pipelines and producers would be allowed to renegotiate their gas contracts one time within a two-year period.<sup>135</sup> By raising the price of old gas, FERC successfully encouraged the release of less expensive gas into the marketplace.

The size of the bubble is now decreasing and is expected to be gone in a year or two.<sup>136</sup> Furthermore, gas prices are fluctuating properly in response to changes in oil prices<sup>137</sup> and appear to be fluctuating properly in response to changes in gas supply and demand.<sup>138</sup>

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131. *FPC v. Texaco*, 417 U.S. 380, 397-99 (1974) (market price is one criterion which can be used in setting reasonable prices if other criteria are also considered). *See also* *City of Detroit v. FPC*, 230 F.2d 810, 818-19 (D.C. Cir. 1955), *cert. denied*, 352 U.S. 829 (1956).

132. 320 U.S. 591, 602-03 (1944).

133. 51 Fed. Reg. at 22,170-71 (1986).

134. *Id.*

135. *Id.* at 22,169. *See also* Johnson, *Order No. 451—Market-Based Pricing for "Old" Gas*, 24 TULSA L.J. 627, 633 (1989). Prior to Order No. 451, FERC issued Order No. 436, which mandated nondiscriminatory open access for transportation of gas supplies and a simplification of the formerly very complex procedures for abandonment of contract obligations for a specified period of time. 50 Fed. Reg. 42,408, 42,409-10 (1985). Even though the D.C. Circuit supported Order No. 436, it remanded the Order because among other things, FERC failed to adequately explain why it did not eliminate take-or-pay contracts altogether. *Associated Gas Distributors v. FERC*, 824 F.2d 981 (D.C. Cir. 1987). For more on Order No. 436 and the *Associated Gas Distributors* case, see Pierce, *Reconstituting the Natural Gas Market from Wellhead to Burnertip*, 9 ENERGY L.J. 1, 24-27, 35-36 (1988).

In response, FERC issued Order No. 500 which allowed pipelines to pass through some, but not all, of the costs of settling take-or-pay obligations and set up guidelines for avoiding take-or-pay problems in the future. 52 Fed. Reg. 30,334 (1987). Senator Bradley of New Jersey proposed an amendment to the Wellhead Decontrol Act to give FERC explicit statutory authority to require open access transportation, 135 CONG. REC. S6577 (daily ed. June 14, 1989) (statement of Sen. Bradley), but this amendment was tabled. 135 CONG. REC. S6592 (daily ed. June 14, 1989). Since Congress has chosen not to deal with take-or-pay issues in the Wellhead Decontrol Act, these issues are beyond the scope of this article.

136. Arndt, *Gas Bubble Days May Be Numbered*, Chicago Tribune, Feb. 7, 1988, § 7, at 1, col. 2.

137. N.Y. Times, Nov. 3, 1987, § IV, at 28, col. 2.

138. *See* Arndt, *supra* note 136 (describing movements in gas supply, demand, and prices since 1985). Of course, one can never know whether prices are reacting to or driving changes



Therefore, current FERC policies seem to be working.

## VI. THE NATURAL GAS DECONTROL ACT OF 1989

On July 26, 1989, Congress enacted the Natural Gas Wellhead Decontrol Act of 1989 (Decontrol Act).<sup>139</sup> The Decontrol Act eliminates wellhead price controls from wells drilled after March 23, 1989, and from wells not under contractual obligation on the day of enactment.<sup>140</sup> The Decontrol Act also decontrols gas under contractual obligation when the contract expires or is renegotiated.<sup>141</sup> Any gas still under regulation on January 1, 1993, will be deregulated on that date.<sup>142</sup> Finally, the Decontrol Act continues to regulate wells drilled after March 23, 1989, or "newly spudded wells," until May 15, 1991. Congress chose May 15, 1991, as the decontrol date for newly spudded wells as the result of a political compromise.<sup>143</sup> The Senate version of the Act would have controlled rates on newly spudded wells until January 1, 1993, while the House version would have deregulated newly spudded wells immediately.<sup>144</sup>

In 1988, roughly 39% of flowing natural gas was subject to some price ceiling.<sup>145</sup> The House bill proposed deregulation of about 25% of this gas immediately and about 50% within a year of enactment.<sup>146</sup>

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in supply and demand. However, because most gas prices have been allowed to move freely since 1985, it is reasonable to conclude that prices are reacting to supply and demand in this case.

139. Pub. L. No. 101-60, 103 Stat. 157 (1989).

140. H.R. REP. NO. 29, 101st Cong., 1st Sess. 9 (1989). See also 135 CONG. REC. H1262 (daily ed. Apr. 17, 1989) (statement of Rep. Moorhead).

141. H.R. REP. NO. 29, 101st Cong., 1st Sess. 10 (1989). See also 135 CONG. REC. H1262 (daily ed. Apr. 17, 1989) (statement of Rep. Moorhead).

142. H.R. REP. NO. 29, 101st Cong., 1st Sess. 10 (1989). See also 135 CONG. REC. H1262 (daily ed. Apr. 17, 1989) (statement of Rep. Moorhead).

143. H.R. REP. NO. 100, 101st Cong., 1st Sess. 3, 4 (1989); 135 CONG. REC. S6634 (daily ed. June 14, 1989); 135 CONG. REC. H2598 (daily ed. June 15, 1989).

144. For a discussion of the House bill, see H.R. REP. NO. 1722, 101st Cong., 1st Sess. (1989), 135 CONG. REC. H1260-61, H1267 (daily ed. Apr. 17, 1989); H.R. REP. NO. 29, 101st Cong., 1st Sess. (1989); Rosewicz, *House Passes Bill to Decontrol Prices for Gas*, Wall St. J., Apr. 18, 1989, at A28, col. 4. For a discussion of the Senate bill and a comparison of the two bills, see H.R. REP. NO. 100, 101st Cong., 1st Sess. 1-4 (1989); 135 CONG. REC. S6594 (daily ed. June 14, 1989); 135 CONG. REC. H2998-99 (daily ed. June 22, 1989); 135 CONG. REC. S7214-16 (daily ed. June 22, 1989); 135 CONG. REC. S3920 (daily ed. April 13, 1989) (statement of Sen. Nichols); Gutfeld, *Senate Approves Price Decontrol For Natural Gas*, Wall St. J., June 15, 1989 at A2, col. 3.

145. 135 CONG. REC. S3666 (daily ed. April 11, 1989) (statement of Sen. Bingaman). However, many of the ceilings are now set above the market price. Only 6% of gas sold in 1988 was effectively controlled. 135 CONG. REC. H1262 (daily ed. Apr. 17, 1989) (statement of Rep. Moorhead).

146. Rosewicz, *supra* note 144.

This could amount to as much as 1.6 billion Mcf.<sup>147</sup> By splitting the difference between the House and Senate bills, Congress forced a significant segment of the wellhead market to endure a gradual deregulation. As a result, Congress may have exposed gas producers, pipelines, and consumers to the same kinds of market distortions they suffered under the NGPA.

## VII. CONCLUSION

Many critics expected the NGPA to make a complete shambles of the natural gas market. Although some of their predictions were accurate, such as the premature abandonment of old gas wells and the prolonging of market distortions,<sup>148</sup> most of their worries were unfounded. However, while almost all the critics called for increased regulation to solve the expected problems,<sup>149</sup> FERC solved them by removing some of the regulations that remained.<sup>150</sup> The gradual deregulation of the NGPA was intended to deregulate the wellhead gas market in a way not too burdensome to residential consumers.<sup>151</sup> However, the result of this gradual deregulation was that it caused the take-or-pay contracts to produce the "bubble."<sup>152</sup> The Natural Gas Wellhead Decontrol Act decontrols gas in a gradual manner similar to the NGPA.<sup>153</sup>

It is unfortunate that the House version of the Decontrol Act was not enacted as originally drafted. Although oil prices have been fairly stable recently, it is impossible to predict whether or not the Organization of Petroleum Exporting Countries (OPEC) will become more unified and raise oil prices or become less disciplined and allow prices to drop.<sup>154</sup> If oil prices increase, then gas demand will increase

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147. The vast majority of gas is sold under some sort of contract. Crump, *supra* note 1, at 63; Harrison and Formby, *supra* note 1, at 61; Pierce, *supra* note 1, at 77. Since the amount of gas not under any contractual obligation during any single day is likely to be small, most of the gas to be regulated immediately under the House version of the Decontrol Act would be from wells drilled after the date of enactment.

About 6.45 billion Mcf was controlled in 1988. H.R. REP. NO. 29, 101st Cong., 1st Sess. 15 (1989). The Wall Street Journal expects 25% of this amount, or 1.6 billion Mcf, to be deregulated immediately. Rosewicz, *supra* note 144.

148. Pierce, *supra* note 1, at 90-92.

149. See *supra* note 109, and accompanying text.

150. Order No. 451, 51 Fed. Reg. 22,168.

151. H.R. REP. NO. 5289, 95th Cong., 2d Sess. 1-2 (1978); MacAvoy, *supra* note 1, at 824.

152. See *supra* notes 119-25 and accompanying text.

153. Rosewicz, *supra* note 144. Of course, the effects of this gradual deregulation will probably be less severe due to the shorter time period.

154. In early June 1989, OPEC reached an agreement on lowering quotas. *Kuwait's Vow to Cut Output Spurs a Rally in Oil Prices*, N.Y. Times, June 9, 1989 at 45, col. 1. However,

and any remaining gas ceilings could lead to shortages similar to those which occurred in the 1970s. If oil prices decrease, then gas demand will decrease and a repeat of the "bubble" of the 1980s is likely. As long as any wellhead price regulation exists, the natural gas industry will be vulnerable to these kinds of market distortions.<sup>155</sup>

The drafting of the Decontrol Act was the result of a political compromise. The history of natural gas regulation is replete with political compromises that eventually hurt the gas industry or consumers.<sup>156</sup> Congress, in refusing to learn from history, may have doomed the natural gas industry by repeating past mistakes. Alfred Kahn, in discussing the dismantling of the Civil Aeronautics Board, said that a short transition from regulation to free market is desirable in order to limit the distortions of the transition.<sup>157</sup> By ignoring this wisdom and by ignoring our experience under the NGPA in the early 1980s, we may have condemned the natural gas industry and its consumers to suffer these distortions for another two years.

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almost immediately after the agreement, Kuwait said it had no intention of staying within its quota, although it would still limit its production. Tanner, *Kuwait Pledges to Cut Its Oil Output, Which May Strengthen OPEC*, Wall St. J., June 9, 1989, at A2, col. 5; *Lower Oil Prices Seen as Kuwait Defies OPEC*, Chicago Tribune, June 9, 1989, § 3, at 1, col. 5. It is very difficult to predict what OPEC will do, or what effect its actions will have on oil prices, in the near future. It is even more difficult to predict the actions of OPEC from today to 1993. (See also Solomon, *Crude Oil Futures Prices Plunge as Likelihood Of a Strike in the British North Sea Diminishes*, Wall St. J., July 7, 1989, at C13, col. 1 (discussing the wild fluctuations in oil prices resulting from a threatened strike by British oil workers)).

155. Since the controls would not persist on the entire gas market, the distortions would not be as severe as they were in the 1970s or 1980s. However, controls on 1.6 billion Mcf would probably still have a significant impact on the market. See *supra* note 144.

156. Pierce, *supra* note 1, at 113-14.

157. Kahn, *Applications of Economics to an Imperfect World*, 69 AM. ECON. REV. 1, 12 (1979).