

6. Contracting Shifts in the Pipeline Transportation Market

Natural gas must be competitively priced in order to be a viable energy choice for consumers. The cost of the natural gas commodity, set by market conditions, represented about half of total gas service costs paid by consumers in 1997. The remaining costs were associated with moving the gas from the field to the customer's point of consumption. These delivery costs are regulated under Federal (interstate transportation) and State (intrastate transportation and distribution) laws and regulations.

The terms and costs of transporting natural gas along the interstate pipeline grid are specified in contracts between pipeline companies and shippers. Many of the firm service contracts have been in place for several years and may no longer reflect current market conditions. Consequently, some shippers are choosing not to renew these contracts when they expire and instead are "turning back" some or all of the capacity to the pipeline companies. In fact, recent experience (based on a representative sample of 54 unique shipper-pipeline pairings) indicates that 19 percent (excluding a turnback of 1.2 trillion Btu per day to El Paso Natural Gas Company in 1997) of firm service capacity under expiring long-term contracts was turned back between April 1, 1996, and March 31, 1998. Some of this capacity has been remarketed to other shippers but generally at much lower rates.

Changes in capacity contracting are related to a larger transition in the natural gas transportation market. Shippers appear to be using capacity on different pipelines to access competing natural gas supply sources. Also, marketers, who are increasingly taking over LDC service functions, are writing more contracts for firm transportation service. Marketers increased their market share by 3 percentage points between April 1996 and July 1998, from 21 to 24 percent of total U.S. contracted capacity.

This analysis assesses the amount of capacity that may be turned back to pipeline companies, based on shippers' actions over the past several years and the profile of contracts in place as of July 1, 1998. It also examines changes in the characteristics of contracts between shippers and pipeline companies. The analysis does not factor in the projected growth in demand for natural gas, infrastructure growth, or other market changes; these factors would tend to mitigate the overall impact of capacity turnback.

- Between 1998 and 2003, about 8.0 trillion Btu per day, or 8 percent of currently committed capacity, is likely to be turned back to interstate pipeline companies. Some or all of this turned back capacity may be remarketed, but potentially at lower rates, which could lead to stranded facilities costs if the revenue does not cover the capital investment.
- Overall, the total amount of interstate capacity that is reserved under firm transportation contracts has remained fairly steady during the past 2 years (July 1996 through July 1998), at about 95 to 105 trillion Btu per day. This is due mainly to two factors: (1) the new contracts for recently completed pipeline capacity and (2) the remarketing of some turned back capacity.

The turnback of pipeline capacity appears to be a transitional issue for the natural gas industry—perhaps the last wave of fallout from the industry restructuring under Federal Energy Regulatory Commission (FERC) Order 636. There are parallels to take-or-pay costs in the 1980s, when wellhead contracts did not reflect market conditions and purchasers were unable to use the supplies they had under contract.

Restructuring within the natural gas industry, including unbundling at both the interstate pipeline and retail markets, has had a significant impact on contracting

practices for interstate transportation services. Although Federal Energy Regulatory Commission (FERC) Order 636 required pipeline firm sales customers to convert to firm

transportation, it did not permit these customers to reduce their level of service.¹ The firm sales customers were mainly local distribution companies (LDCs) who contracted for guaranteed service to meet the high-priority needs of customers. With the more competitive retail market of today, however, many of these LDCs no longer have the fixed customer base that the contracts were designed to serve, although they are locked into long-term transportation contracts.

When these contracts come up for renewal, shippers have the opportunity to reassess their service requirements and change the terms of their contract portfolio. In some cases, they are choosing to reserve less capacity and for shorter time periods.² From April 1996 to March 1998, in a sample of 54 shipper-pipeline pairs, 2.4 trillion Btu per day intrantransportation capacity under long-term contracts (in excess of 1 year) was turned back, or 37 percent of the total capacity covered by the expiring long-term contracts in the sample.³ Much of this turnback was related to the nonrenewal of a 1.2-trillion-Btu-per-day contract with El Paso Natural Gas Company in 1997. If El Paso Natural Gas is excluded from the analysis, 19 percent of firm capacity under expiring long-term contracts was turned back during the period.

Over half of the total firm capacity reserved as of July 1, 1998, is under contracts that will expire by the end of 2003. While this provides shippers with the opportunity to adjust to changing market conditions, contract changes could result in stranded investment costs owing to underutilized pipeline and LDC assets.⁴ This chapter quantifies the potential for capacity turnback based on shippers' current contracts and the amount of capacity traded via the release market.⁵

¹Order 636 did not allow firm customers to reduce their reserved capacity levels unless another party was willing to contract for the capacity at maximum rates or the pipeline company was willing to assume responsibility for the cost of the capacity.

²Shippers having the option to rebundle or resell the capacity (for example in the "gray market") are exceptions to this generalization. See *Natural Gas 1996: Issues and Trends*, DOE/EIA-0560(96) (Washington, DC, December 1996).

³In this chapter, capacity and capacity trading are measured on a heat content or Btu basis to be consistent with the units generally used in natural gas contracts. Also, long-term contracts are defined as being longer than 366 days; short-term contracts are for 366 days or less.

⁴The LDC assets include capacity contracts for interstate pipeline transportation service.

⁵The analysis in this chapter is based on data from a sample of 64 major pipeline companies that accounted for approximately 92 percent of interstate natural gas transportation in 1997. The sample was selected to cover the period April 1996 through July 1998. A number of data sources were used in this analysis, including information provided by interstate pipeline companies on capacity release trading and on firm transportation contracts (see Appendix D).

Estimates of turnback are developed by assuming that the current rate of capacity trading, via the release market, is representative of capacity that could be turned back. A key assumption of this analysis is that capacity that is released for an extended period of time is no longer needed by the shipper. Shippers generally release only that portion of capacity that they do not expect to use for their own service requirements. By combining this estimate with information on existing contracts, estimates can be made of the timing and amount of capacity that is likely to be turned back. This analysis builds on work published in the 1996 edition of *Natural Gas: Issues and Trends*.⁶ The earlier work examined the contract expiration schedule and the maximum potential for capacity turnback. This chapter assesses the amount of capacity that may be turned back to pipeline companies, based on shippers' use of contracted capacity over the last several years and the profile of contracts in place as of July 1, 1998. The analysis does not factor in the projected growth in demand for natural gas, infrastructure growth, or other market changes that will affect the remarketing of capacity and tend to mitigate the overall impact of capacity turnback (see box, p. 131).

Background

Restructuring of the natural gas industry has resulted in the realignment of contracts in all facets of the industry as market participants adjust those contracts originally developed under a highly regulated environment to more market-oriented conditions. The costs associated with these adjustments have sometimes been significant and resulted in considerable time and negotiations to resolve who ultimately has to cover these costs. During the 1980s, pipeline companies and their customers were saddled with costs resulting from take-or-pay provisions in gas procurement contracts.⁷ Take-or-pay liabilities grew to

⁶Energy Information Administration, *Natural Gas 1996: Issues and Trends*, DOE/EIA-0560(96) (Washington, DC, December 1996).

⁷Take-or-pay provisions require the pipeline companies to pay for specified gas quantities (typically a percentage of well deliverability) even if the gas is not delivered.

Methodology for Analysis

This chapter assesses the extent of the turnback of firm transportation capacity in recent years and the potential for capacity turnback in the future. Capacity turnback was analyzed by examining firm transportation contracts held by shippers on 64 interstate natural gas pipeline companies. The analysis consists of five separate, yet related components that focus on a distinct aspect of transportation contracts. Several of the component analyses focus on unique samples of either pipeline companies and/or contracts, so in some cases fewer than 64 interstate pipeline companies were examined.

Trends in Contracting Practices. The analysis addresses shipper contracting behavior relative to the amount of capacity held, the length of the contract (short- or long-term), and the average capacity per contract. The results are based on quarterly data for April 1, 1996, through July 1, 1998, in the Federal Energy Regulatory Commission's (FERC) Index of Customers. The availability of 10 quarters of data allows an examination of changes in shipper contracting behavior over time as well as separate analysis of contracting during two heating seasons. The shippers in the Index of Customers were assigned one of six classifications: electric utility, industrial, local distribution company, marketer, pipeline company, or other (including producers, gatherers, processors, storage operators, and shippers that could not be identified). Analysis of firm contracting volumes held by shipper type was performed with a particular focus on contract expirations and new contracts during the four quarters ended July 1, 1998.

Individual Shipper Contracting Practices and Regional Patterns. Capacity turnback was analyzed at the contract level by examining the behavior of shippers holding the largest contracts that expired in each region. This resulted in a sample of 54 unique shipper-pipeline pairings. For each large contract expiration during the period April 1, 1996, through March 31, 1998, shipper activity in the subsequent quarter was observed (e.g., a new contract may have been put in effect, but with different characteristics from the expired contract). Aggregate shipper activity upon contract expiration is presented in the analysis at the regional level.

Capacity Release. Capacity release information and contract expiration data as reported in the Index of Customers were used to assess the potential future turnback of capacity. Data on daily amounts of released capacity held by replacement shippers were obtained from Pasha Publications, Inc. and the Federal Energy Regulatory Commission. To obtain a consistent set of data on both capacity from the Index of Customers and on capacity release, the set of 64 pipeline companies was reduced to 27. These 27 companies accounted for 82 percent of the firm capacity held by the original set of 64 companies on July 1, 1998.

Estimates of Capacity Turnback. The minimum amount of released capacity held by replacement shippers in each region during the heating season (November through March) was used to estimate the percentage of capacity that can reasonably be expected to be turned back as shipper contracts expire. A "turnback ratio" was developed for each region using the region's capacity release and firm contracted capacity information for 27 interstate pipeline companies. These regional ratios were used to develop two estimates. The first was regional estimates of capacity turnback and the second a national profile of when capacity turnback will occur. The estimate of capacity turnback is the total that may be expected to be turned back over time as contracts expire. An estimate of the regional total and the timing of these turnbacks or a national turnback "profile" was developed by applying the regional turnback ratios to the long-term capacity under contract as of July 1, 1998. The ratios were applied to the amount of long-term firm capacity expiring each year in the region (for the full set of 64 pipeline companies). It may be likely that a greater proportion of early expirations will be turned back than later expirations, but without more specific data, applying the turnback ratio as a constant in each year provided a baseline national profile that can be used to assess the potential impact of capacity turnback on the natural gas industry.

high levels in the 1980s when many pipeline companies faced rapidly declining sales and realized that they would probably not be able to take (and resell) the gas for which they had contracted. The resulting recovery of these costs has stretched into the 1990s. Contract reformation costs

resulting from take-or-pay settlements totaled about \$10.2 billion as of May 1995, of which \$6.6 billion is being recovered from consumers.⁸

⁸Settlement costs filed with the Federal Energy Regulatory Commission. Interstate pipeline companies, in general, absorbed the difference between the \$10.2 billion settlement total and the \$6.6 billion billed to consumers.

In the early 1990s, transition costs were incurred by interstate pipeline companies as a result of complying with FERC Order 636, which required them to become transporters rather than resellers of natural gas. These transition costs included charges for gas supply realignment, unrecovered gas costs, costs for new equipment, and stranded costs. As of early 1998, \$3.3 billion in transition costs associated with Order 636 had been filed at FERC for recovery through increased transportation rates, with gas supply realignment accounting for more than half of that at \$1.9 billion.⁹

The potential for incurring stranded costs because of reduced contracted capacity levels will continue for a number of years. In addition, the price impacts may be felt for many years after the contracts expire. Nevertheless, capacity turnback may also create opportunities for some shippers and pipeline companies, in that the unused capacity for firm service can be offered to other shippers who need the service. This, in turn, could reduce the need to build additional pipeline capacity, which is expected to be needed to meet the projected increased demand for natural gas during the next 20 years.

The Energy Information Administration (EIA) projects that annual consumption of natural gas will reach 32.3 trillion cubic feet by 2020, a 52-percent increase over the 1998 level. More than half of this growth results from rising demand for electricity generation, excluding industrial cogeneration. Market growth of this intensity will necessitate an expansion of the U.S. natural gas delivery system. The realignment of capacity contracts is another adjustment in the restructuring process. EIA projects a general decrease in transmission and distribution margins through 2020, as increased throughput combined with cost reductions result in a decrease in the price paid to deliver each unit of gas.¹⁰ However, the market growth may not occur if the margins do not decrease as projected. In addition, the degree of this expansion will depend on the utilization of the transportation system currently in place. If transportation facilities can be utilized more efficiently and effectively, the overall cost to consumers for firm transportation service may be lowered.

⁹The McGraw-Hill Companies, *Inside F.E.R.C.* (September 2, 1996), pp. 1, 8 and 9. Order 636 estimates of transition costs were about \$4.8 billion, according to the Government Accounting Office, *Costs, Benefits and Concerns Related to FERC's Order 636*, GAO/RCED-94-11 (November 1993), p. 62.

¹⁰Total transmission and distribution revenues for the natural gas industry are projected to remain fairly stable at 1997 levels through 2020. Energy Information Administration, *Annual Energy Outlook 1999*, DOE/EIA-0383 (99) (Washington, DC, December 1998).

Trends in Contracting Practices

The amount of reserved pipeline capacity at the national level has remained relatively stable since April 1996 (Figure 43 and Table 14).¹¹ Although reserved firm capacity levels exhibit modest seasonal changes, reservation levels were relatively unchanged between heating seasons, increasing by about 2 percent between January 1997 and January 1998. The stable levels of contracted firm capacity are similar to the trend in pipeline utilization rates. Average pipeline utilization in the Lower 48 States did not change significantly between 1996 and 1997, decreasing from 75 percent to 72 percent, respectively.¹² In 1997, utilization rates were particularly high for pipeline companies bringing gas from Canada into the Midwest and for pipelines moving gas through the Southeast (Figure 44).

Despite differences in load characteristics between the peak winter heating season and summer when a shipper could more likely receive interruptible service, the relative share of firm capacity held by shippers is similar in winter and summer. For example, in January 1998, LDCs held 57 percent of total firm capacity and industrial users held 5 percent. In July 1998, the shares were essentially the same as in January: LDCs had 55 percent and industrial consumers had 5 percent (Figure 45). This may be due, in part, to the fact that only a few major pipeline companies have a rate structure for long-term firm service with different reservation levels during the heating and nonheating seasons (seasonal rates).

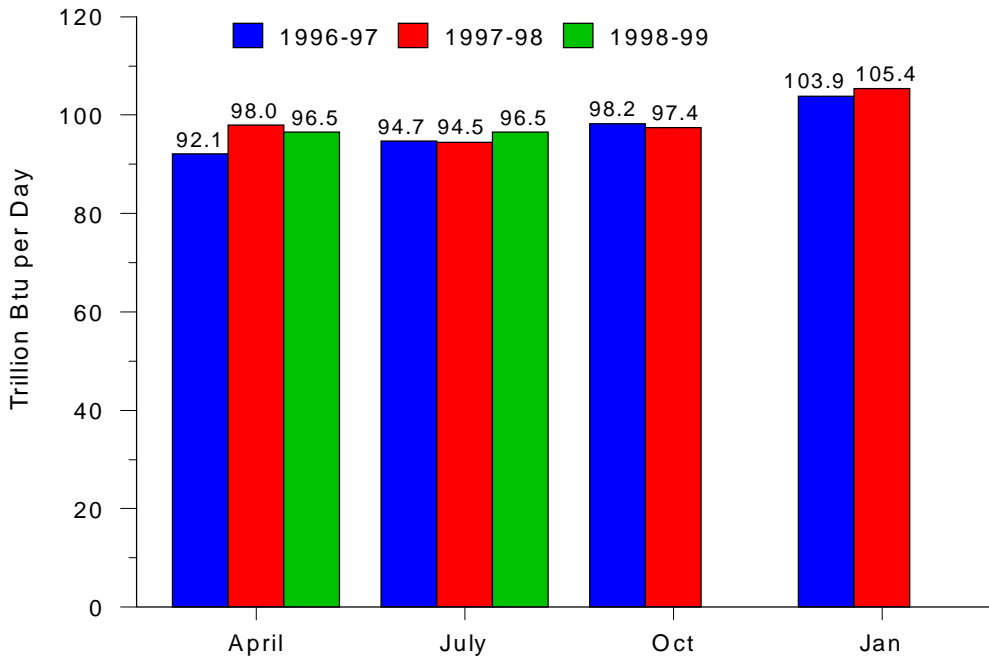
LDCs Reserve the Most Firm Capacity

Many different types of shippers contract for firm transportation services on the interstate natural gas pipeline

¹¹In 1997, 46 interstate pipeline companies (accounting for 97 percent of interstate transportation deliveries in 1996) had a total maximum capability of 127 trillion Btu per day. Energy Information Administration, *Deliverability on the Interstate Natural Gas Pipeline System*, DOE/EIA-0618(98) (Washington, DC, May 1998), p. 81.

¹²For additional information, see the Energy Information Administration publication *Deliverability on the Interstate Natural Gas Pipeline System*, DOE/EIA-0618(98) (Washington, DC, May 1998). Utilization levels include only the pipeline capacity on which gas was actually transported from one State to another. If the calculation included pipeline capacity that had no reported flow, average utilization rates for 1996 and 1997 would be 65 and 62 percent, respectively.

Figure 43. Total Firm Transportation Capacity Under Contract at the Beginning of Each Quarter, April 1, 1996 - July 1, 1998



Note: Data are for 64 interstate pipeline companies.

Source: Energy Information Administration, Office of Oil and Gas, derived from Federal Energy Regulatory Commission (FERC) data from Index of Customers quarterly filings for April 1, 1996 through July 1, 1998, FERC Bulletin Board (August 14, 1998).

Table 14. Characteristics of Firm Transportation Capacity Under Contract at the Beginning of Each Quarter, April 1, 1996 - July 1, 1998

| Quarter | All Contracts | | | Long-Term Contracts ^a | | | Short-Term Contracts ^b | | |
|-------------|------------------------------------|---------------------------|----------------------------|------------------------------------|---------------------------|----------------------------|------------------------------------|---------------------------|-----------------------------|
| | Capacity (trillion Btu per day) | Number of Contracts | Average Term (years) | Capacity (trillion Btu per day) | Number of Contracts | Average Term (years) | Capacity (trillion Btu per day) | Number of Contracts | Average Term (months) |
| 1996 | | | | | | | | | |
| April | 92.1 | 4,802 | 8.4 | 82.9 | 3,968 | 10.0 | 9.2 | 834 | 8.4 |
| July | 94.7 | 4,827 | 8.5 | 83.9 | 3,979 | 10.1 | 10.8 | 848 | 9.0 |
| October | 98.2 | 4,922 | 8.5 | 88.9 | 4,170 | 9.8 | 9.3 | 752 | 8.6 |
| 1997 | | | | | | | | | |
| January | 103.9 | 5,266 | 8.3 | 91.7 | 4,181 | 10.2 | 12.2 | 1,085 | 8.6 |
| April | 98.0 | 5,165 | 8.4 | 88.0 | 4,146 | 10.3 | 10.0 | 1,019 | 8.5 |
| July | 94.5 | 5,086 | 8.6 | 85.4 | 4,179 | 10.3 | 9.2 | 907 | 9.4 |
| October | 97.4 | 5,138 | 8.7 | 89.1 | 4,271 | 10.3 | 8.4 | 867 | 9.2 |
| 1998 | | | | | | | | | |
| January | 105.4 | 5,516 | 8.6 | 95.1 | 4,472 | 10.4 | 10.4 | 1,044 | 8.7 |
| April | 96.5 | 5,276 | 8.8 | 89.6 | 4,410 | 10.4 | 6.9 | 866 | 9.8 |
| July | 96.5 | 5,330 | 8.7 | 88.4 | 4,392 | 10.4 | 8.1 | 938 | 9.8 |

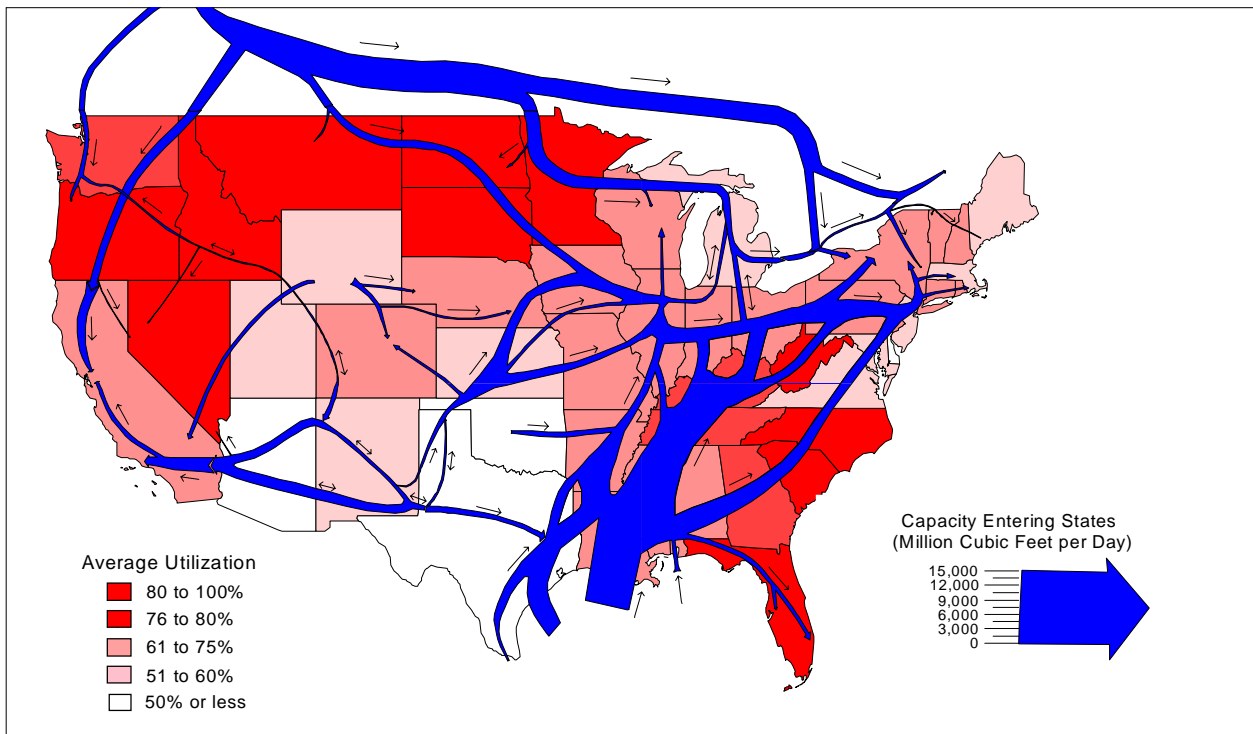
^aLong-term contracts are longer than 366 days.

^bShort-term contracts are for 366 days or less.

Note: Data are for 64 interstate pipeline companies.

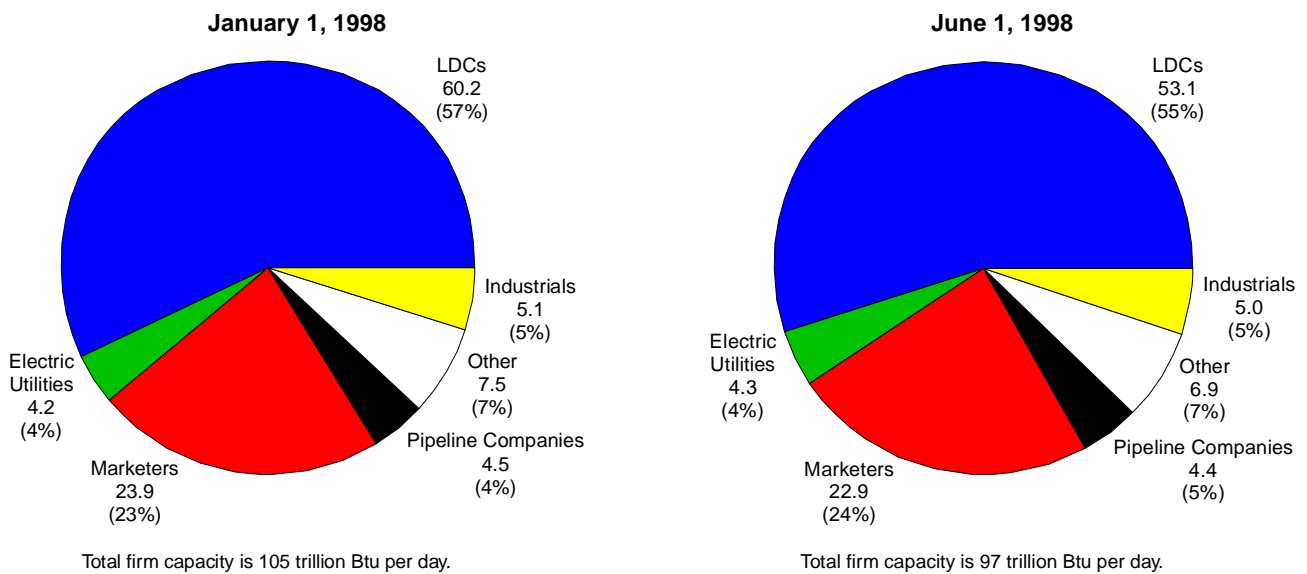
Source: Energy Information Administration, Office of Oil and Gas, derived from Federal Energy Regulatory Commission (FERC) data from Index of Customers quarterly filings for April 1, 1996 through July 1, 1998, FERC Bulletin Board (August 14, 1998).

Figure 44. Interstate Natural Gas Pipeline Capacity and Average Utilization, 1997



Source: Energy Information Administration (EIA), EIAGIS-NG Geographic Information System, Natural Gas Pipeline State Border Capacity Database, as of December 1998.

Figure 45. Share of Total Firm Capacity Held on January 1, 1998 and July 1, 1998, by Type of Shipper (Capacity in Trillion Btu per Day)



LDC = Local distribution company.

Note: Data are for 64 interstate pipeline companies.

Source: Energy Information Administration, Office of Oil and Gas, derived from Federal Energy Regulatory Commission (FERC) data from Index of Customers quarterly filings for January 1, 1998 and July 1, 1998, FERC Bulletin Board (August 14, 1998).

system,¹³ including local distribution companies (LDCs), electric utilities, industrial firms, marketers, interstate pipeline companies, producers, gatherers, and storage operators. As noted earlier, LDCs account for the largest share of contract capacity for firm service. They have traditionally served as “suppliers of last resort” for all customers in their service area and sole suppliers for the core residential and commercial customers. Thus, they must plan for peak-day demand to meet customers’ needs and, because of seasonal variations, will have a lower average rate of utilization (also known as load factor) than other shippers. As a result of their customers’ high-priority needs, LDCs are likely to hold a greater share of the firm capacity than shippers, such as industrial customers, who may have the ability to use interruptible service or easily switch to an alternative fuel. Many LDCs are mandated by their State public utility commissions (PUCs) to reserve a certain amount of capacity for reliability of service.

Although LDCs overwhelmingly hold the largest share of firm transportation capacity, they do not receive a proportionate share of natural gas deliveries. Industrial customers hold less than one-tenth of the firm capacity held by LDCs, although the volume of gas delivered to industrial customers was almost the same (82 percent) as that for LDCs.¹⁴ It should be noted, however, that some of the LDCs’ and marketers’ firm contracted capacity may be used to provide interstate transportation to industrial customers and electric utilities. Therefore, not all of the industrial customers’ use of firm transportation is accounted for by contracts with interstate pipeline companies. Traditionally, industrial customers, with well-defined and steady fuel requirements, also have contracted for longer periods than marketers who generally have opted for the flexibility of shorter term contracts. Marketers have mainly served customers with fuel-switching capability and, thus, have been able to focus more on cost minimization than supply reliability.

Now, these contracting approaches appear to be changing as the pace of retail restructuring increases. LDCs may no

longer be required to act as the supplier of last resort. In many States, retail restructuring has given customers of LDCs the option of selecting their natural gas supplier. In most cases, the chosen service provider is responsible for securing the supply of natural gas and arranging transportation of the gas to the LDC’s service area. The LDC then provides delivery service from the city gate to the customer’s point of consumption (burner tip). However, since the LDC is no longer responsible for the interstate transportation of that natural gas, it can reduce its firm capacity commitments as the contracts expire.¹⁵

Although retail restructuring may allow an LDC to reduce its firm transportation capacity levels, another entity, whether it be the consumer or third-party service provider (e.g., marketer), must secure transportation capacity to move gas to the LDC’s service area. However, these marketers may be more focused on cost efficiency than on service reliability. This partially accounts for some of the shifts in contracting practices as shippers adjust their contract portfolios. Shippers continue to prefer long-term contract arrangements for firm transportation capacity, but generally these new contracts are for shorter periods of time and for smaller amounts of capacity.

Shippers Prefer Long-Term Contracts

Although retail restructuring has allowed some LDCs to reduce their firm transportation capacity levels, at the national level LDCs had only minor reductions in their total long-term capacity commitments during the 12 months ended July 1, 1998. Contracts representing 8.9 trillion Btu (TBtu) per day of LDC capacity expired, representing 17 percent of the LDC average long-term capacity commitments of 53.8 TBtu per day.¹⁶ Over the same period, LDCs maintained much of their reserved capacity levels by entering into new contracts for 8.6 TBtu per day (Figure 46 and Appendix D, Figure D3 and Table D13).

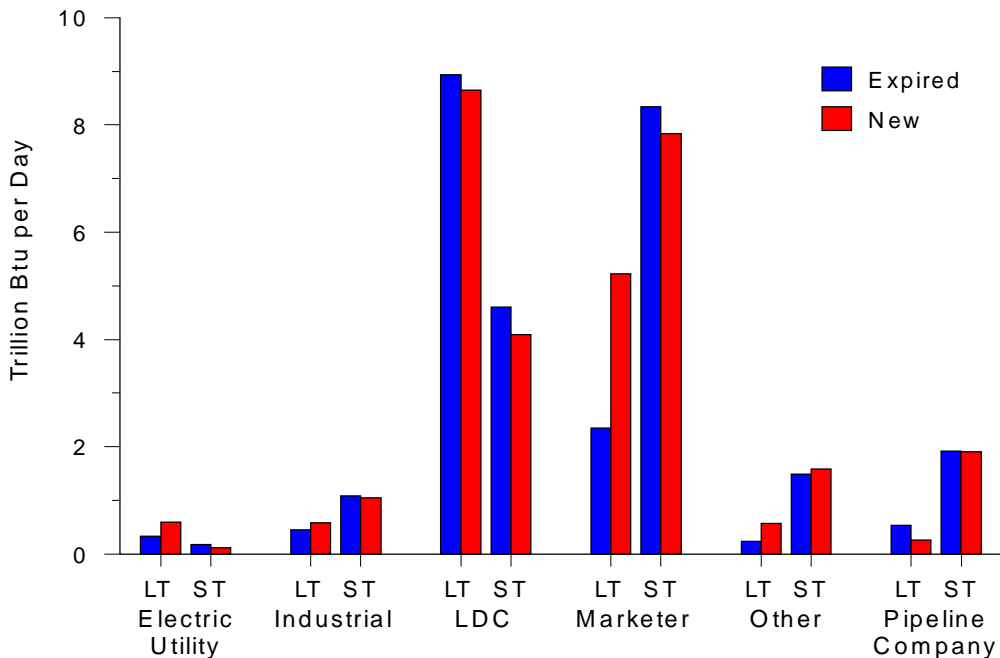
¹³As of July 1, 1998, there were approximately 73 interstate pipelines providing service to about 1,866 shippers under 5,700 firm transportation (FT) contracts. The typical FT contract in place as of July 1, 1998, was written 3.3 years ago and will continue in force for another 5.4 years. Short-term contracts average 9.6 months, whereas long-term contracts average 10.3 years. Source: Energy Information Administration, derived from Federal Energy Regulatory Commission, Index of Customers’ data for July 1, 1998.

¹⁴Volumes are based on 1997 firm and interruptible deliveries to end users. Deliveries to LDCs include residential, onsystem commercial, and onsystem industrial deliveries. Deliveries to industrial customers include only offsystem deliveries. Source: Energy Information Administration, derived from *Natural Gas Annual 1997*, DOE/EIA-0131(97) (Washington, DC, October 1998).

¹⁵Most States have regulations that require local distribution companies to acquire and contract for interstate capacity assets necessary for gas to be made available on their system as well as the obligation to provide commodity sales service to retail customers. While at least one State has eliminated this requirement under complete retail restructuring, most States still have this obligation to serve in place.

¹⁶The expired capacity amounts include capacity for contracts that did not expire, but whose reservation levels were adjusted downward. Likewise, the new capacity amounts include capacity for contracts that did not expire, but whose reservation levels were adjusted upward. For example, changes in seasonal reservation levels would be accounted for through revisions.

Figure 46. Firm Capacity Under Expired and New Contracts During July 1, 1997 - July 1, 1998, by Shipper and Contract Length



LT = Long term (more than 366 days); ST = Short term (366 days or less); LDC = Local distribution company.

Notes: New capacity includes positive revisions and expired capacity includes negative revisions. The “Other” category includes producers, gatherers, processors, and storage operators as well as shippers that could not be classified. Data are for 64 interstate pipeline companies.

Source: Energy Information Administration, Office of Oil and Gas, derived from Federal Energy Regulatory Commission (FERC) data from Index of Customers quarterly filings for July 1, 1997 through July 1, 1998, FERC Bulletin Board (August 14, 1998).

There are several reasons why LDCs’ aggregate firm capacity levels have not changed very much over the year. While retail restructuring is advancing, only five States have complete unbundling programs (see Chapter 1, “Retail Unbundling”). Therefore, LDCs must maintain firm capacity levels to serve customers who do not have a choice of service providers or who have chosen to stay with the LDC. Additionally, LDCs may be required to provide service to customers if marketers fail to deliver. LDCs may be retaining firm capacity to operate under this traditional role of “provider of last resort.” Also, LDCs may be replacing capacity under expired contracts with capacity on other pipeline systems to access less expensive natural gas sources.

Several other shipper classes have increased the amount of firm transportation capacity held under long-term contracts. In particular, marketers increased their long-term capacity commitments by 18 percent during the 12 months ended July 1, 1998 (Appendix D, Table D12). They contracted for 5.2 TBtu per day of long-term capacity to replace the 2.4 TBtu per day which had been reserved under contracts that terminated during the period. The new contracts were

for larger amounts (average capacity per contract increased) and there were more new contracts than expiring ones. Marketers held 96 more long-term contracts on July 1, 1998, than on July 1, 1997.

On the other hand, marketers showed less interest in short-term capacity. During the 12 months ended July 1, 1998, marketers reduced short-term capacity by 8.3 TBtu per day but entered new contracts for only 7.8 TBtu per day. The changes in the marketers’ service selection resulted in long-term capacity representing 83 percent of their transportation portfolio as of July 1, 1998, up from 78 percent on July 1, 1997.

On the surface, it appears that marketers, on average, may have a growing preference for long-term versus short-term contracts. However, this may not be the full story, as marketers may, in fact, be simultaneously increasing their use of interruptible transportation while increasing the amount of firm capacity under long-term contracts and decreasing the amount under short-term contracts. Instead of using short-term firm contracts, marketers (as well as possibly other types of shippers) may be turning to less

expensive interruptible service that has been available during warmer-than-normal weather.¹⁷ The increase in long-term contracts may be a result of marketers increasing market share and not so much a switch from short-term contracts.

The contracting behavior of electric utilities is similar to that of marketers, in that they have also increased their long-term capacity commitments and reduced their short-term commitments. Long-term commitments represented virtually all (98 percent) of the transportation service portfolio for electric utilities for the 12 months ended July 1, 1998. During this period, electric utilities signed new, long-term contracts for 0.6 Tbtu per day that more than replaced the 0.3 Tbtu per day of capacity associated with expired contracts. The total number of contracts held reached 141 as of July 1, 1998, an 11-percent increase over the year-earlier level. On the other hand, short-term capacity commitments were reduced during the period, as electric utilities signed new contracts for 30 percent less capacity than the total under expired short-term contracts.

Industrial gas shippers that hold contracts for interstate transportation continue to favor long-term over short-term contracts. In fact, during the 12 months ended July 1, 1998, 90 percent of the capacity held by industrial shippers was under long-term contracts, a slight increase of 1 percentage point from the previous 12-month period. Total capacity under long-term contracts increased from 4.4 to 4.5 Tbtu per day from July 1, 1997 to July 1, 1998. While the increase may be partially due to the strong U.S. economy, it also appears that more industrial customers are directly securing their own transportation service. The number of industrial shippers holding long-term transportation contracts increased by 33 percent from 210 to 280 unique industrial shippers.

Capacity held by industrial shippers under short-term contracts posted an average decrease of 8 percent during the 12 months ended July 1, 1998, compared with year-earlier levels. It appears that industrial customers have an increasing preference for long-term over short-term contracts, with long-term capacity under new contracts outpacing (by 30 percent) capacity under expired contracts for the 12-month period ended July 1, 1998. During this same period, industrial shippers continued to write new short-term contracts, although the contracted levels did not keep pace with expired short-term contracts.

¹⁷It is difficult to quantify this behavior because there are no information sources available on contracts for interruptible transportation.

Although the majority of firm transportation capacity is held under long-term contracts, a substantial amount of capacity is up for renewal on an annual basis. During the 12 months ended July 1, 1998, 30 trillion Btu (Tbtu) per day of capacity was associated with contracts that expired (on average 8 percent of the total contracted capacity over the 12 months) and 32 Tbtu was associated with new contracts (Appendix D, Table D13). Short-term firm transportation capacity accounted for 58 percent, or 17.6 Tbtu per day, of expirations during the period.¹⁸ Shippers replaced the expired capacity by entering into new short-term contracts totaling almost 16.6 Tbtu per day. During the same 12-month period, shippers acquired 15.9 Tbtu per day of long-term firm transportation capacity while long-term contracts accounting for 12.8 Tbtu per day expired. Thus, new contracts for long-term transportation service exceeded expired contracts by 24 percent. From a shipper perspective, marketers accounted for the largest change in long-term contracted capacity (Figure 46).

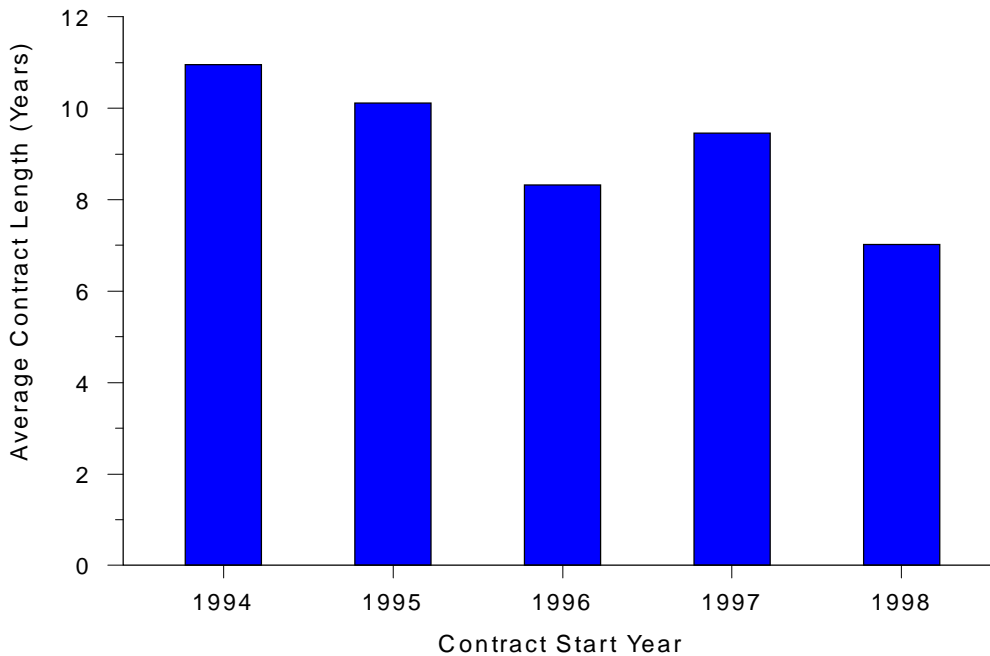
Total firm contracted capacity increased 2.0 Tbtu per day between July 1, 1997, and July 1, 1998. This increase appears to be related to recent pipeline expansions, which provided an additional 3.3 Tbtu per day of capacity during the 12 months ended July 1, 1998.¹⁹ However, it cannot be determined whether the newly subscribed capacity will supplement or replace the shippers' other contracted capacity. If shippers have entered capacity contracts associated with new pipeline expansions to replace older contracts, a substantial amount of capacity may be turned back when old contracts expire.

Another change in the transportation market has been a reduction in the average duration of new long-term contracts. On average, long-term contracts written during the first 6 months of 1998 covered a period 16 percent shorter (measured in days) than those written in 1996. The trend toward shorter contracts is even more evident in those contracts of 3 years or more. The average length of those contracts declined by 36 percent, from 10.9 to 7.0 years, between 1994 and 1998 (Figure 47).

¹⁸The 17.6 trillion Btu per day of expired short-term capacity includes capacity that may be counted multiple times if the contract turns over several times during the year. For example, a 90-day contract for 100 million Btu per day that is always renewed would be counted as 400 million Btu per day of expired capacity over the year.

¹⁹Based on expansions on the 64 pipeline companies included in this analysis. Energy Information Administration, *Deliverability on the Interstate Natural Gas Pipeline System*, DOE/EIA-0618(98) (Washington, DC, May 1998), Appendix B, Table B.1.

Figure 47. Average Contract Length for Contracts with Terms of 3 Years or More, by Year of Contract Start, 1994-1998



Note: Data are for 64 interstate pipeline companies.

Source: Energy Information Administration, Office of Oil and Gas, derived from Federal Energy Regulatory Commission (FERC) data from Index of Customers quarterly filings for April 1, 1996 through July 1, 1998, FERC Bulletin Board (August 14, 1998).

Individual Shipper Contracting Practices and Regional Patterns

The changes in capacity contracting exhibited by different types of shippers are also supported by studying the contracting behavior of individual shippers. Shippers who hold large long-term contracts are initiating fewer new contracts, for less capacity, and for shorter contract periods. From April 1996 through March 1998, based on a sample of 54 unique shipper-pipeline company contract pairings,²⁰ 37 percent, on average, of the capacity under expired contracts was turned back (19 percent if contracts with El Paso Natural Gas Company are excluded, see box, p. 139). The capacity associated with these expired contracts in the shipper-pipeline sample totaled 6.4 trillion Btu per day, or

67 percent of the 9.6 Tbtu per day associated with expired contracts nationally during the same period.²¹

While results varied by region, the bulk of the turned-back capacity (58 percent) by the sample shippers was in the West Region, where 92 percent of the region's capacity under expired contracts was turned back, almost all of which was attributable to contracts on El Paso Natural Gas that expired in 1996 and 1997. The next largest regional turnback share, 42 percent, occurred in the Northeast (Table 15). It should be noted that at least some of the capacity that was turned back to interstate pipeline companies was subsequently remarketed. An assessment of these capacity amounts, such as how much of the turned-back capacity was remarketed, was beyond the scope of this analysis.

Individual shippers showed multilayered strategies and exercised a number of approaches when they had the opportunity to adjust their contract portfolios. The types of adjustments in their new contracts, as compared with

²⁰To assess the actions of shippers holding large, long-term firm capacity contracts, a sample of shipper-pipeline pairings was derived by selecting the 10 largest contracts that expired in each region over the period April 1, 1996, through March 31, 1998 (see box, p. 131). The number of contracts was increased to 14 in the Midwest, because the 10 largest contracts accounted for less than 50 percent of the region's expiring capacity over the period. The largest contracts per region resulted in a sample of 54 unique shipper and pipeline company combinations. There are only 51 shippers in the sample because some had expired contracts with more than one pipeline company (see Appendix D).

²¹National information is based on the analysis of 64 pipeline companies discussed elsewhere in the chapter (see box, p. 131).

El Paso Natural Gas Company

One of the most significant cases of turnback since 1996 occurred on the El Paso Natural Gas Pipeline system. El Paso experienced a turnback of 1.2 trillion Btu per day of firm transportation capacity when Pacific Gas and Electric Company (PG&E) allowed a contract to expire on December 31, 1997. El Paso remarketed the turned back capacity to Dynegy (formerly NGC Corporation), but with several major differences from the original contract.

- PG&E held one contract with El Paso for its total reservations of 1.2 trillion Btu per day, while Dynegy contracted for a total of 1.3 trillion Btu per day spread over three contracts. The use of multiple contracts may provide Dynegy with more flexibility when the contracts come up for renewal. If Dynegy finds that it does not need all of the capacity reserved on El Paso, it can turn back one or more of the contracts and still maintain the same scheduling priority for the remaining contracts.
- Dynegy's contracts have shorter terms (lengths) than the PG&E's contract. PG&E's contract had a term of 6 years, while the Dynegy contracts are for 2 years each. The reduction in contract length increased El Paso's exposure to turnback in the near term.
- In addition, Dynegy received a significant discount on the contracted capacity. The PG&E contract with El Paso had been at the maximum tariff rate, but it appears that Dynegy received a 66-percent discount from this rate. The discounted rate reduces the cost of capacity to Dynegy, but it may not affect El Paso's total revenue if El Paso can recover the discounted amount through future rate adjustments to its other firm shippers. The discount is significant as an indication that supply of capacity may exceed demand on that portion of El Paso's system.

The details of the settlement that resulted in the new Dynegy contracts may be in question as the result of a decision by the U.S. Court of Appeals for the D.C. Circuit on December 11, 1998. The Federal Energy Regulatory Commission (FERC) had approved the settlement, but the Court remanded FERC's treatment of a contestant to the settlement, the Southern California Edison Company (Edison).

Table 15. Regional Capacity Under Long-Term Firm Contracts, April 1, 1996 - March 31, 1998

| Region | Total Contracts | | Sample Expired Contracts | | | |
|--------------|---|--|--------------------------|--------------------------------------|----------------------------|-------------------------------|
| | Average Capacity ^a (TBtu/d) | Capacity Under Expired Contracts (TBtu/d) | Capacity (TBtu/d) | Percentage of Total Expired Capacity | Turnback ^b | |
| | | | | | Total Capacity (TBtu/d) | Percentage of Sample Capacity |
| Central | 10.3 | 2.1 | 1.5 | 70.3 | 0.1 | 3.4 |
| Midwest | 19.3 | 2.7 | 1.4 | 51.4 | 0.5 | 37.2 |
| Northeast | 30.8 | 0.8 | 0.4 | 53.2 | 0.2 | 42.3 |
| Southeast | 9.2 | 1.3 | 0.9 | 68.6 | 0.1 | 11.7 |
| Southwest | 5.0 | 1.2 | 0.7 | 60.3 | 0.1 | 17.6 |
| West | 13.4 | 1.5 | 1.5 | 95.5 | 1.4 | 92.3 |
| Total | 88.1 | 9.6 | 6.4 | 66.1 | 2.4 | 36.8 |

^aAverage capacity is the sum of total capacity at the beginning of each quarter, April 1, 1996 through March 31, 1998, divided by the number of quarters (8).

^bTurnback is the reduction or returning of capacity to the pipeline company at the expiration of the contract.

TBtu/d = Trillion Btu per day.

Notes: Total contracts are for 64 interstate pipeline companies. The sample contracts were selected from the expired contracts with these companies resulting in 54 unique shipper/pipeline pairs, see Appendix D. Totals may not equal sum of components because of independent rounding. Percentages were calculated using unrounded numbers. Long-term contracts are longer than 366 days.

Source: Energy Information Administration, Office of Oil and Gas, derived from Federal Energy Regulatory Commission (FERC) data from Index of Customers quarterly filings for April 1, 1996 through April 1, 1998, FERC Bulletin Board (August 14, 1998).

expired contracts, included changes in contract length, in the amount of contracted capacity, and in the quality of service (for instance, replacing a contract for no-notice service with one for firm service). New contracts may include one or several of the types of adjustments. What is noteworthy is that the shippers did not rely solely on a reduction (turnback) in contracted capacity amounts. Of the 54 shipper-pipeline pairs, 47 decreased the average length of their capacity contracts (Table 16). In over half of the cases (31), shippers decreased the total amount of capacity under long-term capacity contracts. Based on these actions, shippers are clearly positioning themselves for more flexibility in their firm transportation portfolios. The action shippers took depended on their motivation and perception of the capacity market within their region.

The analysis of the sample shippers indicated several distinct regional effects:

- Shippers in the Central Region had one of the largest amounts of expiring capacity (1.5 trillion Btu per day) but were one of the only ones that showed an increase in total capacity commitments (Appendix D, Table D8). The increase in committed capacity may indicate that shippers view the Central Region as somewhat capacity constrained. However, the most significant factor that led to this increase may have been the expansion of facilities and contracts to tap nearby natural gas supplies (coal seam gas) in the Powder River Basin. It also appears that shippers changed the quality and flexibility of their transportation portfolios by reducing capacity held under no-notice services and decreasing the average term of new contracts.
- Eight firm capacity contracts of the twenty-two contracts in the Midwest sample were completely turned back to the pipeline companies. The overall capacity reduction in the Midwest represented 37 percent of the region's capacity under expiring contracts. The turnback identified in the Midwest may be the result of two distinct but related factors. First, shippers may be terminating contracts for transportation from the South in anticipation of expansion tapping into Canadian supplies. Also, the underutilization of the pipeline systems transporting supply from the Southwest enables shippers to use interruptible transportation contracts.

- For the 64 pipeline companies, the Northeast had the highest average contracted capacity among the regions (30.8 trillion Btu (TBtu) per day), but a relatively small proportion (0.8 TBtu per day) of that capacity was associated with expiring contracts (Table 15). For the expired contracts in the sample (representing 0.4 TBtu per day), shippers either reduced the amount of contracted capacity, reduced the length of the contract, or both. The region's turnback represented 42 percent of the expiring capacity in the Northeast sample. Firm transportation contract changes in the region may be prompted by the shippers' needs for increased flexibility as a result of retail restructuring. All but one of the shippers in the Northeast sample are LDCs who serve areas that have some level of retail unbundling in place.
- The Southeast Region had one of the lowest rates (12 percent) of turnback in the sample, retaining about 88 percent of its expired capacity. However, shippers in the region did overwhelmingly reduce the lengths of their firm transportation contracts. The Southeast was unique in that 10 of the 11 contracts were held on one pipeline company, Columbia Gulf Transmission. The motivations behind contract changes in the Southeast are similar to those in the Northeast where shippers are focused on increasing the flexibility of their firm transportation portfolios.
- Contract length reductions dominated shipper actions in the Southwest Region. All shippers reduced the terms of their contracts. While some shippers did turn back capacity, it appears shippers were more interested in diversifying their capacity holding by entering into more contracts for smaller amounts and shorter terms, especially in light of the abundant capacity in the region.
- Similar to the Midwest, shippers in the West Region were interested in acquiring greater access to Canadian gas supply, thereby reducing their need for firm transportation capacity connected to the Southwest. Shippers in the West turned back 92 percent of their capacity under expiring contracts in the sample, including a single contract for 1.2 trillion Btu per day.²² In fact, three Canadian shippers were the only contract holders in the sample that did not turn back all of their contracted capacity.

²²Pacific Gas and Electric Company turned back one firm transportation contract of 1,166,220 million Btu per day to El Paso Natural Gas Company on January 1, 1998.

Table 16. Actions Upon Contract Expiration for Sample of the Largest Expired Long-Term Contracts in Each Region, April 1, 1996 - March 31, 1998

| Region | Number of Contracts in Sample | Number of Shipper/Pipeline Pairs in Sample | Comparison of New Contracts with Expired Contracts (Number of Shipper/Pipeline Pairs in Each Category) | | | | | | | | |
|--------------|-------------------------------|--|---|-----------|-----------|---------------------|-----------|-----------|--------------------|----------|-----------|
| | | | Number of Contracts Held | | | Total Capacity Held | | | Length of Contract | | |
| | | | Increased | Same | Decreased | Increased | Same | Decreased | Increased | Same | Decreased |
| Central | 14 | 7 | 2 | 3 | 2 | 2 | 3 | 2 | 3 | 0 | 4 |
| Midwest | 22 | 15 | 2 | 3 | 10 | 2 | 2 | 11 | 3 | 1 | 11 |
| Northeast | 10 | 8 | 2 | 1 | 5 | 1 | 1 | 6 | 0 | 0 | 8 |
| Southeast | 11 | 9 | 0 | 2 | 7 | 0 | 4 | 5 | 0 | 0 | 9 |
| Southwest | 13 | 7 | 2 | 3 | 2 | 2 | 3 | 2 | 0 | 0 | 7 |
| West | 10 | 8 | 0 | 3 | 5 | 0 | 3 | 5 | 0 | 0 | 8 |
| Total | 80 | 54 | 8 | 15 | 31 | 7 | 16 | 31 | 6 | 1 | 47 |

Notes: Long-term contracts are longer than 366 days. The sample was chosen from the expired contracts of 64 interstate pipeline companies. See Appendix D.

Source: Energy Information Administration, Office of Oil and Gas, derived from Federal Energy Regulatory Commission (FERC) data from Index of Customers quarterly filings for April 1, 1996 through April 1, 1998, FERC Bulletin Board (August 14, 1998).

Capacity Release Market

Shippers can also change their contract portfolios through the capacity release market, which was established under FERC Order 636. Shippers with excess capacity commitments can offer the capacity to other shippers as long as the reselling price does not exceed the maximum regulated rate. The amount of capacity released provides an indicator of unneeded capacity and where turnback might occur in the future.²³

The capacity release market has grown steadily in terms of capacity traded, indicating that more shippers are using the release market as a source for transportation capacity. The release market's annual growth rate averaged 19 percent during the past 3 heating years (April through March) ended March 31, 1998, for the interstate pipeline companies included in this analysis. The growth in the market slowed somewhat during the 1998 heating year. The amount of capacity held by replacement shippers during the 12 months ended March 31, 1998, was 7.6 trillion cubic feet, or 10 percent more than the 6.9 trillion cubic feet held

for the 12 months ended March 31, 1997.²⁴ The slowdown in growth may be weather related—the 1997-98 heating season was 5 percent warmer than the 1996-97 heating season, as measured by heating degree days.²⁵

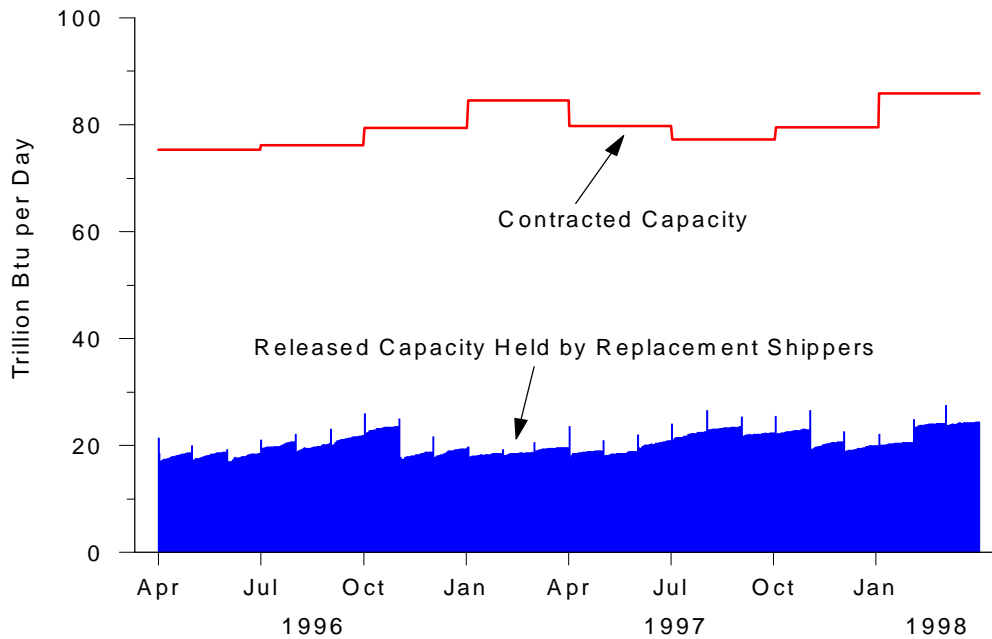
The level of capacity held by replacement shippers represents a significant amount of interstate pipeline capacity (Figure 47 and Appendix D, Figure D4). As much as 32 percent of the deliveries to end users could have moved using released capacity during the 1997-98 heating season. The fact that a large amount of capacity is available for release during the peak season also indicates that shippers are holding a substantial amount of unused capacity. The amount of capacity held by replacement shippers has historically represented about 20 percent of total reserved firm transportation capacity. The growth in the capacity release market suggests that some shippers have capacity under contract that they are not using and that the potential exists for a substantial capacity turnback in the future. However, the level and location of the turnback will in large part depend on the contracting practices and market conditions within specific regions, as well as the contract expiration dates.

²³The amount of capacity *offered* to replacement shippers is a more accurate measurement of potential turnback compared with the amount of capacity actually *awarded*. However, only limited data are available on offered capacity. The capacity award dataset is used in this analysis because it is the most complete information available on capacity release.

²⁴The total volume of released capacity held by replacement shippers during a season is the sum of the capacity effective on each day of the season. For example, if a 60-day contract for Z thousand cubic feet per day is effective within a season, then the sum of capacity held for the season would include Z thousand cubic feet 60 times for that contract. If that 60-day contract were only effective, for example, for the last 20 days of the season, then the sum for the season would include Z thousand cubic feet 20 times, and the sum for the next season would include Z thousand cubic feet 40 times for that contract.

²⁵Energy Information Administration, *Natural Gas Monthly*, DOE/EIA-0130(98/04) (Washington, DC, April 1998), Table 26.

Figure 48. Daily Contracted and Released Firm Transportation Capacity, April 1, 1996 - March 31, 1998



Note: Data are for 27 interstate pipeline companies.

Source: Energy Information Administration, Office of Oil and Gas. **Contracted Capacity:** derived from Federal Energy Regulatory Commission (FERC) data from Index of Customers filings for April 1, 1996 through January 1, 1998, FERC Bulletin Board (August 14, 1998). **Released Capacity:** derived from: April 1996-May 1997—FERC Electronic Data Interchange, May 1997-March 1998—FERC downloaded Internet data.

Outlook

The expiration of firm transportation capacity under contract as of July 1, 1998, varies over time through 2025 (Figure 49). For most years, expirations account for 5 percent or less of total reserved capacity. However, the years 1999 and 2000 will be particularly active, when 12 percent of the contracted capacity will expire each year. Between 1998 and 2003, transportation contracts representing a total of 54 percent of the reserved firm transportation capacity will expire or come up for renegotiation.

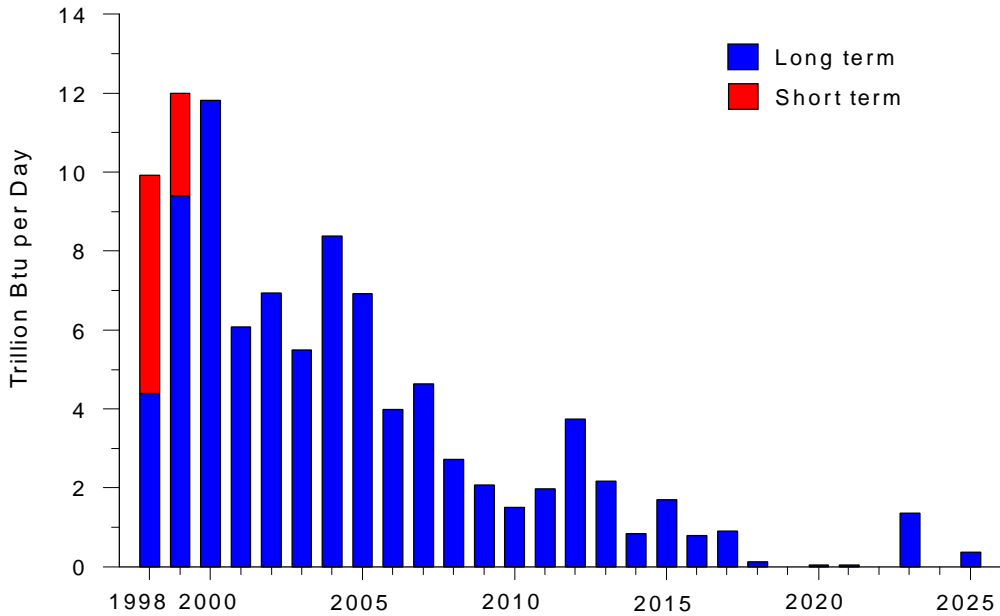
The timing of the potential turnbacks is a major factor in assessing the impact of the capacity turnback on the transportation markets. As mentioned earlier, a considerable amount of capacity is up for renewal on an annual basis. Much of this capacity is associated with short-term contracts of a year or less that are used to address limited seasonal or market fluctuations. It is unlikely that expiration of short-term contracts will result in turnback of capacity for an extended period. Therefore, short-term contracts are not included in EIA's assessment of capacity

turnback. In this analysis, only the expiration profiles of each region's long-term contracts were applied to the respective estimated turnback ratio and combined to provide a national turnback profile for firm transportation capacity (Figure 50).

On a regional basis, there is considerable variation in the quantity of cumulative capacity expirations in the near term (through 2003) (Figure 51), but the pattern of extensive contract turnovers or expirations through 2008 is similar and in the range of 71 to 97 percent of existing contracts. By 2003, shippers on pipelines that principally serve the Central, Midwest, and Southwest regions will have contracts expire that represent 71 to 86 percent of their currently reserved capacity. In contrast, pipeline companies in the Northeast and Southeast will have contracts covering only about 45 percent of their current reservations expire, while companies in the West expect about 29 percent of their capacity reservations to expire through 2003.

The existence of expiring contracts does not automatically equate to a turnback of capacity. The likelihood that contracts will be terminated upon reaching their expiration date can be estimated by comparing the capacity release

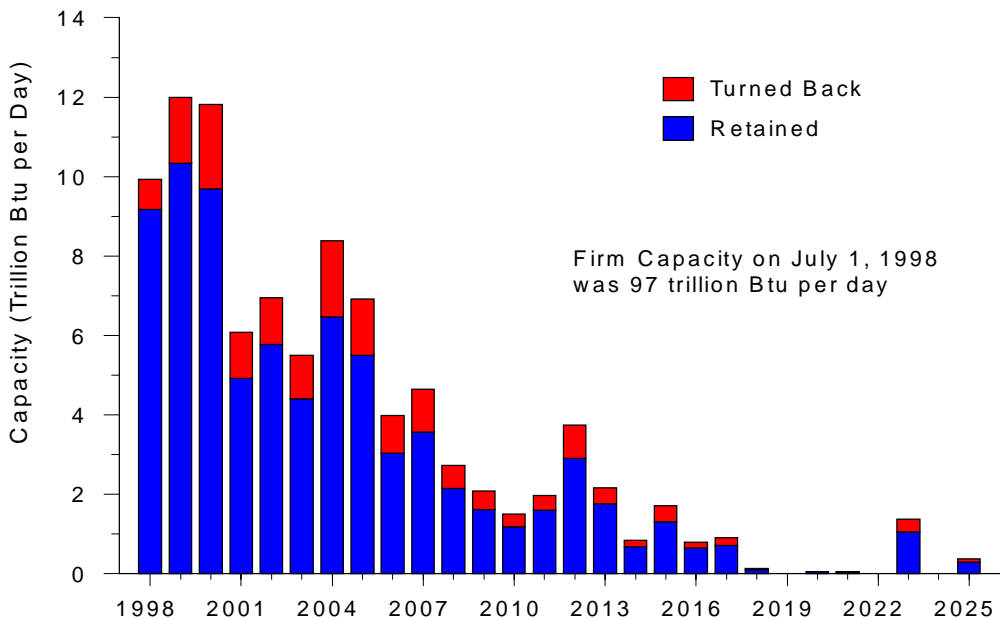
Figure 49. Firm Transportation Capacity by Year of Contract Expiration, 1998-2025, as Reported on July 1, 1998



Note: Long term is longer than 366 days, short term is 366 days or less. Data are for 64 interstate pipeline companies. Data for 1998 are for the last 6 months. Data for 2025 include 0.02 trillion Btu per day of capacity expirations in years beyond 2025.

Source: Energy Information Administration, Office of Oil and Gas, derived from Federal Energy Regulatory Commission (FERC) data from Index of Customers filing for July 1, 1998, FERC Bulletin Board (August 14, 1998).

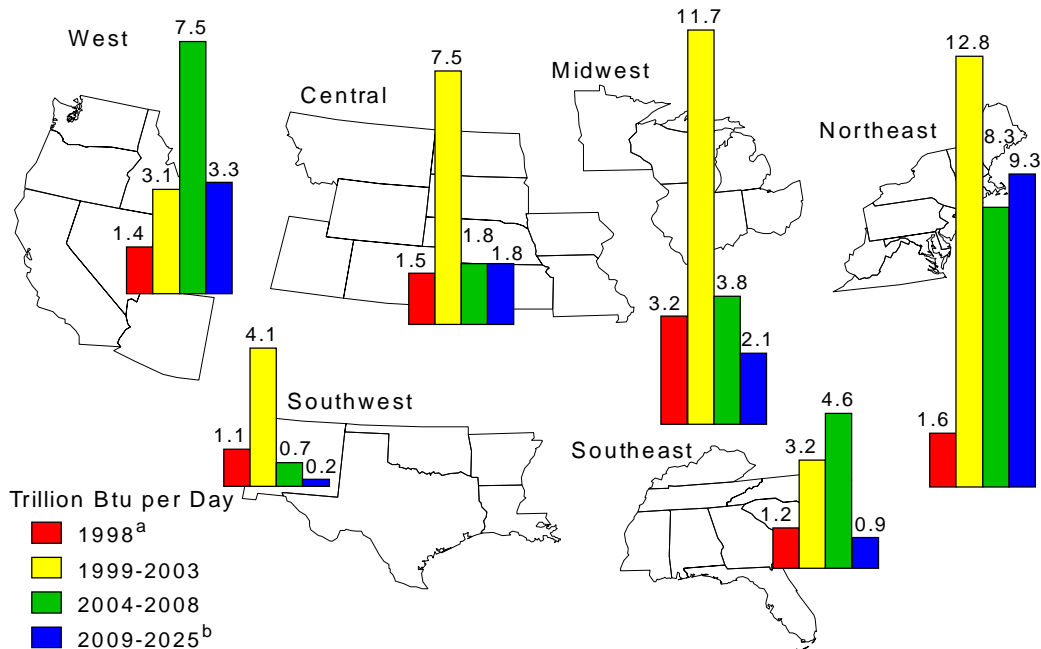
Figure 50. Estimated Amounts Turned Back and Retained of Firm Transportation Capacity Under Contract as of July 1, 1998



Note: Data are for 64 interstate pipeline companies. Data for 1998 are for the last 6 months. Data for 2025 include 0.02 trillion Btu per day of capacity expirations in years beyond 2025.

Source: Energy Information Administration, Office of Oil and Gas based on: **Total Expirations:** derived from Federal Energy Regulatory Commission (FERC) Index of Customers data for July 1, 1998, FERC Bulletin Board (August 14, 1998) and **Turned Back Capacity:** derived from various sources, see Appendix D.

Figure 51. Regional Exposure to Firm Capacity Contract Expirations, 1998-2025, as Reported on July 1, 1998



Total Firm Transportation Capacity and Percent of Regional Expirations by Period

| Region | Total Capacity as of 07/01/98 (TBTu/d) | Percent of Total Expirations | | | |
|--------------|--|------------------------------|-----------|-----------|------------------------|
| | | 1998 ^a | 1999-2003 | 2004-2008 | 2009-2025 ^b |
| Central | 12.6 | 12 | 60 | 14 | 15 |
| Midwest | 20.8 | 16 | 56 | 18 | 10 |
| Northeast | 32.0 | 5 | 40 | 26 | 29 |
| Southeast | 9.8 | 12 | 32 | 47 | 9 |
| Southwest | 6.0 | 18 | 68 | 11 | 3 |
| West | 15.3 | 9 | 20 | 49 | 22 |
| Total | 96.5 | 10 | 44 | 28 | 18 |

^aData are for the last 6 months of 1998.

^bData for 2025 include a total of 0.02 trillion Btu per day of capacity that expires in the Southwest beyond 2025. TBTu/d = Trillion Btu per day.

Notes: Data are for 64 interstate pipeline companies. Sum of percents in a row may not equal 100 percent because of independent rounding.

Source: Energy Information Administration, Office of Oil and Gas, derived from Federal Energy Regulatory Commission (FERC) data from Index of Customers filing for July 1, 1998, FERC Bulletin Board (August 14, 1998).

and firm capacity market information.²⁶ A recurrent release of capacity during a heating season (peak season) generally implies that capacity is no longer needed by the shipper. Therefore, the smallest daily award of released capacity during the heating season may be used to estimate the share

of a region's capacity that could be turned back (see box, p. 131 and Appendix D).

The regional turnbacks that may occur through 2025 vary from 6.7 TBTu per day in the Northeast (22 percent of the regional long-term capacity) to 0.2 TBTu per day in the Southwest (4 percent of the regional long-term capacity) (Table 17). The national turnback level is estimated to be 17.8 TBTu per day, or 20 percent of the long-term contracted capacity (18 percent of total contracted capacity) as of July 1, 1998. The most pronounced turnbacks within

²⁶A sample of 27 pipeline companies was assembled for the comparison of released and firm contracted capacity. The sample was chosen to ensure a consistent and complete coverage of information between the two sets of data and across the time frame analyzed.

Table 17. Regional Estimated Turnback of Firm Transportation Capacity, 1998-2025, for Contracts Reported on July 1, 1998
(Billion Btu per Day)

| Region | Total Turnback of Capacity Under Contract as of July 1, 1998 | Estimated Regional Capacity Turnback by Period | | | |
|--------------|--|--|--------------|--------------|------------------------|
| | | 1998 ^a | 1999-2003 | 2004-2008 | 2009-2025 ^b |
| Central | 2,176 | 129 | 1,373 | 330 | 344 |
| Midwest | 2,368 | 247 | 1,388 | 471 | 262 |
| Northeast | 6,744 | 75 | 2,718 | 1,856 | 2,095 |
| Southeast | 2,779 | 274 | 856 | 1,388 | 261 |
| Southwest | 206 | 17 | 152 | 29 | 7 |
| West | 3,492 | 20 | 721 | 1,908 | 843 |
| Total | 17,765 | 762 | 7,208 | 5,982 | 3,813 |

^aData are for the last 6 months of 1998.

^bData for 2025 include a total of 896 million Btu per day of capacity that is estimated to be turned back in the Southwest beyond 2025.

Notes: Data are for 64 interstate pipeline companies. Sum may not equal total because of independent rounding.

Source: Energy Information Administration, Office of Oil and Gas, derived from Federal Energy Regulatory Commission (FERC) data from Index of Customers filings for April 1, 1996 through July 1, 1998, FERC Bulletin Board (August 14, 1998), and Capacity Release Awards data: April 1996–May 1997, FERC Electronic Data Interchange, and May 1997–March 1998, FERC downloaded Internet data.

the next 10 years are expected to occur in 1999, 2000, and 2004. Through 2003, 8.0 TBtu per day, or 8 percent of contracted capacity (or 9 percent of long-term contracted capacity), is likely to be turned back to pipeline companies.

The estimated level of future turnback produced by this portion of the analysis appears to be consistent with the analysis of contracting practices of individual shippers (presented earlier in the chapter). Between April 1, 1996, and March 31, 1998, these shippers turned back 19 percent (excluding the large turnback on El Paso Natural Gas Company) of the capacity reserved under expired long-term contracts—nearly the same as the 20-percent turnback in the comparison of released to contracted capacity, based on capacity under long-term contracts as of July 1, 1998. Although the two analyses are significantly different in approach, the overall conclusions are similar.

Revenue Impact

Capacity turnback may signify a period of adjustment for the transportation market as it becomes more competitive. Pipeline revenues may be affected during this adjustment process. For example, in the fourth quarter 1998, revenue losses attributable largely to turnback of capacity totaled \$11 million for El Paso Natural Gas Company and \$39.8 million for William Gas Pipeline Central. The challenge for pipeline companies is to market this capacity to existing customers as well as to other shippers who possibly have expanding markets.

Some loss of revenue could occur even if the turned-back capacity is picked up by other shippers. Pipeline companies

may have to offer significant rate discounts to the new shippers in order to sell the turned-back capacity. El Paso Natural Gas Company agreed to a 66-percent discount from its maximum transportation rates for Dynegy's (formerly Natural Gas Clearinghouse) purchase of turned-back capacity. Prices on the capacity release market indicate that turned-back capacity will not command maximum prices. Replacement shippers are paying, on average, only 57 percent of the maximum reservation rate on released capacity during the heating season throughout the United States (see Chapter 1, "Capacity Release").

Shippers may find themselves under increasing pressure to reduce transportation costs as retail restructuring provides more customers with supplier choices. As of August 1998, 32 percent of the Nation's residential consumers of natural gas, representing 26 percent of residential gas consumption, live in areas where there are residential choice programs (see Chapter 1, "Retail Unbundling"). Service providers will have to scrutinize each gas service cost component to compete for these consumers and gain market share. Transportation service pricing and characteristics may have to be more flexible in the future to supply customers' diverse requirements. Changes in firm transportation contracting will likely challenge the current rate design structure for firm transportation services.

Competition among foreign and domestic producers coupled with the increased integration of the interstate pipeline grid could result in underutilization of some supply-to-market pipeline corridors. Innovative measures may be required to make capacity marketable. The Federal Energy Regulatory Commission's recent Notice of

Proposed Rulemaking²⁷ may help move the industry to a more competitive marketplace by introducing market factors in lieu of regulatory policies for some transactions. FERC's goals are to improve competition in short-term markets and provide greater flexibility in interstate pipeline contracting practices. FERC proposes to attain these goals by:

- Removing the maximum price cap on short-term transportation
- Creating more uniform nominating procedures for released capacity so that it can compete more easily with capacity offered by pipeline companies and "delivered gas" transactions (that is, bundled sales and transportation)
- Requesting comments on whether changes in regulatory policy are needed to maximize shippers' ability to segment their capacity to provide them with greater competitive alternatives
- Reforming penalty procedures to ensure that different penalty processes across pipeline companies do not limit shippers' flexibility in using capacity or otherwise distort shippers' decisions about how best to use capacity
- Using auctions to allocate all short-term capacity, including that which is now obtained through prearranged deals
- Establishing reporting requirements to provide capacity and pricing information to all shippers
- Conducting a generic review of the operation of the short-term market without a price cap after two heating seasons.

The removal of the price cap on released capacity transactions may have little impact in the short term given that most released capacity now sells well below the price cap. There might, however, be an impact over the long term as removing the price cap may attract other players to the market with more valuable capacity.

Final comments on FERC's proposals were due to FERC on April 22, 1999. However, some companies and organizations provided preliminary comments on January 22, 1999. Many of the public comments so far have focused on FERC's proposal to have all short-term capacity, including released capacity and short-term firm and interruptible capacity, assigned to shippers through an auction system. Some pipeline companies are concerned about the potential loss of minimum guaranteed revenues from such a system, while LDCs and others are concerned that the auction might preclude the possibility of pre-arranged deals for short-term capacity.²⁸

The gas industry continues to adjust to the impacts of restructuring, including changes at the production (wellhead), transportation, and retail segments. In the transportation segment of the industry, traditional approaches to contracting practices appear to be changing as reflected by the emphasis on flexibility (in terms of service type, amount of capacity reserved, and time period) incorporated in new contracts written by shippers during the past several years. The reductions in contracted capacity that shippers are making in their contract portfolios have the potential to lead to revenue impacts for the industry. If, however, the pipeline capacity is remarketed to other shippers or demand for natural gas increases as projected, the potential revenue effects may be minimal. The wave of adjustments in the transportation segment of the gas industry will likely continue for the next several years in response to changes in market conditions as well as possible revisions to capacity trading mechanisms and regulatory policies.

²⁷Federal Energy Regulatory Commission, *Regulation of Short-Term Natural Gas Transportation Services*, Docket No. RM98-10-000 (July 29, 1998).

²⁸Damien Gaul, "A Hard Sell," *Gas Daily's NG* (Winter 1998/1999), pp. 21-29. Foster Associates, Inc., "Relatively Few Parties File Preliminary Comments on FERC's Pending Rulemakings on Short-Term and Long-Term Issues," *Foster Natural Gas Report*, No. 2219 (January 28, 1999), pp. 2-5.