UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

In Re Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation Under Part 284 of the Commission's Regulations	)))))))	Docket No. RM91-11-000

COMMENTS OF THE UNITED STATES DEPARTMENT OF JUSTICE IN RESPONSE TO NOTICE OF PROPOSED RULEMAKING

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On July 31, 1991, the Commission issued its Notice of Proposed Rulemaking ("NOPR") to revise regulations governing transportation service on interstate natural gas pipelines. The NOPR was preceded by an open hearing held May 10, 1991, to receive industry comments, and by written comments filed in response to the Commission's Notice of Public Conference. The Department of Justice ("Department") has considered the issues raised by the Commission and by the various parties and submits the following comments in response to the NOPR.

SUMMARY OF POSITION

The Commission proposes to alter significantly how it regulates the operations of interstate natural gas pipelines. The Department recommends that the Commission not adopt the rules proposed in the NOPR until they are revised to reflect greater reliance on market forces. The principle of market reliance underlies the Administration's National Energy Strategy ("NES") and should underlie the Commission's efforts to overhaul the regulation of natural gas pipelines.

Applying the principles of market reliance means that the Commission should not start with the premise that all natural gas pipelines should be regulated. Some markets served by natural gas pipelines may be sufficiently competitive to make instrusive regulation both unnecessary and undesirable. Where there is sufficient competition, the Commission should rely upon market forces rather than regulatory fiat to set the price and terms of service. Economic theory, as well as practical experience in a host of recently deregulated industries, suggests that market forces will lead to more efficient price and output decisions. Where competition cannot occur, regulation should seek to mimic the operation of market forces and achieve the greatest net social benefit.

The Commission would require all pipelines to "unbundle" the package of services comprising gas sales and would

simultaneously impose certain requirements under cost-of-service regulation. This mandatory unbundling entails structural separation of natural gas sales service from transportation services, and the requirement of comparable access and pricing of each component service involved in the transportation function. Essentially, the Commission would require the integrated pipeline to specify the separate prices it charges for transportation and sales functions and to offer and sell these separately. The Commission would further require the pipeline to determine and to specify the prices and terms and conditions for each component transportation service and then to deal with its affiliates in a fashion comparable to a market transaction.

The stated purpose of these mandatory requirements on access and pricing is to facilitate competition and market-based pricing in natural gas sales. The Department believes that the primary issue is to control the incentive and ability of the integrated pipeline to exercise market power by evading regulation of transportation services, thereby distorting competition in the natural gas market. Curtailing such regulatory evasion would result in more efficient pricing and output and enhanced competition in natural gas markets.

Mandatory unbundling and comparability, however, should not be imposed except in those circumstances where a pipeline indeed

possesses market power. If a pipeline offering "bundled" natural gas sales transportation and services faces sufficient competition from other pipelines in the same market or is sufficiently constrained by other market forces, then regulation in that market is not necessary. In such markets, market forces can be relied upon to create incentives for pipelines to minimize costs and develop pricing and access policies that benefit consumers. To avoid the substantial costs associated with unnecessary regulation, the Commission should determine prior to imposition of such regulation on all pipelines whether regulatory oversight of the type proposed is needed. To implement this recommendation, the Commission must identify markets where pipelines do not have market power.

The Commission has indicated in its proposed NOPR that there are markets where pipelines do have significant market power. These are markets where efficient and effective regulation could well result in net benefits. However, in determining the best mode of regulation for such cases, the Department encourages the Commission to consider carefully the full array of regulatory options available to it. Unbundling of transportation and sales, with comparable access and pricing, is only one such option to prevent pipelines from evading regulation by discriminating against competing gas merchants. There are at least two other options, including continued, but improved, regulation of some "bundle" of services, or divestiture of services that can be supplied in a competitive market (e.g., gas

sales). One of these approaches might effectively control the significant market power problems at substantially lower costs than the unbundling proposed by the Commission.

Choosing among these regulatory options requires careful consideration of the benefits of deregulating certain services (such as gas sales) currently provided by regulated pipelines, the economies of scope involved in the provision of transportation and sales services by integrated pipelines, and hence, the effect of unbundling and comparable access requirements on potentially efficient operations of integrated pipelines. In addition, careful consideration should be given to the costs associated with accomplishing effective and efficient Commission enforcement to prevent the exercise of market power.

An integral part of developing and implementing sound regulation of access and pricing of natural gas pipelines in cases where market power can be exercised is choosing the best method of rate regulation. The Department encourages the Commission to adopt incentive rate regulation rather than attempt to alter traditional cost-of-service regulation. Incentive rate regulation provides better incentives for cost minimization and innovation and minimizes the incentive created by cost-of-service regulation for pipelines to evade regulation by shifting costs from their unregulated services to those that

are regulated. In order to undertake the renegotiation of long-term contracts contemplated during the restructuring phase of the NOPR, pipelines, producers, and customers must know what rate design principles and prices are likely to apply. Hence, it is inadvisable for the Commission to defer decisions on incentive rate regulation until after implementation of its regulations devised in response to the NOPR.

The Department also recommends that the Commission expand opportunities for capacity brokering by shippers without requiring that the pipeline serve as middleman. In order to encourage the development of a robust secondary market for transportation capacity, the Commission should implement rules that would permit capacity clearinghouses to develop outside pipeline supervision and that would not require the Commission to set the maximum prices charged for brokered capacity.

The Department recommends that the Commission follow the framework set out in these comments in reaching its decision concerning when to impose regulation and the form of regulation to impose. In this way, the Commission can rely on market forces where possible. It will foster, thereby, efficient outcomes and avoid unnecessary regulation, and it will choose the regulatory method best suited to controlling market power, while establishing incentives for efficient operation and pricing.

I. RECOMMENDED APPROACH TO EFFICIENTLY REGULATING THE EXERCISE OF MARKET POWER BY NATURAL GAS PIPELINES

In general, regulation is justified only if there is significant market failure in a properly defined market that is not adequately resolved by measures other than imposition of Federal regulation. But even if this necessary condition is met, regulation is supportable only if the resulting net benefit (the benefits of regulation less the costs of regulation) is greater than the net benefit of relying on market forces, taking into account the likely persistence of the market failure. The appropriate form of regulation is the form that maximizes net benefit.1/

The Commission should examine the extent to which pipelines possess market power in the natural gas market.2/ Although the pipelines were originally certificated to serve a somewhat unique set of customers, over time, pipelines have expanded and extended into new markets. Thus, as the Commission noted in its

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1/ See generally "Regulatory Impact Analysis Guide," reprinted in Regulatory Problems of the United States Government, Appendix V. These principles are also expressed in the National Energy Strategy, February 1991.

2/ Congress originally determined to regulate the activities of natural gas companies based on concerns about market power. See FPC v. Texaco, 417 U.S. 380, 397-98 (1974).

recent rule on pipeline construction, "[n]atural gas pipelines have traditionally been seen as monopolistic entities. . . . However, as the natural gas pipeline grid has developed nationwide, monopoly power in certain gas markets has been replaced by a more competitive market. Thus, shippers often have several alternative ways of delivering gas to a specific market."3/

Moreover, many gas users have become more sophisticated in their use of other energy sources. The availability of these other fuels, such as propane or No. 2 heating oil, at competitive prices has to some extent reduced the ability of gas companies to command a premium for gas. Thus, competition from other fuels may limit the ability of sellers of gas to raise prices to some customers.4/ Although it is the industrial customers that have the greater ability to turn to alternative fuels, gas sellers face aggregate demand for gas that is likely to be more price sensitive today than at times in the past.

3/ Revisions to Regulations Governing Authorizations for Construction of Natural Gas Pipeline Facilities, Order 555, Docket No. RM 90-1-000 (Sept. 20, 1991) at 165.

4/ The demand for transportation services for gas is derived from the demand for delivered gas. If the demand for delivered gas falls, the demand for gas transportation services falls.

It is particularly important for the Commission to give full consideration to lighthanded regulation before adopting sweeping changes such as mandatory unbundling for all gas pipelines. As noted in the Administration's National Energy Strategy, "[c]ontinued regulation of natural gas transactions. . . that is not required to protect against abuse of market power is one of the principal barriers to a more efficient natural gas market."5/

Accordingly, the Commission should carefully consider whether there are markets for delivered gas in which market forces can be relied upon to set rates for pipeline transportation. Where these conditions are satisfied, the Commission should not impose regulation, including mandatory unbundling and comparability. In sufficiently competitive markets, regulation such as mandatory unbundling and comparability will likely result in net losses to customers by eliminating opportunities for efficient operation of the pipeline. This is especially likely if rates for unbundled services are not set in accordance with sound economic principles.

5/ National Energy Strategy (hereinafter "NES") at 87.

A. In Sufficiently Competitive Markets, the Commission Should Rely on Market Forces to the Maximum Extent Possible

The Department believes that the Commission should move to market-based regulation (lighthanded regulation) in any market that the Commission finds to be sufficiently competitive. Sufficiently competitive need not mean perfectly competitive. The Natural Gas Act requires rates for transportation to be "just and reasonable," which courts and the Commission have interpreted to mean falling within a zone of reasonableness. See Permian Basin Area Rate Cases, 390 U.S. 747, 792 (1968). As described by the D.C. Circuit in Farmers Union Central Exchange v. FERC, 734 F.2d 1486, 1510 (D.C.Cir. 1984), "[m]oving from heavy to lighthanded regulation within the boundaries set by an unchanged statute can, of course, be justified by a showing that under current circumstances the goals and purposes of the statute will be accomplished through substantially less regulation."

The Commission has relied on market forces to employ lighthanded regulation of marketing functions of natural gas pipelines in certain markets where evidence showed that the pipeline lacked market power. The Commission has stated that it may rely on market-based regulation if it:

> (1) find[s] that market-oriented pricing would promote the statutory obligations of the Natural Gas Act; (2) find[s] substantial evidence that competition in the relevant markets will operate as a meaningful constraint on the exercise of market power . . . ; and (3) establish[es] that the market-oriented pricing mechanism, subject to a cost based cap or other constraint, will produce rates that invariably fall within a zone of reasonableness so that market forces will not be the exclusive means through which to arrive at just and reasonable rates.

Transwestern Pipeline Co., 43 FERC Para. 61,240 at 61,650 (1988). Lighthanded regulation may include removal of maximum price caps. See Transwestern Pipeline Co., 53 FERC Para. 61,298 (1990).

Markets rather than pipelines are the appropriate level for analysis of competition. In markets where a substantial exercise of market power is unlikely, regulation of pipeline activities is unnecessary or harmful. In markets where significant market power could be exercised by a pipeline, regulation may be appropriate. The Commission should devise a market power screen for identifying where there is adequate competition in the provision of "bundled" natural gas sales. This screen should be based on principles that delineate the conditions under which there is no substantial likelihood that market power would be exercised.

Market power is defined as the ability profitably to raise and maintain prices or reduce output. The first step in the evaluation of market power is the specification of a relevant market. A relevant market is a group of products and an area over which a hypothetical monopolist would have significant market power. The significance of market power depends on the likely magnitude and duration of such a price increase.

It is important to consider both destination markets, where pipelines compete to deliver gas downstream, and origin markets, where pipelines compete to receive gas upstream. In destination markets for delivered gas, the concern is that pipelines will exercise monopoly power by raising the price paid for delivered gas above the competitive level. In origin markets, the concern is that pipelines will exercise monopsony power by lowering the price paid to producers for gas, thus reducing production levels below competitive levels. A pipeline may possess monopoly power in destination markets, monopsony power in origination markets, or both monopoly and monopsony power. In either instance, the key consideration is the extent to which customers have available alternatives that will prevent a pipeline from exercising significant market power.

As an initial matter, monopsony concerns are less likely to justify continued regulation because, in the absence of

regulation, parties can rely on contract remedies to alleviate possible monopsony distortions. For instance, in the natural gas industry, producers can be expected to evaluate alternative sites prior to sinking significant investment into exploration and development at a site captive to a particular pipeline. By soliciting terms from accessible pipelines at each site, the producer with exploration and development options can conduct an ex ante competition. This competition is enhanced when at least a few alternative sites are otherwise similar, e.g., in estimated production potential, and are reachable by different pipelines. Moreover, when gas is found on a site that is accessible to multiple pipelines, a producer encounters actual ex post competition. Ex ante and ex post competition may be significant, particularly in certain supply areas of Texas and Louisiana where there exists a highly developed network of pipelines.

1. Market Power Screen for Destination Markets of Existing Pipelines

Market power screens provide a useful way of separating out sufficiently competitive markets from all others. The use of market power screens or "safe harbors" was endorsed in the Administration's National Energy Strategy where it was noted that "markets or services in which pipelines do not possess market power. . . should be exempt from rate regulation

entirely."6/ The NES also noted that discrimination was only a concern in markets where the pipeline possesses monopoly power and can "use its control over transportation services to block transactions between willing buyers and sellers of gas."7/

In the present context, a relevant product in destination markets is delivered natural gas.8/ A relevant geographic market would encompass at least that area served by a single local distribution company ("LDC") that is physically interconnected.9/ Competitors in the relevant market would include those pipelines physically connected to the LDC, as well as proximate pipelines that likely would connect to the LDC in response to a small, but significant, non-transitory increase in the price of delivered gas.

6/ NES at 94.

7/ NES at 93.

8/ The relevant product market for sales to industrial customers is likely to be broader, e.g., sales of fuel delivered to the industrial site. Sellers of natural gas face significant competition from other fuel sources when marketing to industrial customers.

9/ The exact dimensions of the relevant geographic market may be larger or smaller than a single LDC. Many LDCs are comprised of non-contiguous sections, whereas different LDCs may be interconnected such that a neighboring LDC could provide access to another pipeline system.

The Commission may significantly reduce the costs associated with screening out markets in which pipelines lack market power if it develops simple rules to identify sufficiently competitive markets. This would avoid the costs associated with a more complicated market analysis. The Commission may find that a number of markets pass through the market power screen. Thus, given a simple rule that would mandate unbundling and comparability regulation only where there is a risk of significant market power being exercised, screening at modest administrative cost may result in a substantial reduction in unnecessary regulation.10/

In considering the extent of competition in destination markets from existing pipelines, data available on pipelines serving LDCs in 1980 are suggestive. Of 1443 LDCs, 431 (30%) were served by multiple pipelines. This subgroup was served by

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10/ Another potential cost associated with this approach is that associated with pipelines with market power seeking (possibly at the expense of substantial resources) and obtaining mistaken decisions by the Commission to allow lighthanded regulation. These costs will depend both on the amount of market power that mistaken lighthanded regulation will allow to be exercised and on the likelihood that the Commission will make mistakes in screening. The adoption of simple rules will minimize these costs.

an average 3.6 pipelines.11/ Newer data that take into account any additional expansion or entry by pipelines or mergers between major pipeline systems since 1980 were not available to the Department. The Commission should compile the most current data possible for use in determining which markets should be subject to only lighthanded regulation. In such markets, mandatory unbundling would be unnecessary as well as costly. Whatever their number, lighthanded regulation of sufficiently competitive markets will generate information that would be of considerable value in guiding regulation elsewhere.

The Commission may find that some pipelines serve a mix of competitive and monopoly markets. In these cases, the Commission should consider whether it is feasible to regulate only those markets over which the pipeline has market power. If the Commission were to rely on incentive rate design, as discussed infra, regulating some markets and not others would be possible without increasing the risk of regulatory evasion. If the Commission retains cost-of-service rate regulation but can segregate the costs associated with serving customers in markets with market power, it could still regulate only those markets where market power exists.

11/ Mead, "Concentration in the Natural Gas Pipeline Industry," FERC Staff Working Paper, August 1984.

2. New Pipelines

In analyzing where and whether rate regulation of new pipelines may be appropriate, it is important to recognize that competition can take place in destination markets not only after the pipeline has been built, but also prior to its construction.12/ Thus, competition for a particular LDC's business prior to construction may provide a basis for relying on market-based regulation of new pipelines even in markets that appear to be insufficiently competitive after construction has been completed.13/

12/ See also discussion supra of ex ante competition in the context of monopsony concerns. New pipeline construction can be of two basic types: incremental expansion of a major pipeline system's existing network or de novo construction. Incremental expansion can be further broken down into construction to serve markets that are not currently being served by the pipeline and construction that adds to the pipeline's capacity in its existing markets. In the case of incremental expansions into new markets or in the case of de novo construction, ex post competition will be enhanced because the construction will represent a new alternative supplier in the market. However, in the case of capacity expansion in existing markets, there is no change in the number of alternative suppliers, only a change in the relative capacity market share of existing competitors. Ex post competition may still be improved if added capacity puts downward pressure on prices.

13/ Although the Commission recently adopted new rules for regulation of new pipelines, the Department believes there are grounds for reducing regulatory oversight of new pipelines further. In Order 555, the Commission cited several instances in which numerous applications were filed for certificates authorizing construction of facilities to transport natural gas, thus indicating the existence of ex

(Footnote continued on next page.)

In particular, when the transaction costs of pre-construction negotiation and contracting are low and where there is more than one potential builder of the capacity in question, customers can protect themselves against an exercise of market power by entering into long term contractual arrangements with the would-be pipeline builder that offers them the most competitive terms. So long as ex ante competition can be expected to be reasonably effective, the fact that there may be a monopoly pipeline supplier ex post need not imply that market power can be exercised over such customers by the pipeline.

Although the possibilities for vigorous ex ante competition will vary depending on the circumstances, it seems clear that there may be some instances in which ex ante competition can be expected to be vigorous given that the existing pipeline network is very wide ranging and involves numerous independently owned systems that frequently run parallel to, or that criss-cross, one another. For any particular market served by a new pipeline it is plausible that there could be other, almost equally

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ante competition on those projects. See Revisions to Regulations Governing Authorizations for Construction of Natural Gas Pipeline Facilities, Order 555, Docket No. RM90-1-000 (Sept. 20, 1991) pp. 166-68.

well-situated, rivals to be the pipeline that will serve the specific customer. In cases of this type, ex ante competition may provide substantial protection for customers and an economic justification for relying on market-based regulation in these markets.

B. In Markets That Are Not Sufficiently Competitive, The Commission Should Adopt A Regulatory Scheme That Maximizes Net Benefits

Where a pipeline possesses market power in some market(s), the issue becomes how properly to regulate the pipeline. The Commission should seek to regulate the narrowest service or bundle of services possible, taking into account the possibility of regulatory evasion. A service should be regulated only if it is a source of market power, or is so related to the source of market power that significant efficiencies will be lost unless a bundled sevice is provided. In this NOPR, the Commission seeks to unbundle gas sales and improve third party access to the pipeline's transportation services, broadly defined.14/ The Commission believes that this will improve competition in sales of gas at the wellhead, and at delivery points to customers,

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14/ The NOPR does not require pipelines to write and enforce contracts with its affiliates for each of the component services, but does require that the pipeline, in providing and pricing services to its natural gas marketers, offer prices and services that are comparable to those it offers to others.

hence benefiting consumers. This is the principal goal of the NOPR. However, the Commission must also consider the potential efficiency implications of its proposal on the operation of the pipeline and the natural gas delivery system as a whole. This consideration may bear heavily on achievement of the lowest possible gas prices for consumers.

For those markets in which there is not sufficient competition to allow market-based pricing of all pipeline services, the Commission should try to identify individual services provided by the pipeline that are subject to sufficient actual competition (or potential competition) that they do not require regulation. Conditions under which an individual service should be deemed sufficiently competitive are (1) that the service is not subject to substantial economies of scale over the range of output demanded (for example, a service that is a natural monopoly would not satisfy this condition); (2) that the service does not derive from an asset (for example, a natural resource), the supply of which is controlled by a single firm and for which no close substitutes exists; and (3) that the otherwise potentially competitive service is not subject to

substantial economies of scope with monopolistic services that violate conditions (1) or (2).15/

When services exhibit substantial economies of scope among one another, these services are most efficiently offered by multiservice firms, perhaps strictly on a bundled basis. Single service firms would have higher costs than their multiservice rivals, which could mean they would not service in a competitive environment. When scope economies link other services to one which is characterized by large scale economies (or by an indivisible essential asset), the cost-minimizing industrial configuration is a multiservice monopolist.

The Commission appears to have concluded that the sale of natural gas is a service that is sufficiently competitive to warrant deregulation of pipeline sales of natural gas. Consequently, the Commission has proposed to end its oversight of the prices that pipelines are permitted to charge for natural gas by eliminating the purchased gas adjustment ("PGA") mechanism.

15/ "Very roughly, economies of scale exist when the production cost of a single product decreases with the number of units produced; economies of scope are cost-saving externalities between product lines (e.g., the production of good A reduces the production of cost of good B)." Jean Tirole, The Theory of Industrial Organization, 16 (1988).

It is unclear from the NOPR whether the Commission has considered whether other services offered by natural gas pipelines are sufficiently competitive to warrant deregulation. If those services generally are not characterized by economies of scope, then an overly broad definition of transportation might mask further opportunities for unbundling and deregulating competitive services. The Commission proposes to broadly define transportation services to encompass simply transmission of gas, receipt point flexibility, delivery point flexibility, delivery reliability at demand peaks, and storage which facilities substitution of off-peak gas or transmission for peak gas or transmission. In principle, the criteria for sufficiently competitive services could be applied to each of these components.

Partial deregulation of a multi-product firm with monopoly power in one product may provide the opportunity and incentive for evasion of regulation through either discrimination16/ or

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16/ The firm may discriminate in favor of its unregulated affiliate in the provision of its regulated monopoly service, either by denying competitors in the unregulated market access to the regulated services or by offering these competitors inferior quality service. It is important to recognize that differences in access or services offered to competitors are not necessarily inefficient or symptomatic of an exercise of market power. In some cases, as discussed infra, it may be more efficient for a group of services to be provided within a single
(Footnote continued on next page.)

cross-subsidization.17/ The NOPR suggests that the Commission is concerned about discrimination. The discriminatory monopolist, in effect, conditions the purchase of its (high quality) regulated service on the purchase of its unregulated service. Such discrimination, if successful, allows the firm to charge a supracompetitive price for a bundle of services that includes both the unregulated service and the regulated service. This is because competitors, who would offer gas at competitive prices, cannot gain access to the regulated monopolist's services on comparable terms. As a result, the regulated firm earns supracompetitive profits on the sale of the bundle of services. It thereby accomplishes what regulation of the monopoly service was designed to avoid. Multi-product operation by a monopolist may, however, result in significant efficiencies due to scope economies, even in the presence of regulation. In the pipeline context, the efficiencies may arise from economies of scope among various

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integrated firm, rather than through a collection of contracts among divisions within the firm or among independent providers of related services.

17/ Cross-subsidization entails shifting costs associated with unregulated activities into the regulated rate base. This strategy would allow pipelines effectively to raise their transportation rates above the actual costs of transportation, thereby raising the costs to independent merchants competing with the pipeline to sell gas. As discussed infra, properly structured incentive rate design reduces incentives for regulatory evasion via cross-subsidization.

pipeline services. The task of regulation is to maximize social welfare by balancing the risk of regulatory evasion, the benefits of deregulating sufficiently competitive services, the benefits of efficiency gains from multi-product provision, and the costs of on-going regulation.

There are several regulatory options for dealing with regulatory evasion via discrimination. One option is to force the regulated firm essentially to purchase regulated services from itself on terms and conditions comparable to those available to competitors. This option is proposed in the NOPR. Such a requirement allows increased competition for some unbundled services, but requires the Commission to monitor and police the comparable access requirement. Moreover, it may either sacrifice some economies of scope or limit the ability of the pipeline to pass along to consumers the benefits of any remaining economies of scope.18/

A second option is to allow the regulated firm to offer bundled service but to regulate the price of the bundled product. This approach preserves the economies of scope, but does not achieve the potential gains from allowing one or more

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18/ See detailed discussion of possible sources of economies of scope in natural gas infra.

of the services included in the regulated bundle to be provided in a competitive market. In addition, effectively regulating the price of bundled services may be more (or less) costly than regulating transportation plus enforcing comparable access.

A third option is divestiture. This option achieves the gains from deregulating gas sales, but at minimal regulatory cost. It may, however, sacrifice economies of scope that the other options do not.

Compulsory unbundling is likely to be the best of the three regulatory options only under certain circumstances. Divestiture, which has minimal regulatory costs, will be preferable unless unbundling preserves significant scope economies that are lost with divestiture.19/ Even if unbundling preserves some scope economies, divestiture is preferable unless the benefits of the preserved scope economies exceed the regulatory costs of effectively monitoring comparable access.

19/ Even if some scope economies are preserved for the pipeline, mandatory unbundling prevents the efficiencies from being passed on to consumers since the pipeline presumably is not permitted to discount the bundle. If the pipeline is permitted to discount the bundle, the regulatory evasion problems unbundling is meant to prevent are recreated.

To be the potentially best option, therefore, unbundling first must preserve at least some scope economies relative to divestiture. But if unbundling preserves some, but not all, scope economies, the Commission should reconsider the status quo--continued regulation of the bundle--which preserves all scope economies.20/ Compulsory unbundling is preferable to the status quo (assuming effective regulation) only if the gains in consumers' welfare through enhanced competition for the unbundled services, plus (or minus) any decreases (increase) in regulatory costs, exceed the harm of lost scale economies that bundled service would preserve.

In short, the choice among these or other options should be based upon a careful weighing of costs (such as lost economies of scope and monitoring costs) and benefits (such as enhanced competition or more effective regulation) of each. The Commission has chosen the first option to deal with the problem of discrimination. The following sets out the Department's analysis of the potential costs and benefits of this choice.

20/ Regulation of the bundle creates the potential for the savings of scope economies to be passed on to consumers.

1. Mitigation of Regulatory Evasion: Potential Benefits of Mandatory Unbundling

A pipeline can, in principle, evade regulation of a monopoly asset if it effectively can condition purchase of the regulated product at the regulated price on purchase of an unregulated product at an unregulated price. By providing unequal access to competing gas merchants, the pipeline may be able effectively to evade the Commission's efforts to regulate the prices charged for products over which the pipeline has market power. Since this will generally result in higher prices and lower output, market performance will be impaired.21/

The Commission has proposed to deregulate the prices that pipelines and their marketing affiliates are permitted to charge for natural gas. Doing so, however, provides pipelines with a possible incentive to bundle gas sales (potentially a competitive activity) with transmission in order to evade regulation of transmission--a service in which pipelines may have substantial market power. To mitigate this concern, the Commission has proposed mandatory unbundling of gas sales from

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21/ A thorough discussion of regulatory evasion in theory and practice is presented in Timothy J. Brennan, "Regulated Firms in Unregulated Markets: Understanding the Divestiture in U.S. v. AT&T," United States Department of Justice Antitrust Division Economic Analysis Group Discussion Paper, EAG 86-5 (1986).

pipeline's transportation services and comparable access to transportation services.

As proposed in the NOPR, mandatory unbundling has two distinct and complementary purposes: Separation and deregulation of competitive services ("structural" unbundling) and monitoring and enforcement of comparable access to those services that remain regulated ("comparability" unbundling).22/ Structural unbundling separates the potentially competitive services of the pipeline from the monopolistic (regulated) service.23/ This creates the opportunity for customers to obtain the benefits of competition among pipelines and unregulated competitors, which can all sell the competitive service without regulation of price or other aspects of service. Comparability unbundling, in contrast, ensures that competitors of the pipeline in natural gas sales have the same ability as the pipeline to select any combination of regulated services that they require to combine with their own unregulated services in marketing firm natural gas, and to

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22/ Gas sales are being "structurally" unbundled and the pipeline's various transportation services, such as transmission, balancing, storage, and receipt and delivery point flexibility are being unbundled for comparability purposes.

23/ That is, services for which competition is found to be insufficient following the criteria described above.

obtain each service, on the same terms and conditions on which they are provided to the pipeline.

Most pipelines today provide transmission on an open access basis. However, if the pipeline does not provide independent gas merchants with regulated services on terms and conditions comparable to those which it charges itself, this disadvantages shippers and permits the pipeline to charge supracompetitive prices for delivered gas. Thus, if structural unbundling and comparability unbundling help ensure that third parties operating in potentially competitive markets (such as gas sales) have comparable access to a pipeline's services at regulated rates, benefits will arise from the more effective regulation.

2. Lost Economies of Scope: Potential Costs of Mandatory Unbundling

Mandatory unbundling and comparability requirements may impair efficiency of the natural gas industry in ways that the Commission should carefully consider before adopting the requirements set out in the NOPR. These inefficiencies may stem from foregone economies of scope that permit an integrated pipeline to deliver gas more efficiently than could separate, specialized firms. These economies of scope may arise from the internal coordination of timing and location of gas receipts,

compression, and some storage operations.24/ If these inefficiencies are very substantial, mandatory unbundling and comparability could result in higher, rather than lower, natural gas prices. Economic theory suggests that certain functions are most efficiently internalized by a firm rather than replicated via market transactions among separate parties.25/ In particular, when faced with the need for rapid and coordinated adjustments, internal fiat is likely to be more efficient than negotiating a consensus among independent parties. Although one might imagine a set of arms length market transactions that would generate an outcome similar to the outcome reached by an integrated firm, such transactions are a practical impossibility, and any effort to negotiate requisite contracts and enforce them would be extremely costly.

If fully specified contracts could be written ex ante that took into account all relevant contingent states or patterns of pipeline utilization and specified prices for all pipeline

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24/ A critical analysis of some coordination and bottleneck implications of the NOPR's mandatory unbundling proposal is presented in Frank C. Graves & Paul R. Carpenter, "Unbundling, Pricing, and Comparability of Service on Natural Gas Pipeline Networks," Incentives Research, Inc., Boston, Mass. (forthcoming 1991) (on file with authors).

25/ Seminal contributions to the modern theory of the firm include R. Coase, "The Nature of the Firm," 4 Economica N.S. 386-405 (1937); and O. Williamson, Markets and Hierarchies: Analysis and Antitrust Implications, New York: The Free Press, 1975.

services which accurately reflected opportunity costs under each of these contingencies, then individual decisions conceivably could be efficiently coordinated in an unbundled environment. Outcomes would then replicate those of the system manager or a bundled pipeline with incentives to maximize profits. Stated in this way, the impossibility of such an undertaking is apparent. The Commission cannot hope to devise the optimal schedule of contingent prices, and indeed the NOPR reveals no intention to do so.26/

The Commission should be aware that efficiencies lost due to mandatory unbundling cannot necessarily be recaptured by permitting the pipeline to repackage unbundled services or to act as an agent for third party shippers. Structural unbundling might require services to be transferred and separately accounted for within a firm in market-like transactions rather than being managed in a coordinated way by internal fiat. The fact that even in destination markets served by competing pipelines (i.e., where pipeline on pipeline competition may be sufficient to prevent monopoly pricing) LDCs

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26/ The problem would be exacerbated if the Commission applied the same embedded or historical cost ratemaking principles to unbundled transportation services that it has traditionally applied to bundled service. This would virtually guarantee that contingent prices will not reflect true marginal costs. (See Graves & Carpenter, supra, at 15-19.)

frequently demand and receive bundled service, suggests that bundled service is valued.

Measuring the economies of scope between gas supply and transportation services for a specific pipeline prior to unbundling is difficult. Indeed, the operational difficulties generated by unbundling might not be apparent until a pipeline is actually unbundled and placed under the stress of heavy winter demands or supply disruptions. Such economies of scope may nevertheless be genuine and substantial. Thus, the Commission should carefully consider any concerns expressed by pipelines or LDCs that bundled pipeline service cannot be efficiently replicated in an unbundled environment. The Commission also should consider any relevant historical evidence, if available, concerning performance during times of network stress of specific pipelines before and after unbundling.27/

27/ For example, the Commission should look beyond the aggregate data on gas sales to examine the extent to which sources other than the pipeline are currently serving a customer's needs on any day, including the customer's peak day. These data may be more relevant to determining the workability and reliability of unbundling than are data on volumes provided off-peak. If volumes provided at the customer's peak are low, absolutely or as a percentage of sales at peak days, the Commission should look further to determine if other evidence suggests these facts could and would change with the implementation of unbundling. Information on the specific contracts that have already been written between suppliers other than pipelines and customers for delivery of natural gas, and performance on
(Footnote continued on next page.)

3. Appropriate Conditions for Structural Unbundling

Structural unbundling and price deregulation of gas sales, or of any other service (such as storage), is appropriate only when two conditions are satisfied. First, the service must be sufficiently competitive according to the criteria discussed supra. If it is not, then such a policy will either sacrifice economies of scope or enable the pipeline to charge supracompetitive prices for the service, or both. Second, the Commission must be persuaded that enforcing comparable access to the remaining regulated services--such as receipt and delivery point flexibility, balancing, etc., is the regulatory option with the greatest net benefit. If enforcement of comparable access cannot be effectively accomplished, regulatory evasion is likely to persist, and the full benefits of competition for provision of the structurally unbundled service will not be realized.

Should either of these conditions not be met, mandatory structural unbundling should be avoided. If the unregulated service would be insufficiently competitive, regulation of the

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(Footnote continued from previous page.)
peak days, may prove a useful starting point for this inquiry.

bundle is preferable. If competition to provide a service is sufficient but comparable access to complementary and regulated services is difficult to enforce, divestiture is likely to be preferable.

The Commission conceivably could find that these two conditions for structural unbundling are satisfied by gas sales and perhaps, in some markets, by storage as well.28/ If so, structural unbundling and subsequent deregulation of such services would be indicated. However, the Department is concerned that important economies of scope may exist among all traditional pipeline services and hence that mandatory unbundling of any of these services could produce costs that exceed the benefits of competition in markets for structurally unbundled services.

In sum, for those pipelines that do not face sufficient competition, the appropriate guidelines for dealing with a mix of monopoly and potentially competitive pipeline services would appear to be the following: If economies of scope are large, permit the pipeline to offer a bundled service but efficiently regulate the price charged for the bundle, as discussed below.

28/ The existence of private storage facilities owned by nonpipeline entities such as LDCs is at least suggestive that some storage service could be provided competitively.

If economies of scope are small and regulatory evasion is a potentially significant problem, either require divestiture by the pipeline of competitively provided services or mandate unbundling in which the pipeline must offer regulated services on comparable terms to third parties. Divestiture is preferable when comparability is difficult to enforce.

C. In Conjunction with Changes in the Pipeline Service Obligation, the Commission Should Adopt Incentive Rate Design as a Means of Regulating Pipelines with Market Power

The primary regulatory tool relied on by the Commission to prevent pipelines from exercising market power has been rate regulation. The Department recommends that, in conjunction with its consideration of the issues surrounding mandatory unbundling, the Commission adopt incentive regulation as an alternative to traditional cost-of-service regulation. This recommendation, like the Department's recommendation on market power screens, is consistent with the Administration's National Energy Strategy which called for incentive regulation. As noted in the NES, "[t]raditional cost-of-service regulation does not encourage the most efficient use of natural gas pipeline and storage facilities."29/

29/ NES at 94.

Cost-of-service regulation creates perverse incentives for regulated firms. Innovation and cost minimization is discouraged because the pipeline is denied the benefit of resulting profits. Furthermore, since the pipeline is entitled to recover an allowed rate of return (which may exceed its true cost of capital) on its investment, it may as a result overinvest in capital projects. This results both in higher costs and higher rates for end users.

Under traditional cost-of-service regulation, natural gas pipelines are today required to file cost and revenue data that are used by the Commission to construct rates determined to be "just and reasonable" and not "unduly discriminatory" under the Natural Gas Act. Such a regime can be criticized not simply for the purely administrative costs that it entails (not the least of which may be the costly delays and uncertainties that are imposed upon participants trying to react quickly to rapidly changing market conditions) but also because of the poor incentives created by regulations that tie future rates to a firm's reported costs and revenues. Such regulations tend to blunt the incentives of regulated firms to innovate and to minimize their costs. This is because these firms recognize that regulators will (albeit with some lag) automatically pass through their cost savings to customers in the form of lower rates in the future. Furthermore, by making future rates dependent upon actual revenues achieved, cost-of-service

regulation can tend perversely to increase rates during times of soft demand and lower them during periods when demand has been strong.

Finally, this form of regulation requires regulators to assign common overhead costs to the various services provided by the regulated firm.30/ Because such assignments are essentially arbitrary and have no economic basis, requiring regulated firms to abide by them (rather than to charge rates more in line with the demands of the marketplace) may produce significant inefficiencies.

Incentive rate design can take many forms. One form of incentive rate design is price cap regulation. Price caps protect customers from an exercise of market power that would otherwise push rates above the cap. These price caps would be adjusted automatically over time by an index pegged to industry productivity or inflation.

30/ This problem will be exacerbated when unbundling occurs because transportation will be broken up into numerous services. Consequently, allocations of embedded costs will be made by the Commission. Such allocations will make it impossible to deal with differential costs imposed at the margin by various purchasers of disaggregated services.

There are several benefits to relying on incentive rate regulation rather than cost-of-service regulation. First, it is likely to induce more efficient production decisions by the regulated pipeline. Because reductions in the pipeline's costs will not result in commensurate reductions in the pipeline's allowable rates, the pipeline has an incentive to lower its costs in order to increase its profits.31/

Second, incentive regulation encourages a pipeline to invest efficiently. Because changes in the pipeline's rate base will not affect the level of the price cap, the pipeline will not have an incentive to overinvest--as it does under cost-of-service regulation whenever regulators set the carrier's allowed rate of return above its true cost of capital.

Third, an appropriately designed system of incentive regulation will permit greater pricing flexibility by the regulated pipeline and will lead to an improvement over existing pricing inefficiencies. For example, by establishing an aggregate price cap that constrains the weighted average of

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31/ It is very important for regulators to commit not to renegotiate the pipeline's price caps in the future after examining the profitability of the pipeline under incentive rates. Such renegotiation would likely eliminate most, if not all, of the benefits of moving to incentive rate design.

prices of individual services in which the pipeline is able to exercise market power, the pipeline will have the flexibility efficiently to respond to differential demands for these services in the marketplace. The Commission could devise default price caps32/ that would be made available to customers in regulated markets, but that pipelines and shippers would be permitted to contract away from upon mutual consent.33/ If shippers are protected from an exercise of market power through recourse to price caps, alternative arrangements should be presumed to enhance welfare.

Fourth, incentive rate regulation minimizes direct costs. Traditional rate of return regulation involves substantial direct costs that can be reduced substantially under an incentive regulation regime. The largest such savings would likely be in the form of a reduction in costs to pipelines of complying with rate of return regulation (including the

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32/ The marginal cost principles that underlie SFV rate design are an appropriate basis for establishing the initial levels of the default price caps. Under SFV pricing, fixed costs that relate to capacity would be recovered in demand charges and variable costs that relate to actual transmission would be recovered in commodity charges. This will tend to induce the efficient level of consumption.

33/ The NOPR discusses rate design issues in the context of cost-of-service regulation and expresses a willingness to permit departures from straight fixed variable ("SFV") pricing. NOPR at 59-60.

requirement that they provide a cost justification for its many business practices), in costs to ratepayers in challenging the pipelines' claims, and in costs to the Commission in refereeing and regulating these issues.34/ Direct costs of rate of return regulation may be especially high under mandatory unbundling because of the need to regulate many additional rates.

Finally, incentive regulation facilitates partial deregulation--i.e., regulation only of those markets served by a pipeline in which the pipeline is able to exercise substantial market power. Under traditional cost-of-service regulation, firms regulated in some markets have an incentive to shift their accounting costs from their unregulated markets and activities into the rate bases of their regulated ones. Under price cap regulation, a pipeline subject to regulation in some of the markets it serves would be unable to evade regulatory constraints by engaging in cross-subsidization, because the level of the cap would not rise if the pipeline were to shift the costs associated with its unregulated activities to its regulated activities.

34/ If the price cap employed by the Commission is relatively simple, if pipelines can be given strong guarantees that incentive regulation will be continued over time, and if cost and revenue data are collected and reviewed only infrequently, these cost savings may be substantial.

II. CAPACITY BROKERING BY THIRD PARTIES WOULD RESULT IN CAPACITY MOVING TO ITS HIGHEST VALUED USES

Overall economic welfare is maximized only when resources, including rights to firm pipeline transportation capacity, are allocated to their highest valued uses. Over time, it is likely that weather patterns or other factors will result in changes in the relative demands for capacity across potential users. Overall welfare can be enhanced by a policy that provides current holders of capacity rights with both the ability and the incentive to reallocate these rights to the highest valuing alternative users.35/ The Department, therefore, urges the Commission to follow the Administration's National Energy Strategy and adopt customer-driven capacity brokering.36/

35/ Capacity brokering was addressed by the Commission in an earlier proceeding. In re Brokering of Interstate Natural Gas Pipeline Capacity, RM-88-13-000, 53 Fed.Reg. 15,061 (April 27, 1988). In that proceeding the Department filed comments supporting capacity brokering so long as certain safeguards were implemented to ensure against the exercise of market power by potential resellers of such rights. The Department specifically recommended against permitting the pipelines themselves to broker capacity rights because of concerns about regulatory evasion by pipelines with market power. See Comments of U.S. Dept. of Justice in Response to Notice of Proposed Rulemaking, RM88-13-000 (June 20, 1988) at 27-30.

36/ See NES at 95 ("unless a pipeline's customers have monopoly power in the markets for rights to firm pipeline capacity, customers should be allowed to resell firm capacity to others at unregulated prices.").

The NOPR proposes an alternative to capacity brokering in the form of a capacity releasing program under which transportation capacity will be reallocated from lower to higher valued users through a three-part program. First, capacity holders that do not expect to use all of the capacity that they have under contract will release that capacity back to the pipeline on a permanent or temporary basis. Second, the pipeline will enter these released capacity rights into a computer and set up a seven day auction for the released capacity. Finally, the pipeline will be required to sell these rights to the highest bidder or bidders at a price not to exceed the maximum tariff rate set by the Commission. In cases where more than one bid is registered at the maximum tariff, the Commission proposes to allocate the released capacity across those bidders on a pro rata basis.

Although this proposal would result in some reallocation of capacity rights from lower to higher valuing users, the proposal suffers from a number of deficiencies. First, by requiring that brokering occur only through the pipeline, the proposed system is inherently less flexible, and potentially more costly, than would be a policy of permitting brokering to take place through any forum and within any time frame that buyers and sellers find to be most in accordance with their particular needs. Unrestricted brokering by entities other than the pipeline also likely would create greater opportunities for the development of

new products and services more finely tuned to the demands of the marketplace.37/

Second, the pipeline may have an incentive to impede efficient sales brokering. The pipeline lacks the kind of impartiality that would be desirable in a middleman because the pipeline is selling interruptible transportation in competition with brokered firm capacity.

Finally, and perhaps most importantly, although the NOPR would permit capacity to be reallocated to higher valuing users, the proposed cap on prices paid for brokered capacity is inefficient since it will sometimes prevent capacity from being reallocated to its highest valued uses. When the cap discourages a transaction that would have occurred at a higher price, not only are resources kept from moving to their highest valued uses, but both parties are made worse off. Nor can proposed maximum price regulation be strongly defended as a device to prevent an exercise of market power. Competition from other holders of firm capacity and from the sale of interruptible transportation will limit the ability of any

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37/ Development of such options as "almost firm" capacity with the right of recall by the original purchaser would seem to be less likely under the capacity release program proposed in the NOPR.

single capacity holder to raise prices above competitive levels.38/ Monopolization of available capacity in the secondary market, however, is of limited concern. Moreover, antitrust enforcement under Section 2 of the Sherman Act, 15 U.S.C. Sec. 2, will check any serious attempts to monopolize the market for brokered capacity.39/

CONCLUSION

The Department urges the Commission to avoid unnecessary regulatory costs by relying to a greater extent on market forces. Where pipelines lack market power, the Commission should utilize market-based regulation. Where regulation is needed to prevent an exercise of market power, the Commission should pursue policies that result in the greatest net benefit.

38/ Parties without firm rights could theoretically bid prices above the regulated maximum rate. However, if the pipeline observed rates for firm transportation that were persistently significantly above the maximum rate, the pipeline would have the incentive to expand capacity to sell more capacity at the maximum rate itself.

39/ In attempting to obtain a monopoly over capacity to a particular market or set of markets, the buyer of such rights would be bidding against the very set of customers to whom it intends to resell these rights at inflated prices. Absent some reason to believe that the would-be monopolist would be capable of obtaining these rights at prices below what it intends to charge future victims, such a strategy would not be profitable.

Before requiring mandatory unbundling in markets where pipelines have market power, the Commission should determine if there are large economies of scope such that requiring pipelines to separate gas sales and provide comparable access to transportation would result in a net loss. In such a case, the Commission should continue to regulate the bundle of services provided by the integrated pipeline. Mandatory unbundling and comparability should be ordered only if both economies of scope and the costs of enforcing comparability are small, relative to the benefits of increased gas sales competition. If the economies of scope are small, then divestiture may be preferable to mandatory unbundling due to reduced regulatory costs. In addition, the Commission should adopt incentive rate design as the appropriate method of regulating pipelines with market

power. Finally, the Commission should permit capacity brokering by holders of firm capacity at market-based rates.

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