ORIGINAL

MARKET HUB PARTNERS
Two Riverbend at Lansdowne
44084 Riverside Parkway, Suite 340
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FEDERAL ENERGY REGULATORY COMMISSION

January 24, 1997

Ms. Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Moss Bluff Gas Storage Systems; Docket No.PR95-3-000

Dear Ms. Cashell:

Enclosed for filing with the Commission, please find an original and fourteen copies of the Prepared Statement of Bruce M. Sloan, which is a market power analysis of the services offered by Moss Bluff Gas Storage Systems (Moss Bluff). This document is a supplement to an earlier prepared statement filed on November 30, 1995 as part of Moss Bluff's Petition for Approval of Market-based Rates for NGPA Section 311(a)(2) Storage and Transportation Services. Since Moss Bluff filed its Petition, the Commission has issued two orders that provide additional guidance for applicants seeking market-based rates: a Policy Statement on market based rates (74 FERC ¶61,076; 1996) and an order in Egan Hub Partners, L.P. (77 FERC ¶61,016; 1996) that establishes an analytical framework for evaluating hub services. Accordingly, Moss Bluff asked that Ms. Sloan prepare the enclosed statement updating Moss Bluff's original analysis and incorporating the guidance set forth in the Commission's Policy Statement and the Egan order. By copy of this letter, we are serving Ms. Sloan's statement on all parties of record.

Please let me know if you have any questions regarding the enclosed.

Respectfully submitted,

Andrea Hilliard

Andrea Hilliard, Director of Regulatory Affairs

cc: Kevin Madden
Alice Fernandez
Robert Sheldon
Parties of Record

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JAN 24 1997

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Phone 703/729-1647 • Fax 703/729-1138

Exhibit No. _____ (BMS-1)

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Moss Bluff Gas Storage Systems) **Docket No. PR 95-3 -000**

PREPARED STATEMENT
OF
BRUCE M. SLOAN

On Behalf of:

Moss Bluff Gas Storage Systems

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FEDERAL ENERGY REGULATORY COMMISSION

Exhibit No. _____ (BMS-1)

UNITED STATES OF AMERICA
BEFORE THE
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Moss Bluff Gas Storage Systems) Docket No. PR 95-3-000

PREPARED STATEMENT
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FEDERAL ENERGY REGULATORY COMMISSION

I. INTRODUCTION

Q. Please state your name and occupation.

A. My name is Bruce M. Sloan. I am a Senior Consultant at Micronomics, Inc. Micronomics, Inc. is an economic research and consulting firm with offices in Los Angeles, CA, Sacramento, CA, and Washington, D.C.

Q. What is your business address.

A. My business address is 1201 New York Avenue, N.W., Washington, D.C. 20005.

Q. Please describe your educational and professional background.

A. I received my bachelor's degree with honors in economics from Connecticut College in 1973 and my masters in Business Administration from George Mason University in May 1995. Since 1973, I have worked at the economic consulting firms of National Economic Research Associates, Inc. ("NERA"), Putnam, Hayes and Bartlett, Inc.

("PHB"), and Law & Economic Consulting Group, Inc. ("LECG"). I joined Micronomics, Inc. in December 1995.

During my consulting career, I have directed projects involving a broad range of economic issues in the natural gas, electric utility and telecommunications industries, as well as in other unregulated industries as diverse as aerospace equipment and automobiles.

Throughout my professional career, I have been particularly heavily involved in issues relating to the application of antitrust principles to the electric utility industry.

My professional background and experience are described more fully in Exhibit No. ___ (BMS-2), attached to my prepared statement.

Q. What is the purpose of your statement?

A. I was involved with the preparation of an the earlier economic analysis filed in this docket by Moss Bluff in November 1994. Since then, the Commission has clarified its policy on market-based rates in the Statement of Policy on Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines.[1] (Herein after referred to as the "Policy Statement".) The Commission further outlined the requirements necessary to demonstrate a lack of market power in connection with authority to charge market-based rates for hub services in its Egan decision issued

[1] See Statement of Policy and Request for Comments - Alternatives to *Traditional* Cost-of-Service Ratemaking for Natural Gas Pipelines and Regulation of Negotiated Transportation Services of Natural Gas Pipelines, 74 FERC ¶61,076 (1996).

on October 7, 1996.[2] I have been asked by Market Hub Partners ("MHP") to update the economic analysis of the competitive implications of MHP's request for market based rate authority for Moss Bluff Gas Storage Systems ("Moss Bluff") based on the Commission's Policy Statement concerning market-based rates and considering the guidance provided in the Egan decision granting market-based rates for hub services.

Q. Please outline your statement.

A. The Statement contains a description of Moss Bluff Gas Storage Systems and the services offered at Moss Bluff (Section II). Section III discusses the Commission's requirements that Applicants must satisfy to receive authority to implement market-based rates. Section IV contains the market power analyses for the services to be provided by Moss Bluff, storage and hub services. Section V presents the conclusions based on the results of the market power analyses.

Q. Please summarize your conclusions.

A. Based on the results of the market power analyses for storage and hub services, I conclude that Moss Bluff does not possess market power. Therefore, the Commission should allow Moss Bluff to charge market-based rates for these services.

The market power analysis indicates that the HHI for storage services is only

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[2] Egan Hub Partners, L.P., 77 FERC ¶61,016 (1996).

589 for peak day deliverability and 869 for working gas capacity. These HHIs are significantly below the 1800 level that the Policy Statement sets as a threshold for further analysis because it indicates a concern for market power. There are 45 alternative storage facilities available to Moss Bluff customers in Texas and Louisiana. In addition, there are six facilities currently under construction in Texas and Louisiana, which indicate low barriers to entry. These market measures indicate that Moss Bluff does not possess market power in connection with storage services and that there are numerous alternatives to customers should Moss Bluff attempt to raise prices above competitive levels. Therefore, I conclude that the Commission should allow Moss Bluff to charge market-based rates for storage services.

In connection with hub services, there are eleven alternative hubs available to Moss Bluff customers in Texas and Louisiana. The bingo card analysis indicates that there are 99 alternative bi-directional paths for shippers at Moss Bluff to transfer natural gas among pipelines at Moss Bluff.

There are 39 additional incoming bi-directional interstate interconnections on pipelines connected to Moss Bluff with 5,440 MMcf per day of available capacity. This represents 4.3 times the total rated incoming capacity at Moss Bluff. There are 56 additional outgoing bi-directional interstate interconnections on pipelines connected to Moss Bluff with 8,166 MMcf per day of available capacity. This represents 5.6 times the total rated outgoing capacity at Moss Bluff. This analysis indicates that customers at Moss Bluff have numerous alternatives if Moss Bluff raises prices above competitive levels.

Customers at Moss Bluff have 25 paths available to the eleven alternative

hubs on pipelines interconnected to Moss Bluff. The HHI based on the incoming available throughput at hubs in Texas and Louisiana is 1,213. The HHI based on the outgoing available throughput at hubs in Texas and Louisiana is 1,219. Both of these measures indicate that Moss Bluff does not possess market power in connection with interruptible hub services. Given the numerous other hub services alternatives available to customers at Moss Bluff, Moss Bluff will be unable to raise and sustain supra-competitive price levels. Therefore, I conclude that the Commission should allow Moss Bluff to charge market-based rates for hub services.

II. DESCRIPTION OF MOSS BLUFF GAS STORAGE SYSTEMS

Q. Please describe Moss Bluff.

A. Moss Bluff is owned by the Market Hub Partners and is located in Liberty and Chambers counties, Texas. The facility consists of three salt cavern storage facilities consisting of working gas capacity of 12 Bcf, peak deliverability capacity of 1.2 Bcf per day and a header system which is 100-200 feet from the three caverns. These facilities enable Moss Bluff to transport, store and/or deliver gas from two interstate pipelines, Natural Gas Pipeline Company of America ("NGPL") and Texas Eastern Transmission Corporation ("Texas Eastern") and four intrastate pipelines, Channel Industries ("Channel"), Houston Pipeline ("Houston"), MidCon Texas Pipeline ("MidCon"), and Tejas Gas Pipeline ("Tejas"). Incoming capacity of pipelines interconnected at Moss Bluff is 1,260 MMcf per day and outgoing capacity is 1,450 MMcf per day.

Moss Bluff has long-term gas storage agreements with the customers listed in Exhibit No. ___ (BMS-3). As shown there, Channel, Northern Indiana Public Service Company, Tejas Power Corporation, Tejas Gas Pipeline, Inventory Management and Distribution (IMD), KN Energy, Tejas Gas Pipeline and Wisconsin Natural Gas Company have commitments for 7,750,000 Dth of storage associated with 450,000 Dth of firm deliverability capacity. These commitments account for 100 percent of the current total working gas capacity at Moss Bluff.

Q. What services does Moss Bluff offer?

A. Currently, Moss Bluff offers long-term firm storage services and interruptible hub services. The interruptible hub services include: 1) parking or peaking interruptible capacity services; 2) wheeling movement of gas from one pipeline to another over Moss Bluff's header facilities; 3) intra-hub transfer of gas from one shipper to another; 4) balance and imbalance trading or use of gas a customer has borrowed to keep its agreements with a pipeline within tolerance limits; 5) loans or loaning of gas to be repaid at a later time; 6) gas title transfer or change in the name and/or contract under which gas is flowing on connecting pipelines.

III. REQUIREMENTS FOR MARKET-BASED RATE AUTHORITY

Q. Has the Commission set forth the requirements that must be satisfied for it to approve market-based rate authority for individual companies?

A. Yes, it has set forth requirements for market-based rate authority in the Policy Statement and has further clarified the requirements in the recently issued Egan decision.[3] As discussed in the Policy Statement, the Commission has determined that an Applicant for market-based rate authority must demonstrate that it lacks significant market power. Although the Commission evaluates proposals for market-based rates on a case-by-case basis, it considers a variety of factors to determine whether an Applicant may have market power, which include market share, market concentration, excess capacity, the number and type of alternatives available to customers and barriers to entry. In addition, the Commission requires that an individual company seeking approval to charge market-based rates must demonstrate that it cannot exercise market power by raising rates 10 percent over competitive levels for a period of two years or more.

The Egan decision provides the Commission's requirements for approval of market-based rates for hub services, as well as storage services. As indicated in the Egan decision, the Commission does not include alternatives which are planned or not currently in existence in calculating HHIs to assess likely market power.

In connection with storage facilities, the Commission distinguishes between production area storage, such as the Moss Bluff facilities, and market area storage.

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[3] Egan Hub Partners, L.P. 77 FERC ¶61,061 (1996).

The Commission has approved market-based rates for production area storage in Richfield Gas Storage System, 59 FERC ¶61,316 (1992); Transok, Inc., 64 FERC ¶61,095 (1993); Koch Gateway Pipeline Company, 66 FERC ¶61,351 (1994); Ouachita Gas Storage Company, L.L.C. 68 FERC ¶61,402 (1994 and order issuing certificate, 76 FERC ¶61,139 (1996); Bay Gas Storage, 66 FERC ¶61,351 (1994); Equitable Storage Company, 75 FERC¶61,081 (1996); and Egan Hub Partners, L.P. 77 FERC ¶61,061 (1996) . The Commission has also approved market-based rates for market area storage in Avoca Natural Gas Storage, 68 FERC ¶61,045 (1994) and Steuben Gas Storage, 73 FERC ¶61,102 (1995).

In connection with hub services, the Commission has approved market-based rates for interruptible hub services in Egan Hub Partners, L.P., 77 FERC ¶61,016 (1996).

In order to assess the potential exercise of market power, the Policy Statement requires that the analysis must properly identify the relevant product and geographic market for the proposed service. In addition, the number and type of alternatives available to potential customers of the proposed service have to be identified. The size of the market must be measured and market shares of participants in the market must be calculated to assess the likely presence of market power. Market shares are then used as screens to determine the level of concentration in the market by calculating the Herfindahl-Hirschman Index ("HHI"). As indicated in the Policy Statement, a small HHI indicates that sellers cannot exercise market power because customers have sufficiently diverse sources of supply in the relevant market and because no one firm or group of firms acting

together could profitably raise market prices. The Commission has indicated that it will use 0.18 HHI (or 1,800 HHI) as an indication that closer scrutiny is warranted because that index indicates that the market is more concentrated and the Applicant may have significant market power. In addition, the analysis requires an examination of the ease of entry of potential competitors. This is especially important because a firm will not be able to sustain a price increase of 10 percent or more over a two year period if competitors can enter the market easily in reaction to price increases above competitive market levels.

IV. MOSS BLUFF MARKET POWER ANALYSIS

Q. Have you used the analytic framework required by FERC and which is outlined above to determine whether Moss Bluff, under its market-based rate proposal, could exercise significant market power?

A. Yes. In the analysis which follows, I define the relevant market for Moss Bluff's proposed services, identify comparable alternatives to potential customers at Moss Bluff, present data on the size of the market, market shares and HHI screens, present information on the ease of entry of potential competitors of Moss Bluff services and examine the likelihood that Moss Bluff will be able to raise prices above competitive levels. The analysis demonstrates that there are many alternatives available to potential customers of Moss Bluff's services in sufficient quantity so that customers could displace Moss Bluff's services should it attempt to raise prices above competitive levels.

A. Market Definition

Q. Please define the relevant market.

A. Moss Bluff proposes to charge market-based rates for firm storage and interruptible hub services. These products constitute the relevant product markets for the Moss Bluff market power analysis.

MHP also offers storage and hub services at its Egan facilities.[4] In addition,

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[4] **MHP owns property in Copiah, Mississippi which may be developed into a fourth hub, MS-1. However, there are no current plans to develop this property. In the Egan decision, the Commission stated that it considers only existing facilities, or facilities under construction as relevant to the market-based analysis. As a result, MS-1**

MHP affiliate TPC Corporation's TOMCAT facilities in Louisiana also offer services that are similar to Moss Bluff's hub services. The relevant market for Moss Bluff's services includes all products and geographic areas to which customers can economically substitute comparable products in order to avoid any attempt by Moss Bluff to exert market power for the Moss Bluff services. The earlier Moss Bluff analysis defined the relevant geographic market to include all storage and hub facilities in the states of Texas, Louisiana and Mississippi. This geographic market definition included all locations where MHP had the potential to provide actual or future storage and hub services. The recent Egan decision clarified the Commission's policy concerning geographic market definition and specified that only those locations of existing facilities or facilities currently under construction should be included in the market power analysis. Consistent with the Commission policy regarding geographic market definition, the relevant geographic market for Moss Bluff adopted here includes only Texas and Louisiana.

The geographic market at Moss Bluff encompasses almost the same geographic market as defined for Egan. The Moss Bluff geographic market is narrower than Egan in that it does not include Mississippi. Therefore, one would expect similar results from the relevant market power analysis for Moss Bluff as was determined for Egan.

Q. Have you prepared market power analyses for firm storage services and interruptible

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is not included in the Moss Bluff analysis.

hub services?

A. Yes. I have prepared a separate market power analysis for the two relevant products that Moss Bluff will offer potential customers.

B. Storage Services

Q. Have you examined alternative storage facilities which may be alternatives to potential customers at Moss Bluff?

A. Yes. Exhibit No. ___ (BMS-4) presents a listing of relevant storage facilities currently available in Texas and Louisiana. There are a total of 45 alternative storage facilities located in the two state area. Working gas capacity of these facilities consist of 654,955 MMcf and Moss Bluff accounts for only 1.79 percent of the total capacity in the two state area. In accordance with Commission policy concerning affiliate operations, the combined Moss Bluff and Egan[5] market share accounts for only 2.31 percent of the working gas capacity available in Texas and Louisiana. The HHI total based on working gas capacity for storage in the two states is only 869, which is well below the Policy Statement screen for concern for existence of market power.

Total peak day deliverability in Texas and Louisiana for the 45 storage facilities is 16,376 MMcf per day, as shown on Exhibit No.___ (BMS-5). Moss Bluff accounts for only 7.33 percent of peak day deliverability of storage facilities located in the two states and the combined market share of Moss Bluff and Egan amounts to only 11.91 percent. HHIs based on peak day deliverability of the storage facilities

[5] The TOMCAT facility does not contain storage facilities or provide storage services.

in Texas and Louisiana are only 589, well below any threshold for concern about market power as stated in the Policy Statement.

Q. Are there any other factors that the Policy Statement discusses that should be considered in a market power analysis?

A. Yes, the Policy Statement states that ease of entry is another competitive factor that demonstrates that an applicant lacks market power.

Q. Please describe your conclusions concerning ease of entry as it relates to storage facilities.

A. Currently, there are six storage projects being planned in Texas and Louisiana with working gas capacity of 73,000 MMcf. As shown in Exhibit No. ____ (BMS-6), three of these projects are located in Louisiana (HNG, Matrix Gas Corp. and Williams) and three are located in Texas (HNG, Gulf States Utility Company and KEBO Oil).

In other cases involving market-based rates for storage facilities in the Gulf Coast area, the Commission has determined that ease of entry is made evident by the large number of storage providers in the area. In addition, the Commission has previously found market-based rates to be appropriate for certain other storage providers in the market.[6]

[6] Enron Storage Company, 73 FERC ¶61,206 (1995); Steuben Gas Storage, 73 FERC ¶61,102 (1995); Ouachita River Gas Storage, L.L.C., 68 FERC ¶61,402 (1994); Avoca Natural Gas Storage, 68 FERC ¶61,045 (1994); Petal Gas Storage Company, 64 FERC ¶61,190 (1993); and Egan Hub Partners, L.P., 77 FERC ¶61,016 (1996).

Q. What conclusions can you draw from your analysis of potential market power concerning storage facility services at Moss Bluff?

A. The market power analysis for storage services indicates that Moss Bluff does not possess market power. It is also evident that ease of entry exists and it is unlikely that Moss Bluff could effectively raise prices for storage facility services above competitive levels without sustaining customer losses to existing storage facilities and without encouraging entry by other potential storage facility providers. Therefore, the Commission should grant Moss Bluff's petition to charge market-based rates for storage facility services.

C. Hub Services

Q. Have you evaluated alternative paths for shippers at Moss Bluff to move gas among pipelines located at Moss Bluff?

A. Yes. In connection with hub services, the Commission requires that there be a showing by the Applicant that there are sufficient alternatives available to customers when granting market-based rate authority. As a first step, alternative bi-directional interconnects for pipelines to a hub are evaluated in a matrix form or "bingo card" to ensure that for every possible combination, at least one alternative path exists. Exhibit No.____ (BMS-7) presents a "bingo card" of the Moss Bluff facility. As mentioned above, there are six pipelines which interconnect at Moss Bluff, thereby creating 30 possible interconnects. Moss Bluff's "bingo card" is completely filled in, which demonstrates alternatives exist for each of the 30 possible interconnects at the hub. As shown on Exhibit No. ___ (BMS-7), there exists a total of 99 alternative

paths for gas to move among pipelines at Moss Bluff, with as many as nine alternatives at one of the interconnects.

Q. What conclusion do you reach from this bingo-card analysis?

A. Moss Bluff is a production area storage and hub service provider. As such, it is not surprising that as many as 99 bi-directional alternatives exist to move gas among the pipelines interconnected at Moss Bluff. Given the large number of alternatives available to shippers on pipelines interconnected at Moss Bluff, I conclude that it is very unlikely that Moss Bluff could exercise market power.

Q. Have you evaluated whether unused incoming and outgoing alternative bi-directional capacity exists for pipelines inteconnected at Moss Bluff?

A. Yes. Exhibit No.____ (BMS-8) shows the number of bi-directional alternative pipeline interconnections to each pipeline interconnected at Moss Bluff. There are 39 incoming bi-directional interconnection alternatives and 56 outgoing bi-directional interconnections among the six pipelines at Moss Bluff. Exhibit No.____ (BMS-9) shows that among the 39 incoming alternatives, the total capacity of these alternatives amounts to 6,017 MMcf per day, of which only 577 MMcf per day is currently utilized. Therefore, the accumulated excess capacity (5,440 MMcf per day) is approximately 4.3 times greater than the existing available incoming capacity at Moss Bluff. The total outgoing capacity of these alternatives amounts to 9,021 MMcf per day, of which only 855 MMcf per day is currently utilized, as shown on Exhibit No.___ (BMS-10). Thus, for outgoing capacity, the accumulated excess capacity

(8,166 Mmcf per day) is approximately 5.6 times greater than the total outgoing capacity at Moss Bluff.

Q. What conclusions do you draw from this analysis?

A. Given the large amount of unused capacity on alternative pipeline interconnections that is available on pipelines at Moss Bluff, it is evident that Moss Bluff cannot exert market power in connection with hub services available at Moss Bluff.

Q. Have you examined customer alternatives for hub services?

A. Yes, I have identified eleven existing hubs in the Texas and Louisiana area that could be substituted for the Moss Bluff hub services. There are seven hubs located within Texas and four hubs located within Louisiana that offer services that could substitute for hub services at Moss Bluff. Texas hubs include: Buffalo Wallow, East Texas, Houston, Permian Basin, Spindletop, Texaco's Star Center, and Western Resources-Katy. In Louisiana, the alternative hubs include: Henry, Jefferson Island, Louisiana and Perryville. As shown on Exhibit No. ___ (BMS-11), most hub services available at Moss Bluff are available at the eleven other hubs.

Q. Please indicate whether the pipelines interconnected at Moss Bluff can provide transportation to these hubs.

A. Yes. Exhibit No.____ (BMS-12) provides a matrix of the six pipelines interconnected at Moss Bluff and the eleven other hubs which these pipelines can access. There are 25 potential paths to the eleven other hubs by means of pipelines interconnected at

Moss Bluff. Spindletop can be reached by all six of the pipelines interconnected at Moss Bluff. Five pipelines at Moss Bluff can also access the Western Resources-Katy hub.

Q. Have you determined whether sufficient unutilized capacity exists at these hubs to be considered alternatives to potential customers at Moss Bluff?

A. Exhibit No._____ (BMS-13) presents a summary of unutilized incoming and outgoing capacity available at Moss Bluff, Egan and TOMCAT and the other eleven relevant hubs which potential customers could use as substitutes for Moss Bluff hub services. Moss Bluff represents only 7.0 percent of the incoming capacity and 8.2 percent of the outgoing capacity available at the relevant hubs. The combined Moss Bluff, Egan, and TOMCAT market share of available incoming and outgoing capacity represents only 17.7 percent and 21.0 percent, respectively. The HHIs based on these market shares indicate that the incoming available capacity market at these hubs is not concentrated, given the market HHI of 1,213. The outgoing available capacity market at those hubs have a HHI of only 1,219, which would also not be considered to be a concentrated market under the Policy Statement guidelines.

Q. What conclusions do you reach in connection with the analysis of available capacity at relevant hubs?

A. Given the fact that these hubs are located in the production area, there are numerous alternatives available for potential hub services to potential customers at the Moss Bluff facilities. Available capacity at alternative hubs is 11.1 times the total incoming

capacity at Moss Bluff and is 9.0 times the total outgoing capacity at Moss Bluff. Realistically, there can be little concern that Moss Bluff could profitably raise its rates for hub services and maintain those rates over a substantial period of time. Therefore, because the market power analyses indicate that Moss Bluff does not have market power over hub services, the Commission should authorize Moss Bluff to charge market-based rates for those services.

Q. In connection with hub services, have you determined whether Moss Bluff could raise and maintain profitably its prices 10 percent above competitive levels for a period of two years or longer?

A. Hub services at Moss Bluff, in some cases, may involve incidental transportation to move gas from the storage facility 100 to 200 feet to the Moss Bluff header to another pipeline. If Moss Bluff increases its hub service rates involving this short-haul transportation to the header, customers have alternatives at competitive prices established by the cost-of-service rates and negotiated rates of adjacent interstate pipelines to reach other hubs to transfer gas from one pipeline to another. As indicated on Exhibit No.___ (BMS-12), Spindletop can be reached by all pipelines interconnected at Moss Bluff. Almost all the pipelines interconnected at Moss Bluff can reach Western Resources-Katy.

In Texas, the Railroad Commission considers non-city gate transportation rates negotiated by customers and intrastate pipelines to be just and reasonable because neither the customer nor the pipeline has an unfair advantage during the

negotiation.[7] These negotiated rates are filed so that other shippers can review the rates negotiated between the parties. If a complaint is filed with the Railroad Commission, then the Railroad Commission may adjust the transportation rate based on cost-of-service. Over the past five years, there have not been any complaints by shippers to the Railroad Commission that negotiated intrastate transportation rates were excessive. Therefore, one can conclude that intrastate transportation rates in Texas reflect competitive market prices. It would be extremely difficult for Moss Bluff to raise hub rates by 10 percent and sustain the rate above market levels over time because customers can review the negotiated rate levels of other pipeline options and turn to another pipeline offering market-level rates.

Also, if Moss Bluff raised hub services 10 percent above competitive levels, it is likely that most customers would utilize alternative hubs that provide hub services at cost-of-service based rates. Therefore, these cost-of-service based hub rates act as a competitive ceiling, which would make it difficult for Moss Bluff to raise its hub rates ten percent above these competitive levels and sustain that increase over a period of time.

Finally, if Moss Bluff raised its hub service rates above competitive levels, as shown on Exhibit No.___(BMS-6), customers can use 99 potential alternative paths to transfer gas from one pipeline to another, thereby bypassing the Moss Bluff facilities altogether. These transportation paths are available at cost-of-service rates

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[7] Article V, Sec. 5.02, Tex. Rev. Civ. Stat. Ann. art. 1446e (Vernon Supp. 1996).

and negotiated rates and act as a competitive ceiling above which it would be very difficult for Moss Bluff to raise hub service rates and sustain them over a two-year period.[8]

Q. Have you looked at barriers to entry for hub services?

A. An examination of trade press articles indicates that there are a number of additional hubs currently being developed. Virtually any location where there are multiple pipeline interconnections and storage facilities could be developed easily into market hub centers. According to Natural Gas Focus,[9] many traditional and new storage developers are proclaiming themselves to be hubs rather than merely providers of storage services. Therefore, since I conclude that there are low entry barriers for storage service, it is axiomatic that there are low entry barriers to hub services providers.

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[8] **74 FERC ¶61,076 (1996).**

[9] **Hart, "Creative Marketing," Natural Gas Focus, November 1995, pp. 10-14.**

CONCLUSIONS

Q. What conclusion do you reach concerning the market power potential of the Moss Bluff facilities?

A. I conclude that Moss Bluff does not possess market power in connection with storage services or hub services. Moss Bluff is located in the production area where numerous storage and hub services alternatives exist for potential customers at Moss Bluff.

Finally, the Commission approved market-based rates for hub services at Egan based on the evidence of sufficient customer options. Customers' options at Moss Bluff are more numerous than those available at Egan. The bingo card analysis shows that Moss Bluff customers have 23 more alternative paths than customers at Egan. In addition, the relevant geographic market for Moss Bluff contains two additional hubs than are available to Egan customers. Since the Commission found that there was no market power in connection with hub services at Egan, then it is appropriate to reach the same conclusion regarding market power for hub services at Moss Bluff since customer options are even more ample. Therefore, I conclude that the Commission should grant market-based rate authority at Moss Bluff because it does not possess any market power over storage or hub services.

Bruce M. Sloan

Bruce M. Sloan

Subscribed and sworn to before me this 24th day of January, 1997.

Notary Public

My commission expires:

LaCHELLE G. ROBINSON
Notary Public, District of Columbia
My Commission Expires September 14, 2000

Exhibit No. ____ (BMS-2)

Economic Research & Consulting
Washington, D.C.
Tel: 202 408 0272

BRUCE MACKALL SLOAN
Senior Consultant

BRUCE MACKALL SLOAN has had extensive experience with the electric utility industry in connection with mergers, antitrust litigation, transmission access issues and QF contract provisions. She brings a combination of experience, training, presentation skills and management ability that places her in the top rank of her profession.

EDUCATION

M.B.A., George Mason University, Fairfax, VA, May 1995
Attended Oxford University, May 1994

B.A., (Honors), Economics, Connecticut College, New London, CT, 1973

A.A., Social Sciences, Bradford Junior College, Bradford, MA, 1971

PROFESSIONAL EXPERIENCE

Micronomics, Inc., Washington, D.C., December 1995 to present

Senior Consultant

Primary work on competitive market analysis in connection with regulatory filings for market-based rates for electric utilities and natural gas storage and hub services provider before the Federal Energy Regulatory Commission (FERC). Other work involved entry of Bell Operating Companies in video services markets. Antitrust work consisted of analytic studies of pricing behavior of pharmaceutical firms and analysis of competition to cable services in connection with the merger of two competing cable providers.

Law & Economics Consulting Group, Washington, D.C., February 1995-November 1995

Senior Economist

Extensive work on competitive market analysis in connection with regulatory filings for market-based rates and in connection with a major electric utility merger filing before the Federal Energy Regulatory Commission (FERC). Antitrust work consisted of analyzing the pricing behavior of the duopolist cellular service providers in the Los Angeles market to determine whether there existed tacit collusion between the providers. In addition, analyzed the market for ring laser gyroscopes in the commercial avionics market on behalf of Honeywell to determine whether there existed predatory pricing in response to a damage claim by Litton. Rebuttal of damages was based on the assessment of the marketing activities in this market.

Putnam, Hayes & Bartlett, Washington, D.C., 1990-1995

Senior Associate

Extensive regulatory work consisted of competitive market analyses in connection with four major electric utility mergers. Significant participation in preparation of a report to the Massachusetts Department of Public Utilities concerning utility merger policy. Various analyses of incentive regulation schemes for electric and natural gas clients as a possible alternative to cost-based regulation within state and federal jurisdictions. Participated in an electric utility breach of contract suit by a qualifying facility on behalf of Pacific Gas & Electric. Prepared two competitive market analyses on behalf of a natural gas storage owner to obtain market-based rates from FERC.

Telecommunications experience consisted of preparation of an analysis of the federal telecommunications contract system with AT&T and Sprint in connection with FTS 2000. This analysis consisted of review of prices paid by the federal government versus prices available in the commercial market as well as availability of services.

Litigation experience consisted of participation in rebuttal of the largest commercial damage claim filed in Canada by seven oil companies alleging lost sales of syncrude oil over a multi-year period. Rebuttal entailed a detailed analysis of the crude and refined products markets in Canada and the U.S. In addition, assisted in the development of a typewriter dumping case for Smith Corona for use in an International Trade Commission (ITC) proceeding.

National Economic Research Associates, Inc., Washington, D.C. 1973-1974, 1975-1990

Senior Analyst

Extensive work in both antitrust and energy areas. Primary antitrust work involved work over a five-year period on behalf of AT&T in pending litigation with MCI, Southern Pacific Communications Corporation, equipment manufacturers and the Department of Justice over competitive market issues. Electric utility work primarily consisted of antitrust litigation (price squeeze issues and uranium price fixing issues) and general policy work on behalf of the utilities. Energy work consisted of assessment of available energy supplies (coal, oil and natural gas).

Greiner Environment Sciences, Inc., Baltimore, MD 1974-1975

Project Manager and Technical Writer

Responsibilities at Greiner consisted of economic analysis to assess the environmental impact of proposed highways, shopping centers and a mining project and the preparation of the draft and final environmental impact statements to be submitted to government agencies necessary to obtain project approvals. Other work consisted of analysis of fuel availability and price for several electric utilities.

OTHER

Member of the Board of Directors of Graham Smokeless Coal Company 1982 to present.

Existing Customer Storage Contracts at Moss Bluff
As of December 1996

Customer	Service Commencement	Service Termination	Maximum Storage Capacity (Dth)	Maximum Deliverability Capacity (Dth)	Delivery Points
Channel	11/1991	03/2000	750,000	75,000	Channel, NGPL, TETCO
IMD	12/1996	04/1998	500,000	35,000(4/1997)	TETCO, Tejas, NGPL
KN Energy	09/1996	04/1998	1,000,000	50,000	NGPL, TETCO, Channel, Tejas, MidCon
Northern Indiana Public Service Co.	11/1991	04/2014	4,000,000	145,000	Channel, MidCon, NGPL
Tejas Gas Pipeline	04/1996	04/1997	300,000	50,000	Tejas
Tejas Power Corp.	09/1994	04/2002	600,000	80,000	NGPL, TETCO, Channel, Tejas, MidCon
Tejas Power Corp.	09/1996	09/1998	500,000	40,000	NGPL, TETCO, Tejas
Wisconsin Natural Gas	11/1995	11/1998	100,000	10,000	NGPL
Wisconsin Natural Gas (winter only)	04/1996	04/1999			
Total:			7,750,000	450,000	

Working Gas Capacity
Existing Storage Facilities for
Louisiana and Texas
(MMcf)

Operator	Field Name	Working Gas Capacity	% of Total	HHI
Market Hub Partners:				
Moss Bluff Gas Storage (Tejas P.)	**Moss Bluff, TX**	**12,000**	**1.79%**	
Egan Hub Partners, L.P. (Tejas P.)	**Egan, LA**	**3,500**	**0.52%**	
Subtotal		***15,500***	**2.31%**	**5.34**
Amoco:				
Amoco Gas Co.	Stratton Ridge, TX	1,700	0.25%	0.06
Bear Creek Storage:				
Bear Creek Storage Co.	Bear Creek, LA	65,000	9.69%	93.99
City of Brady:				
City of Brady	Janellen, TX	6,000	0.89%	0.80
Dow:				
Dow Pipeline Co.	Stratton Ridge (2 wells)	7,300	1.09%	1.19
Eastex Energy Inc.:				
Eastex Energy, Inc.	Rotherwood, TX	1,000	0.15%	0.02
Enserch:				
Lone Star Gas	Bethel, TX	7,100		
Lone Star Gas	Ambassador, TX	1,620		
Lone Star Gas	La Pan, TX	3,425		
Lone Star Gas	New York City, TX	5,290		
Lone Star Gas	Lake Dallas, TX	2,825		
Lone Star Gas	Hill, TX	8,615		
Lone Star Gas	Tom Green, TX	1,310		
Lone Star Gas	Tri-Cities (Bacon), TX	18,453		
Lone Star Gas	Tri-Cities (Rodessa), TX	6,900		
Subtotal:		55,538	8.28%	68.62
Enron:				
Houston Pipe Line Co.	Bammel, TX	40,000		
Enron Storage Co.	Napoleonville, LA	4,600		
Subtotal:		44,600	6.65%	44.25
Equitrans Inc.:				
Equitable Storage Co.	Jefferson Island, LA	3,200	0.48%	0.23
HNG Storage Co.:				
HNG Storage Company	North Dayton, TX	3,000	0.45%	0.20
KN Energy:				
American Gas Storage	Felmac, TX	5,500		
American Gas Storage	Loop Field, TX	8,000		
American Gas Storage	Salado I&II, TX	2,000		
American Gas Storage	Salado III Expansion, TX	1,000		
Subtotal:		16,500	2.46%	6.06
Koch:				
Koch Gateway	Bistineau, LA	68,800	10.26%	105.30
Lower Colorado River Authority:				
Lower Colorado River Authority	Hillbig, TX	4,000	0.60%	0.36
MidCon:				
Natural Gas Pipeline	North Lansing, TX	69,000	10.29%	105.92
MidTex Gas Storage Company LLP:				
MidTex Gas Storage Company LLP	Markham, TX (2 caverns)	5,100	0.76%	0.58

Working Gas Capacity
Existing Storage Facilities for
Louisiana and Texas
(MMcf)

Operator	Field Name	Working Gas Capacity	% of Total	HHI
Noram:				
Mississippi River Trasmission Corp.	East Unionville, LA	20,200		
Mississippi River Trasmission Corp.	West Unionville, LA	10,000		
NorAm Gas Transmission	Ruston, LA	2,200		
Subtotal:		32,400	4.83%	23.35
Panhandle East:				
Trunkline Gas Co.	Epps, LA	12,900		
Centana Intrastate Pipeline Co.	Spindletop, TX	5,200		
Subtotal:		18,100	2.70%	7.29
Phillips Petroleum:				
Phillips Petroleum	Clemens, TX	1,808	0.27%	0.07
Southwestern Gas Pipeline Inc.:				
Southwestern Gas Pipeline Inc.	Lone Camp, TX	500	0.07%	0.01
Tejas Gas Storage Co.				
Tejas Gas Storage Co.	West Clear Lake, TX	95,000		
Pontchartrain Natural Gas System/Acadian	Pontchartrain Grand Bayou, LA	2,300		
Subtotal:		97,300	14.51%	210.61
Texaco:				
Bridgeline Gas Distribution LLC	Sorrento, LA	3,600		
Gulf States Utilities Co. (Sabine)	Spindletop, TX	3,300		
Subtotal:		6,900	1.03%	1.06
Texas Utilities Fuel Co.:				
Texas Utilities Fuel Co.	Bethel, TX (3 Salt Caverns)	8,810		
Texas Utilities Fuel Co.	South Bryson, TX	5,500		
Texas Utilities Fuel Co.	Worsham-Steed, TX	12,900		
Subtotal:		27,210	4.06%	16.47
Transco:				
Transcontinental Gas Pipline Corp.	Hester, LA	12,000		
Transcontinental Gas Pipline Corp.	Washington, LA	75,000		
Subtotal:		87,000	12.98%	168.38
USX:				
Delhi Gas Pipeline Corp.	Pickton, TX	6,100	0.91%	
Valero Gas Storage:				
Valero Gas Storage Co.	Boling, TX	8,299	1.24%	1.53
Western Gas Resources:				
Western Gas Resources Storage Inc.	Katy, TX	18,600	2.77%	7.70
TOTAL:		670,455	100.00%	869.39

Peak Day Deliverability of Existing Storage Facilities for Louisiana and Texas (MMcf/d)

Operator	Field Name	Peak Day Deliverability	% of Total	HHI
Market Hub Partners:				
Moss Bluff Gas Storage (Tejas P.)	**Moss Bluff, TX**	**1,200**	**7.33%**	
Egan Hub Partners, L.P. (Tejas P.)	**Egan, LA**	**750**	**4.58%**	
Subtotal		***1,950***	**11.91%**	**141.79**
Amoco:				
Amoco Gas Co.	Stratton Ridge, TX	300	1.83%	3.36
Bear Creek Storage:				
Bear Creek Storage Co.	Bear Creek, LA	900		
City of Brady:				
City of Brady	Janellen, TX	35	0.21%	0.05
Dow:				
Dow Pipeline Co.	Stratton Ridge, TX (2 Wells)	380		
Eastex Energy Inc :				
Eastex Energy, Inc.	Rotherwood, TX	70	0.43%	0.18
Enserch:				
Lone Star Gas	Bethel, TX	600		
Lone Star Gas	Ambassador, TX	40		
Lone Star Gas	La Pan, TX	180		
Lone Star Gas	New York City, TX	95		
Lone Star Gas	Lake Dallas, TX	97		
Lone Star Gas	Hill, TX	68		
Lone Star Gas	Tom Green, TX	68		
Lone Star Gas	Tri-Cities (Bacon), TX	51		
Lone Star Gas	Tri-Cities (Rodessa), TX	257		
Subtotal:		1,456	8.89%	79.05
Enron:				
Houston Pipe Line Co.	Bammel, TX	1,200		
Enron Storage Co.	Napoleonville, LA	400		
Subtotal:		1,600	9.77%	95.46
Equitrans Inc :				
Equitable Storage Co.	Jefferson Island, LA	300	1.83%	3.36
HNG Storage Co				
HNG Storage Company	North Dayton, TX	600	3.66%	13.42
KN Energy:				
American Gas Storage	Felmac, TX	75		
American Gas Storage	Loop Field, TX	100		
American Gas Storage	Salado I&II, TX	350		
American Gas Storage	Salado III Expansion, TX	NA		
Subtotal:		525	3.21%	10.28
Koch:				
Koch Gateway	Bistineau, LA	1,200	7.33%	53.70
Lower Colorado River Authority:				
Lower Colorado River Authority	Hillbig, TX	100	0.61%	0.37
MidCon:				
Natural Gas Pipeline	North Lansing, TX	950	5.80%	33.65
MidTex Gas Storage Company LLP:				
MidTex Gas Storage Company LLP	Markham, TX (2 caverns)	500	3.05%	9.32

Peak Day Deliverability of Existing Storage Facilities for Louisiana and Texas (MMcf/d)

Operator	Field Name	Peak Day Deliverability	% of Total	HHI
Noram:				
Mississippi River Trasmission Corp.	East Unionville, LA	447		
Mississippi River Trasmission Corp.	West Unionville, LA	225		
NorAm Gas Transmission	Lincoln, LA	60		
Subtotal:		732	4.47%	19.98
Panhandle East:				
Trunkline Gas Co.	Epps, LA	150		
Centana Intrastate Pipeline Co.	Spindletop, TX	500		
Subtotal:		650	3.97%	15.75
Phillips Petroleum:				
Phillips Petroleum	Clemens, TX	55	0.34%	0.11
Southwestern Gas Pipeline Inc.:				
Southwestern Gas Pipeline Inc.	Lone Camp, TX	38	0.23%	0.05
Tejas Gas Storage Co.				
Tejas Gas Storage Co.	West Clear Lake,TX	320		
Pontchartrain Natural Gas System	Pontchartrain Grand Bayou, LA	220		
Subtotal:		540	3.30%	10.87
Texaco:				
Bridgeline Gas Distribution LLC	Sorrento, LA	400		
Gulf States Utilities Co. (Sabine)	Spindletop, TX	480		
Subtotal:		880	5.37%	28.88
Texas Utilities Fuel Co.:				
Texas Utilities Fuel Co.	Bethel, TX (3 Salt Caverns)	350		
Texas Utilities Fuel Co.	South Bryson, TX	125		
Texas Utilities Fuel Co	Worsham-Steed, TX	25		
Subtotal:		500	3.05%	9.32
Transco:				
Transcontinental Gas Pipline Corp.	Hester, LA	100		
Transcontinental Gas Pipline Corp.	Washington, LA	800		
Subtotal:		900	5.50%	30.20
USX:				
Delhi Gas Pipeline Corp.	Pickton, TX	15	0.09%	0.01
Valero Gas Storage:				
Valero Gas Storage Co	Boling, TX	800	4.89%	23.87
Western Gas Resources:				
Western Gas Resources Storage Inc.	Katy, TX	400	2.44%	5.97
TOTAL:		16,376	92.18%	589.01

Storage Facilities Under Development

Operator	County	Field Name	Footnote	Working Gas Capacity (MMcf)	Peak Day Deliverability (MMcf/d)
Louisiana					
HNG Storage Company	Sulpher Mines	Calcasieu	*Under development for the 1996-1997 winter season.*	8,000	650
Matrix Gas Corp.	Union, Lincoln, Ouachita	Ouachita	*Under development for the 1996-1997 winter season.*	27,000	550
Williams Underground Gas Storage	Lafourche	Chacahoula	*Under development.*	2,700	250
LA Subtotal				*37,700*	*1,450*
Texas					
Gulf States Utility Co. (Sabine)	Spindletop Expansion	Jefferson	*Expected to be operational late 1996.*	3,300	0
HNG Storage Company	North Dayton Expansion	Liberty	*Expected to be operational late 1996.*	4,000	400
Kebo Oil	Atkinson	Live Oak	*In planning stages, no in-service date set.*	28,000	300
TX Subtotal				*35,300*	*700*
TOTAL				**73,000**	**3,600**

Exhibit No. _____ (BMS-7)

Bi-Directional Interconnections Between Pipelines
Connected to Moss Bluff
30 Interconnects: 99 Alternative Paths

Receiving Pipeline (Mcf/day)

Delivering Pipeline	**Channel**	**Houston**	**Midcon**	**NGPL**	**Tejas**	**Texas Eastern**
Channel		Shared Facility Oasis-TX	TX-40,000 Amoco-TX Centana-TX Oasis-TX	TX-55,000 Encina-TX	TX-20,000	 Amoco-TX
Houston	Centana-TX Delhi-TX Dow-TX Encina-TX Oasis-TX		TX-15,000 TX-100,000 TX-150,000 TX-240,000 TX-100,000 TX-110,000 Amoco-TX Centana-TX Oasis-TX	TX-60,000 TX-140,000 Delhi-TX Dow-TX Encina-TX	Shared Facility TX-375,000 TX-190,000 Delhi-TX	TX-226,000 TX-225,000 Amoco-TX Delhi-TX
Midcon	TX-60,000 Delhi-TX Dow-TX Oasis-TX	TX-90,000 TX-190,000 Delhi-TX Lone Star-TX Oasis-TX		TX-30,000 TX-100,000 TX-390,000 TX-330,000 Delhi-TX Dow-TX Oasis-TX	 Delhi-TX	TX-150,000 Amoco-TX Delhi-TX Lone Star-TX
NGPL	 Centana-TX Delhi-TX Dow-TX	 Delhi-TX Lone Star-TX	TX-25,000 TX-200,000 TX-300,000 TX-200,000 Amoco-TX Centana-TX Delhi-TX		 Delhi-TX	LA-175,000 LA-86,000 Amoco-TX Delhi-TX Lone Star-TX
Tejas	 Centana-TX Dow-TX Gulf Energy-TX	TX-125,000 TX-360,000 TX-150,000 Gulf Coast-TX Gulf Energy-TX	 Amoco-TX Centana-TX Gulf Coast-TX	 Dow-TX Gulf Energy-TX		TX-260,000 TX-150,000 Amoco-TX Centana-TX
Texas Eastern	TX-180,000 Centana-TX	TX-180,000 Lone Star-Tx	 Amoco-TX Centana-TX	 Lone Star-TX	 Transco-TX	

Number of Additional Bi-Directional Interstate Interconnections on Pipelines Connected to Moss Bluff 1995

Pipeline	Number of Interconnections	
	Incoming	Outgoing
1. Channel	3	7
2. Houston	10	15
3. Midcon	10	16
4. NGPL	4	5
5. Tejas	10	7
6. Texas Eastern	2	6
TOTAL	**39**	**56**

Transportation Capacity Available at Interconnections to Pipelines Connected to Moss Bluff Hub (MMcf/d)

INCOMING

Other Interconnections From: To	Rated Capacity	Average Throughput	Available Capacity	Description
Channel:				
Florida	60	5.34	54.66	Matagorda, Tx #2-6129 Magnet Withers
Tenn	225	20.03	204.98	Nueces, Tx #2-6081
Valero	65	5.79	59.22	Brazorio, Tx #2-6009 Alvin
Subtotal	**350**	**31.15**	**318.85**	
Houston:				
Florida	85	9.69	75.31	Matagorda, Tx #0008576 Magnet Withers
Florida	180	20.52	159.48	Orange, Tx #0059308 Texama FGT
Koch	120	13.68	106.32	Refugio, Tx #001978
NGPL	60	6.84	53.16	Jim Hogg, Tx #0006829 Thompsonville
Sabine	50	5.70	44.30	Jefferson, Tx #0052808
Transco	200	22.80	177.20	Fort Bend, Tx #0000292 Fulshear
Transco	200	22.80	177.20	Harris, Tx, #00000293
Trunkline	108	12.31	95.69	Waller, Tx #0008559 Katy
Texas Eastern	226	25.76	200.24	Chambers, Tx #0001980 Mt Belvieu
Texas Eastern	225	25.65	199.35	Matagorda, Tx #0002361 Blessing
Subtotal	**1,454**	**165.76**	**1,288.24**	
Midcon				
Florida	75	4.80	70.20	Jefferson, Tx #5067 So. Taylor Bayou
Koch Gateway	325	20.80	304.20	Polk, Tx #5022--Goodrich
Koch Gateway	150	9.60	140.40	Jackson, Tx #0677 Edna Yard #2
NGPL	100	6.40	93.60	Duval, Tx #5018 Hagist Ranch
NGPL	390	24.96	365.04	Harris, Tx #5231 Katy
NGPL	330	21.12	308.88	Nueces, Tx #8315 Agua Dulce
NGPL	175	11.20	163.80	Wharton, Tx #9251 NGPL, Wharton
Trunkline	240	15.36	224.64	Jim Wells, Tx #8341 Tang Alice #2
Valero	50	3.20	46.80	Chambers, Tx #5019 Mt Belvieu
Valero	115	7.36	107.64	Webb, Tx #5912 Laredo Site
Subtotal	**1,950**	**124.80**	**1,825.20**	
NGPL:				
Florida	25	5.69	19.31	Jefferson, Tx #3618
Koch Gateway	80	18.21	61.79	Panola, Tx #3667
MRT	100	22.76	77.24	Harrison, Tx #0955
Valero	118	26.86	91.14	Ward, Tx #5561

INCOMING				
Other Interconnections From: To	**Rated Capacity**	**Average Throughput**	**Available Capacity**	**Description**
Subtotal	**323**	**73.51**	**249.49**	
Tejas Gas Pipeline:				
Sabine	190	19.76	170.24	Jefferson, Tx #413 Port Neches
Tenn	120	12.48	107.52	Panola, Tx #904 Carthage
Transco	300	31.20	268.80	Waller, Tx #986 Katy
Texas Eastern	150	15.60	134.40	Panola, Tx #902 Beckville
Texas Eastern	260	27.04	232.96	Kleberg, Tx #306 Alazan
Transco	150	15.60	134.40	Harris, Tx #263 White Oak Bayou
Transco	300	31.20	268.80	Waller, Tx #986 Katy
Vallero	15	1.56	13.44	Harris, Tx #319 Kelsey
Vallero	55	5.72	49.28	Rusk, Tx #267 Sralla Rd
Vallero	160	16.64	143.36	Rusk, Tx #907 Bethel
Subtotal	**1,700**	**176.80**	**1,523.20**	
Texas Eastern:				
Houston	180	3.94	176.06	Chambers,Tx #75886 Mt Belvieu
Koch Gateway	60	1.31	58.69	San Jacinto, Tx #70859 Huntsville
Subtotal	**240**	**5.26**	**234.74**	
TOTAL	**6,017**	**577.28**	**5,439.72**	
Moss Bluff	**1,260**	**76.30**	**1,183.70**	

Transportation Capacity Available at Interconnections to Pipelines Connected to Moss Bluff Hub (MMcf/d)

OUTGOING				
Other Interconnections From: To	**Rated Capacity**	**Average Throughput**	**Available Capacity**	**Description**
Channel:				
Sabine	50	4.45	45.55	Orange, Tx #1-6298
Tenn	250	22.25	227.75	Newton, Tx #1-6179 Sabine
Transco	120	10.68	109.32	Matagorda, Tx #1-6247
Tx East	120	10.68	109.32	Chambers, Tx #1-6178 Mt Belvieu
Valero	150	13.35	136.65	Matagorda, Tx #1-6064 Markham
Valero	80	7.12	72.88	Nueces, Tx # 1-6222 Riverside
Valero	45	4.01	41.00	Nueces, Tx # 1-6130 Agua Dulce
Subtotal	**815**	**72.54**	**742.47**	
Houston:				
Florida	160	18.24	141.76	Galveston, Tx # 0018059 Texas City
Koch Gateway	18	2.05	15.95	San Patricio, Tx #0000295 Ingleside
Lone Star	50	5.70	44.30	Rusk, Tx #0009406 Texoma-Cotton Valley
Northern	280	31.92	248.08	Refugio, Tx #0000287 Tivoli
Southern Pl	10	1.14	8.86	Bee, Tx #0028937
Tenn	300	34.20	265.80	Newton, Tx #0000393 Sabine River
Transco	200	22.80	177.20	Fort Bend, Tx #0017965
Transco	200	22.80	177.20	Harris, Tx #0012502 Bammel
Trunkline	108	12.31	95.69	Waller, Tx #0008558 Katy
Tx East	226	25.76	200.24	Chambers, Tx #0001980 Mt Belvieu
Valero	200	22.80	177.20	Fort Bend, Tx #0002223 Needville
Valero	100	11.40	88.60	Jim Hogg, Tx #000884 Needville
Valero	370	42.18	327.82	Nueces, Tx #0010605 Agua Dulce
Valero	125	14.25	110.75	Nueces, Tx #0008742 Riverside
Valero	125	14.25	110.75	Rusk, Tx #0023570 Texoma
Subtotal	**2,472**	**281.81**	**2,190.19**	
Midcon				
Koch	205	13.12	191.88	Fort Bend, Tx #6069 Needville
Koch	20	1.28	18.72	Jasper, Tx #6071 Call Junction
Koch	80	5.12	74.88	Montgomery, Tx #6066 Lewis Creek, Conr
Lone Star	100	6.40	93.60	Waller, Tx #5628 Exxon Katy
Lone Star	315	20.16	294.84	Waller, Tx #9548 Katy #2
NGPL	35	2.24	32.76	Brazoria, Tx #9636
NGPL	330	21.12	308.88	Jackson, Tx #8176 #2 Toro Grande
NGPL	360	23.04	336.96	Jefferson, Tx #8373

OUTGOING				
Other Interconnections From: To	**Rated Capacity**	**Average Throughput**	**Available Capacity**	**Description**
NGPL	345	22.08	322.92	Wharton, Tx #8661
Northern	200	12.80	187.20	Refugio, Tx #9170
Transco	250	16.00	234.00	Wharton, Tx #9371
Valero	375	24.00	351.00	Fort Bend, Tx #5599 Needville
Valero	170	10.88	159.12	Harris, Tx #5762
Valero	205	13.12	191.88	Jackson, Tx #5657 Edna Yard
Valero	175	11.20	163.80	Jim Hogg, Tx #9555 Thompsonville Station
Valero	115	7.36	107.64	Webb, Tx #5912 Laredo Site
Subtotal	**3,280**	**209.92**	**3,070.08**	
NGPL:				
ANR	240	24.36	215.64	Hansford, Tx #3024
Lone Star	22	2.23	19.77	Panola, Tx #0908
Transco	433	43.95	389.05	Wharton, Tx #0967
Valero	43	4.36	38.64	Duval, Tx #0422 Hagist Rch
Valero	143	14.51	128.49	Panola, Tx #3352
Subtotal	**881**	**89.42**	**791.58**	
Tejas Gas Pipeline:				
Northern	260	27.04	232.96	Refugio, Tx #358 Tivoli
Transco	200	20.80	179.20	Matagorda,Tx #902 Beckville
Valero	100	10.40	89.60	Brazoria, Tx #266 Pledger
Valero	65	6.76	58.24	Brooks, Tx #266 Pledger
Valero	65	6.76	58.24	Brooks, Tx #272 Kelsey
Valero	160	16.64	143.36	Rusk, Tx #907 Bethel
Valero	100	10.40	89.60	San Patricio, Tx #268 Riverside
Subtotal	**950**	**98.80**	**851.20**	
Texas Eastern:				
Florida	21	3.47	17.54	Matagorda, Tx #70974 Blessings
Lone Star	95	15.68	79.33	Waller, Tx #75778
MRT	20	3.30	16.70	Harrison, Tx #75118 Karnack
Seagull	225	37.13	187.88	Matagorda, Tx #72601
Transco	43	7.10	35.91	Jefferson, Tx #71759 Sabine Pass
Valero	219	36.14	182.87	Lavaca, Tx #72248
Subtotal	**623**	**102.80**	**520.21**	
TOTAL	**9,021**	**855.28**	**8,165.72**	
Moss Bluff	**1,450**	**98.70**	**1,351.30**	

Services Offered by Texas and Louisiana Hubs						
Hub	Balancing	Lending/ Peaking	Parking	Storage	TitleTransfer/ Tracking	Wheeling
Moss Bluff (MHP)	X	X	X	X	X	X
Egan Hub (MHP)	X	X	X	X	X	X
TOMCAT (MHP)	NO	NO	NO	NO	X	NO
Buffalo Wallow	X	X	X	X	X	X
East Texas (Union Pacific)	X	X	NO	X	X	X
Henry Hub (Sabine)	X	X	X	X	X	X
Houston Hub (Eastex)	X	X	X	X	X	X
Jefferson Island (Equitrans)	X	X	X	X	X	X
Louisiana Hub (Enron)	X	X	X	X	X	X
Permian Basin (Valero)	X	NO(1)	X	NO(2)	X	X
Perryville Hub (NorAm)	X	X	X	X	X	X
Spindletop (Panhandle East)	NO	X	X	X	X	X
Texaco's Gulf Coast Star Center	X	X	X	X	X	X
Western Gas Resources/Katy	X	X	X	X	X	X

(1)The company's policy is not to do it, but they have helped people out from time to time.

(2)Valero does not offer storage, however, Westar offers storage in their pipeline at the Permian Basin Hub.

Availability of Access to Other Hubs
Via Pipelines Connected to Moss Bluff

Hub	Channel	Houston	Midcon	Natural Gas Pipeline	Tejas	Texas Eastern	TOTAL
Moss Bluff	X	X	X	X	X	X	
Texas							
Buffalo Wallow				X			1
East Texas		X		X	X	X	4
Houston				X			1
Permian Basin				X			1
Spindletop	X	X	X	X	X	X	6
Texaco's Star Center				X		X	2
Western Resources-Katy	X	X	X	X	X		5
Louisiana							
Henry				X			1
Jefferson Island				X			1
Louisiana				X		X	2
Perryville						X	1
TOTAL	3	4	3	8	4	6	25

Texas and Louisiana Hubs
Rated Capacity and Average Throughput
(MMcf/d)
1995-1996

Incoming

HUB	Rated Capacity	Average Throughput	Available Capacity	Share of Available Capacity	HHI
Moss Bluff	1,260	76.04	1,183.96	7.00%	
Egan Hub	1,500	91.10	1,408.90	8.33%	
TOMCAT Hub	450	52.16 *	397.85	2.35%	
Subtotal Market Hub Partners owned hubs:	**3,210**	**219.30**	**2,990.71**	**17.67%**	**312.35**
Buffalo Wallow (KN Energy)	445	66.75	378.25	2.24%	5.00
East Texas Gas Systems (Union Pacific)	705	100.69	604.31	3.57%	12.75
Houston Hub (El Paso Natural Gas)	480	29.83	450.17	2.66%	7.08
Jefferson Island (Equitrans)	1,500	240.00	1,260.00	7.45%	55.44
Louisiana Hub (Enron)	2,247	278.89	1,968.11	11.63%	135.27
Permian Basin (Valero)	1,740	261.00	1,479.00	8.74%	76.39
Perryville (NorAm)	1,945	311.98	1,633.02	9.65%	93.13
Spindletop (Panhandle Eastern)	1,050	87.75	962.25	5.69%	32.34
Texaco's Gulf Coast Star Center	2,325	556.52	1,768.48		
Henry Hub (Sabine/Texaco)	1,565	325.42	1,239.58		
Subtotal Texaco owned hubs:	3,890	881.94	3,008.06	17.78%	315.99
Western Gas Resources (Katy)	2,500	311.94	2,188.06	12.93%	167.19
Total:	19,712	2,790.07	16,921.94	100.00%	1,212.93

*11.59 percent average utilization assumed.

Outgoing

Hub	Rated Capacity	Average Throughput	Available Capacity	Share of Available Capacity	HHI
Moss Bluff	1,450	98.27	1,351.73	8.22%	
Egan Hub	1,500	78.28	1,421.72	8.64%	
TOMCAT Hub	762	88.34	673.66	4.09%	
Subtotal Market Hub Partners owned hubs:	**3,712**	**264.89**	**3,447.11**	**20.95%**	**438.89**
Buffalo Wallow (KN Energy)	525	78.80	446.20	2.71%	7.35
East Texas Gas Systems (Union Pacific)	1,975	356.00	1,619.00	9.84%	96.81
Houston Hub (El Paso Natural Gas)	480	20.61	459.39	2.79%	7.79
Jefferson Island (Equitrans)	1,500	240.00	1,260.00	7.66%	58.64
Louisiana Hub (Enron)	2,175	203.11	1,971.89	11.98%	143.62
Permian Basin (Valero)	1,075	161.30	913.70	5.55%	30.84
Perryville (NorAm)	2,545	656.91	1,888.09	11.47%	131.67
Spindletop Hub (Panhandle Eastern)	515	70.05	444.95	2.70%	7.31
Texaco's Gulf Coast Star Center	970	110.25	859.75		
Henry Hub (Sabine/Texaco)	1,500	368.65	1,131.35		
Subtotal Texaco owned hubs:	2,470	478.90	1,991.10	12.10%	146.43
Western Gas Resources (Katy)	2,350	337.24	2,012.76	12.23%	149.63
Total:	19,322	2,867.81	16,454.19	100.00%	1,219.00

Moss Bluff Hub
Rated Capacity and Average Throughput
(MMcf/d)
1995-1996

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
	180.00	7.84	172.16
Houston Pipeline	180.00	20.52 *	159.48
MidCon	200.00	12.80 *	187.20
Natural Gas Pipeline of America	310.00	10.39	299.61
Tejas Gas Pipeline	190.00	19.76 *	170.24
Texas Eastern Corp.	200.00	4.73	195.27
Total:	1,260.00	76.04	1,183.96

Outgoing

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Channel Industries	225.00	10.07	214.93
Houston Pipeline	225.00	25.65 *	199.35
MidCon	225.00	14.40 *	210.60
Natural Gas Pipeline of America	325.00	21.87	303.13
Tejas Gas Pipeline	225.00	23.40 *	201.60
Texas Eastern Corp.	225.00	2.88	222.12
Total:	1,450.00	98.27	1,351.73

*Average daily throughputs are based on average utilization percentages.

Egan Hub
Rated Capacity and Average Throughput
(MMcf/d)
1995

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
ANR Pipeline Co.	300.00	0.55	299.45
Columbia Gulf Transmission Corp.	300.00	19.50	280.50
Tennessee Gas Pipeline, Co.	300.00	45.00 *	255.00
Texas Gas	300.00	19.50	280.50
Trunkline Gas Co.	300.00	6.54	293.46
Total:	1,500.00	91.10	1,408.91

Outgoing

Pipeline	Rated Capacity	Average Throughput	Available Capacity
ANR Pipeline	300.00	0.94	299.06
Columbia Gulf Transmission Corp.	300.00	15.01	284.99
Tennessee Gas Pipeline, Co.	300.00	45.00 *	255.00
Texas Gas	300.00	15.01	284.99
Trunkline Gas Co.	300.00	2.32	297.68
Total:	1,500.00	78.28	1,421.72

*Average daily throughputs are based on average utilization percentages.

TOMCAT Hub
Rated Capacity and Average Throughput
(MMcf/d)
1995

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Channel Industries	0.00	0.00	0.00
Houston Pipeline	0.00	0.00	0.00
MidCon	0.00	0.00	0.00
Tejas Gas Pipeline	0.00	0.00	0.00
Texas Eastern Corp.	0.00	0.00	0.00
Total:	450.00	0.00	0.00

Outgoing

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Channel Industries	105.00	9.35 *	95.66
Houston Pipeline	105.00	11.97 *	93.03
MidCon	52.00	3.33 *	48.67
Tejas Gas Pipeline	200.00	20.80 *	179.20
Texas Eastern Corp.	300.00	42.89	257.11
Total:	762.00	88.34	673.66

*Average daily throughputs are based on average utilization percentages.

Buffalo Wallow Hub
Rated Capacity and Average Throughput
(MMcf/d)
1995

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
ANR	0.00	0.00 *	0.00
Dehli	40.00	6.00 *	34.00
El Paso	70.00	10.50 *	59.50
NGPL	0.00	0.00 *	0.00
NorAm	70.00	10.50 *	59.50
Panhandle Eastern	0.00	0.00 *	0.00
Red River	80.00	12.00 *	68.00
Trans OK-Thomas	35.00	5.25 *	29.75
Trans OK-Redford	40.00	6.00 *	34.00
Transwestern	10.00	1.50 *	8.50
Wesatar	50.00	7.50 *	42.50
Westar-Arrington	50.00	7.50 *	42.50
Total:	445.00	66.75	378.25

Outgoing

Pipeline	Rated Capacity	Average Throughput	Available Capacity
ANR	15.00	2.25 *	12.75
Dehli	0.00	0.00 *	0.00
El Paso	70.00	10.50 *	59.50
NGPL	40.00	6.00 *	34.00
NorAm	70.00	10.50 *	59.50
Panhandle Eastern	250.00	37.50 *	212.50
Red River	80.00	12.00 *	68.00
Trans OK-Thomas	0.00	0.00 *	0.00
Trans OK-Redford	0.00	0.00 *	0.00
Transwestern	0.00	0.00 *	0.00
Westar	0.00	0.00 *	0.00
Westar-Arrington	0.00	0.00 *	0.00
Total:	525.00	78.8	446.25

*Average daily throughputs are based on average utilization percentages.

East Texas Gas Systems
Rated Capacity and Average Throughput
(MMcf/d)
1995

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Amoco	15.00	2.25 *	12.75
Crystal	30.00	4.50 *	25.50
Dehli	0.00	0.00	0.00
ETGS/EasTrans	160.00	24.00 *	136.00
HPL/Texoma	55.00	8.25 *	46.75
Koch Gateway Pipeline	0.00	0.00	0.00
Lone Star	80.00	12.00 *	68.00
Natural Gas Pipeline of America	0.00	0.00	0.00
NorAm Gas Transmission	0.00	0.00	0.00
Sonat, Inc.	0.00	0.00	0.00
Tejas Gas Pipeline	80.00	8.32 *	71.68
Tejas - 30	30.00	3.12 *	26.88
Tennessee Gas Pipeline, Co.	0.00	0.00	0.00
Texas Eastern Corp.	0.00	0.00	0.00
Texas Gas	0.00	0.00	0.00
Texas Gas Gathering	0.00	0.00	0.00
Valero/EGSI	225.00	33.75 *	191.25
Verado	30.00	4.50 *	25.50
Total:	705.00	100.69	604.31

Outgoing

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Amoco	0.00	0.00	0.00
Crystal	0.00	0.00	0.00
Dehli	100.00	15.00 *	85.00
ETGS/EasTrans	160.00	24.00 *	136.00
HPL/Texoma	55.00	8.25 *	46.75
Koch Gateway Pipeline	335.00	2.84	332.16
Lone Star	80.00	12.00 *	68.00
Natural Gas Pipeline of America	110.00	0.41	109.59
NorAm Gas Transmission	105.00	28.96	76.05
Sonat, Inc.	30.00	21.61	8.39
Tejas Gas Pipeline	55.00	5.72 *	49.28
Tejas - 30	190.00	19.76 *	170.24
Tennessee Gas Pipeline, Co.	220.00	29.77	190.24
Texas Eastern Corp.	100.00	11.62	88.38
Texas Gas	180.00	137.82	42.18
Texas Gas Gathering	30.00	4.50 *	25.50
Valero/EGSI	225.00	33.75 *	191.25
Verado	0.00	0.00	0.00
Total:	1,975.00	356.00	1,619.00

*Average daily throughputs are based on average utilization percentages.

Houston Hub
Rated Capacity and Average Throughput
(MMcf/d)
1995

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
KCS (Enercorp)	100.00	15.00 *	85.00
Koch Gateway Pipeline	100.00	1.00	99.00
Natural Gas Pipeline of America	120.00	2.32	117.68
Tennessee Gas Pipeline, Co.	60.00	9.00 *	51.00
Trunkline Gas Co.	100.00	2.51	97.50
Total:	480.00	29.83	450.17

Outgoing

Pipeline	Rated Capacity	Average Throughput	Available Capacity
KCS (Enercorp)	100.00	15.00 *	85.00
Koch Gateway Pipeline	100.00	0.51	99.49
Natural Gas Pipeline of America	120.00	3.10	116.90
Tennessee Gas Pipeline, Co.	60.00	0.57	59.44
Trunkline Gas Co.	100.00	1.43	98.57
Total:	480.00	20.61	459.39

*Average daily throughputs are based on average utilization percentages.

Jefferson Island Hub
Rated Capacity and Average Throughput
(MMcf/d)
1995

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Columbia Gulf	200.0	30.0 *	170.0
Koch Gateway	200.0	30.0 *	170.0
Louisiana Intrastate Gas	200.0	30.0 *	170.0
Natural gas Pipeline of America	200.0	30.0 *	170.0
Sabine	200.0	30.0 *	170.0
Sea Robin	100.0	30.0 *	70.0
Tennesee Gas	200.0	30.0 *	170.0
Texas Gas Transmission	200.0	30.0	170.0
Total:	1,500.0	240.0	1,260.0

Outgoing

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Columbia Gulf	200.0	30.0 *	170.0
Koch Gateway	200.0	30.0 *	170.0
Louisiana Intrastate Gas	200.0	30.0 *	170.0
Natural gas Pipeline of America	200.0	30.0 *	170.0
Sabine	200.0	30.0 *	170.0
Sea Ribin	100.0	30.0 *	70.0
Tennesee Gas	200.0	30.0 *	170.0
Texas Gas Transmission	200.0	30.0	170.0
Total:	1,500.0	240.0	1,260.0

*Average daily throughputs are based on average utilization percentages.

Louisiana Hub
Rated Capacity and Average Throughput
(MMcf/d)
1995

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Acadian	0.00	0.00	0.00
ANR Pipeline Co.	160.00	0.17	159.83
Columbia Gulf Transmission Corp.	40.00	17.70	22.30
Florida Gas Transmission	0.00	0.00	0.00
Koch Gateway Pipeline	197.00	2.57	194.43
LGSI	0.00	0.00	0.00
LIG	0.00	0.00	0.00
Natural Gas Pipeline of America	30.00	14.47	15.53
Sabine/Henry Hub	380.00	76.79	303.22
Sea Robin	250.00	37.50 *	212.50
Southern	70.00	0.00	70.00
Stingray	280.00	42.00 *	238.00
Tennessee Gas Pipeline, Co.	0.00	0.00	0.00
Texas Eastern Corp.	140.00	0.00	140.00
Texas Gas	260.00	36.14	223.86
Transco	340.00	51.00 *	289.00
Trunkline Gas Co.	100.00	0.57	99.43
Total:	2,247.00	278.89	1,968.11

Outgoing

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Acadian	40.00	6.00 *	34.00
ANR Pipeline Co.	100.00	0.36	99.64
Columbia Gulf Transmission Corp.	160.00	4.37	155.63
Florida Gas Transmission	100.00	69.17	30.83
Koch Gateway Pipeline	122.00	3.32	118.68
LGSI	125.00	18.75 *	106.25
LIG	308.00	46.20 *	261.80
Natural Gas Pipeline of America	30.00	0.00	30.00
Sabine/Henry Hub	350.00	0.00	350.00
Sea Robin	0.00	0.00	0.00
Southern	150.00	14.21	135.80
Stingray	0.00	0.00	0.00
Tennessee Gas Pipeline, Co.	70.00	1.67	68.33
Texas Eastern Corp.	75.00	9.93	65.07
Texas Gas	305.00	5.28	299.72
Transco	140.00	21.00 *	119.00
Trunkline Gas Co.	100.00	2.85	97.15
Total:	2,175.00	203.11	1,971.89

*Average daily throughputs are based on average utilization percentages.

Permian Basin Hub
Rated Capacity and Average Throughput
(MMcf/d)
1995

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Dehli	120.00	18.00 *	102.00
El Paso	250.00	37.50 *	212.50
Lone Star	140.00	21.00 *	119.00
Mobil	50.00	7.50 *	42.50
NGPL	150.00	22.50 *	127.50
Northern Natural Gas	200.00	30.00 *	170.00
Oasis	250.00	37.50 *	212.50
Pipeline	190.00	28.50 *	161.50
Transwestern	90.00	13.50 *	76.50
Valero	200.00	30.00 *	170.00
Westar	100.00	15.00 *	85.00
Total:	1,740.00	261.00	1,479.00

Outgoing

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Dehli	0.00	0.00 *	0.00
El Paso	300.00	45.00 *	255.00
Lone Star	140.00	21.00 *	119.00
Mobil	0.00	0.00 *	0.00
NGPL	0.00	0.00 *	0.00
Northern Natural Gas	0.00	0.00 *	0.00
Oasis	0.00	0.00 *	0.00
Pipeline	190.00	28.50 *	161.50
Transwestern	175.00	26.25 *	148.75
Valero	200.00	30.00 *	170.00
Westar	70.00	10.50 *	59.50
Total:	1,075.00	161.25	913.75

*Average daily throughputs are based on average utilization percentages.

Perryville Hub
Rated Capacity and Average Throughput
(MMcf/d)
1995

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
ANR Pipeline Co.	0.00	0.00	0.00
Columbia Gulf Transmission Corp.	300.00	45.00 *	255.00
Koch Gateway Pipeline	150.00	42.73	107.27
LGS	25.00	3.75 *	21.25
Mississippi River Transmission	700.00	105.00 *	595.00
NorAm Gas Transmission	75.00	11.25 *	63.75
Tennessee Gas Pipeline, Co.	0.00	0.00	0.00
Tennessee Gas Pipeline, Co.	275.00	41.25 *	233.75
TETCO	0.00	0.00	0.00
Texas Gas	270.00	40.50 *	229.50
Trunkline Gas Co.	150.00	22.50 *	127.50
Total:	1,945.00	311.98	1,633.02

Outgoing

Pipeline	Rated Capacity	Average Throughput	Available Capacity
ANR Pipeline Co.	500.00	150.93	349.08
Columbia Gulf Transmission Corp.	300.00	213.05	86.95
Koch Gateway Pipeline	150.00	19.07	130.93
LGS	25.00	3.75 *	21.25
Mississippi River Transmission	700.00	105.00 *	595.00
NorAm Gas Transmission	75.00	11.25 *	63.75
Tennessee Gas Pipeline, Co.	75.00	0.00	0.00
Tennessee Gas Pipeline, Co.	275.00	3.23	271.77
TETCO	100.00	13.99	86.01
Texas Gas	270.00	127.08	142.92
Trunkline Gas Co.	150.00	9.57	140.43
Total:	2,545.00	656.91	1,888.09

*Average daily throughputs are based on average utilization percentages.

Spindletop Hub
Rated Capacity and Average Throughput
(MMcf/d)
1995

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Amoco	60.00	9.00 *	51.00
Channel Industries	65.00	5.79 *	59.22
Florida	75.00	0.25	74.75
Houston	100.00	11.40 *	88.60
MidCon	150.00	9.60 *	140.40
Natural Gas Pipeline of America	60.00	5.53	54.47
Sabine Pipe Line Co.	140.00	21.00 *	119.00
Tejas Gas Pipeline	200.00	20.80 *	179.20
Texas Eastern Corp.	200.00	4.38 *	195.62
Total:	1,050.00	87.75	962.25

Outgoing

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Amoco	0.00	0.00	0.00
Channel Industries	0.00	0.00	0.00
Florida	75.00	9.65	65.36
Houston	0.00	0.00	0.00
MidCon	100.00	6.40 *	93.60
Natural Gas Pipeline of America	0.00	0.00	0.00
Sabine Pipe Line Co.	140.00	21.00 *	119.00
Tejas Gas Pipeline	0.00	0.00	0.00
Texas Eastern Corp.	200.00	33.00 *	167.00
Total:	515.00	70.05	444.96

*Average daily throughputs are based on average utilization percentages.

Texaco's Gulf Coast Star Center
Rated Capacity and Average Throughput
(MMcf/d)
1995

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Acadian	90.00	13.50 *	76.50
ANR Pipeline Co.	150.00	100.14	49.87
Columbia Gulf Transmission Corp.	165.00	81.90	83.10
Floodway	600.00	90.00 *	510.00
Henry	300.00	45.00 *	255.00
Koch Gateway Pipeline	50.00	13.13	36.88
LRC	45.00	6.75 *	38.25
Natural Gas Pipeline of America	0.00	0.00	0.00
Olympic	25.00	3.75 *	21.25
Paradis	200.00	30.00 *	170.00
Sabine Pipe Line Co.	125.00	62.94	62.06
Tennessee Gas Pipeline, Co.	55.00	8.25 *	46.75
Texas Eastern Corp.	200.00	7.43	192.57
Texas Gas	85.00	32.69	52.31
Transco	35.00	5.25 *	29.75
Trunkline Gas Co.	200.00	55.80	144.20
Total:	2,325.00	556.52	1,768.48

Outgoing

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Acadian	0.00	0.00	0.00
ANR Pipeline Co.	0.00	0.00	0.00
Columbia Gulf Transmission Corp.	215.00	32.25 *	182.75
Floodway	0.00	0.00	0.00
Henry	0.00	0.00	0.00
Koch Gateway Pipeline	0.00	0.00	0.00
LRC	105.00	15.75 *	89.25
Natural Gas Pipeline of America	150.00	22.50 *	127.50
Olympic	0.00	0.00	0.00
Paradis	0.00	0.00	0.00
Sabine Pipe Line Co.	235.00	0.00	235.00
Tennessee Gas Pipeline, Co.	0.00	0.00	0.00
Texas Eastern Corp.	0.00	0.00	0.00
Texas Gas	220.00	33.00 *	187.00
Transco	45.00	6.75 *	38.25
Trunkline Gas Co.	0.00	0.00	0.00
Total:	970.00	110.25	859.75

*Average daily throughputs are based on average utilization percentages.

Henry Hub
Rated Capacity and Average Throughput
(MMcf/d)
1995

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Acadian	0.00	0.00	0.00
Columbia Gulf Transmission Corp.	100.00	15.00 *	85.00
Dow Intrastate	0.00	0.00	0.00
Koch Gateway Pipeline	300.00	18.41	281.59
LRC	80.00	12.00 *	68.00
Natural Gas Pipeline of America	200.00	153.73	46.27
Sabine Pipe Line Co.	220.00	33.00 *	187.00
Sea Robin	250.00	37.50 *	212.50
Southern Natural	30.00	2.04	27.97
Texaco Gathering	325.00	48.75 *	276.25
Texas Gas	0.00	0.00	0.00
Transco	0.00	0.00	0.00
Trunkline Gas Co.	60.00	5.00	55.00
Total:	1,565.00	325.42	1,239.58

Outgoing

Pipeline	Rated Capacity	AverageThroughput	Available Capacity
Acadian	150.00	22.50 *	127.50
Columbia Gulf Transmission Corp.	165.00	64.01	100.99
Dow Intrastate	40.00	6.00 *	34.00
Koch Gateway Pipeline	300.00	53.63	246.37
LRC	85.00	12.75 *	72.25
Natural Gas Pipeline of America	150.00	0.00	150.00
Sabine Pipe Line Co.	235.00	35.25 *	199.75
Sea Robin	0.00	0.00	0.00
Southern Natural	125.00	20.40	104.60
Texas Gas	180.00	150.11	29.89
Transco	10.00	1.50 *	8.50
Trunkline Gas Co.	60.00	2.51	57.49
Total:	1,500.00	368.65	1,131.35

*Average daily throughputs are based on average utilization percentages.

Western Gas Resources (Katy)
Rated Capacity and Average Throughput
(MMcf/d)
1995

Incoming

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Amoco	150.00	22.50 *	127.50
Channel Industries	150.00	13.35 *	136.65
Dow Intrastate	150.00	22.50 *	127.50
Exon/Katy	150.00	22.50 *	127.50
Houston Pipeline	150.00	17.10 *	132.90
Koch Gateway Pipeline	150.00	22.50 *	127.50
Lone Star	230.00	34.50 *	195.50
MidCon	230.00	14.72 *	215.28
Natural Gas Pipeline of America	230.00	5.58	224.42
Oasis	230.00	34.50 *	195.50
Tejas Gas Pipeline	150.00	15.60 *	134.40
Tennessee Gas Pipeline, Co.	150.00	22.50 *	127.50
Transco	230.00	0.35	229.65
Transcontinental	150.00	22.50 *	127.50
Total:	2,500.00	270.71	2,229.29

Outgoing

Pipeline	Rated Capacity	Average Throughput	Available Capacity
Amoco	150.00	22.50 *	127.50
Channel Industries	150.00	13.35 *	136.65
Dow Intrastate	150.00	22.50 *	127.50
Exon/Katy	0.00	0.00	0.00
Houston Pipeline	150.00	17.10 *	132.90
Koch Gateway Pipeline	150.00	43.46	106.54
Lone Star	230.00	34.50 *	195.50
MidCon	230.00	34.50 *	195.50
Natural Gas Pipeline of America	230.00	39.74	190.26
Oasis	230.00	34.50 *	195.50
Tejas Gas Pipeline	150.00	15.60 *	134.40
Tennessee Gas Pipeline, Co.	150.00	18.37	131.63
Transco	230.00	18.62	211.38
Transcontinental	150.00	22.50 *	127.50
Total:	2,350.00	337.24	2,012.76

*Average daily throughputs are based on average utilization percentages.