

1 Q63. DID THE COMPANY MAKE SALES OF DISCRETIONARY VOLUMES  
2 FROM THE STORAGE FACILITY DURING THE RECONCILIATION  
3 PERIOD?

4 A. No. Although the storage facility is capable of delivering natural gas into  
5 various pipelines for sale to other parties, the Company had no occasion  
6 during the Reconciliation Period to make sales of discretionary gas from  
7 storage to others without increasing overall eligible costs or without  
8 impairing the Company's reliability and/or flexibility.  
9

10 Q64. DO GAS INVENTORIES VARY FROM MONTH TO MONTH?

11 A. Yes. As shown in Schedule I-7, the amount of gas in inventory during the  
12 Reconciliation Period fluctuated from month to month. Three primary  
13 factors contribute to the fluctuations in inventory. First, gas purchases  
14 directly affect the volumes of gas the Company is committed to receive.  
15 The Company must make monthly and daily nominations for gas  
16 deliveries to its power plants and to the extent that these nominated  
17 volumes, which are based on projected gas requirements, do not match  
18 actual gas requirements, the excess or deficiency may be injected into or  
19 withdrawn from inventory. Second, unplanned operational considerations,  
20 either at the plant or in the supply and transportation markets can cause  
21 the inventory levels to vary. For example, if a planned outage at a plant is  
22 completed ahead of schedule, the gas needed to supply the plant could be  
23 drawn from inventory, thereby reducing the inventory level. Finally,

1           expected and actual purchased power prices affect the decision to place  
2           gas in or withdraw gas from inventory.

3

4   Q65. WHY IS IT SIGNIFICANT THAT INJECTIONS AND WITHDRAWALS ARE  
5       REPORTED ON A "NET" BASIS FOR THE MONTH IN SCHEDULE I-7  
6       AND SCHEDULE I-16.1?

7   A.   As explained in Schedule E-2.5, daily storage injections and withdrawals  
8       are netted against one another at the end of the month to determine  
9       whether a net injection or a net withdrawal occurred for the month. The  
10      only thing that is recorded for the month are the "net" numbers, either  
11      injection or withdrawal. A net injection increases inventory and is  
12      recorded as a purchase to inventory, and a net withdrawal decreases  
13      inventory and is recorded as a burn from inventory. Because the  
14      inventory is accounted for on a "net" monthly basis, it is only a high-level  
15      summary of the storage activity for the month. In order to make a fair  
16      representation of how the facility is actually being utilized, it is necessary  
17      to look at the daily and/or hourly storage activity occurring throughout the  
18      month. Exhibit MHT-12 shows net monthly injection/withdrawal from  
19      inventory as well as the total injections into and total withdrawals from  
20      inventory for each month of the Reconciliation Period.

1 Q66. WHAT IS THE VALUE OF GAS INVENTORY INCLUDED IN THE  
2 COMPANY'S RATE BASE?

3 A. The value of natural gas inventory included in rate base is shown in  
4 Schedule E-1.1 – Detail of Short-Term Assets.  
5

6 Q67. IS THE COMPANY'S GAS INVENTORY USED AND USEFUL IN  
7 PROVIDING SERVICE TO ITS CUSTOMERS?

8 A. Yes. For the reasons discussed above, the Company's gas inventory is  
9 used and useful in providing reliable, economic service to our customers.  
10

11 Q68. IS THE LEVEL OF NATURAL GAS INVENTORY REASONABLE AND  
12 NECESSARY?

13 A. Yes. Gas inventory is necessary in order to economically and reliably  
14 supply the fuel requirements of the Company's fossil fuel plants. The  
15 requested level of natural gas inventory is reasonable because it is  
16 consistent with the Company's natural gas inventory policy discussed  
17 above and comprises the average inventory level the Company  
18 experienced during the 13 months ending in June 2011.  
19

20 Q69. WHAT WERE THE TOTAL PAYMENTS MADE TO PB ENERGY FOR  
21 THE OPERATION OF THE STORAGE FACILITY?

22 A. The payments made to PB Energy for the operation of the Spindletop  
23 storage facilities totaled \$8,405,052. The eligible fuel cost related to PB

1 Energy operation of the facility for the Reconciliation Period was  
2 \$8,419,308, reflecting the fact that withdrawals from inventory exceeded  
3 injections during the Reconciliation Period. These costs are shown in  
4 Exhibit MHT-13.

5  
6 Q70. WHY ARE THE TOTAL PAYMENTS TO PB ENERGY DIFFERENT  
7 FROM THE AMOUNT INCLUDED IN ELIGIBLE FUEL FACTOR  
8 EXPENSE?

9 A. Total payments represent transportation, taxes, maintenance, and  
10 electrical cost associated with all gas delivered to the Spindletop header  
11 system during any given month. The amount included in eligible fuel  
12 includes only those costs associated with the gas actually burned at  
13 Sabine Station or Lewis Creek Station. In other words, in a month where  
14 the Company experiences a net injection into storage, the eligible fuel cost  
15 will be lower than the payments because a portion of the payments are  
16 charged to inventory. In a month where the Company experiences a net  
17 withdrawal from storage, eligible fuel costs will be higher than payments  
18 because the costs that are included in inventory are reversed and charged  
19 to eligible fuel. Exhibit MHT-13 reconciles the total payments made to the  
20 storage operator and the amount included in eligible fuel by depicting the  
21 amounts charged to (injections) and reversed from (withdrawals)  
22 inventory.

1 Q71. HAS THE COMMISSION PREVIOUSLY REVIEWED THE PAYMENTS  
2 BETWEEN THE COMPANY AND PB ENERGY?

3 A. Yes. In Docket No. 32710, the Commission conducted a thorough review  
4 of payments to PB Energy. The Commission concluded that costs of gas  
5 storage in the facility operated by PB Energy are properly included in  
6 eligible fuel factor expense.<sup>5</sup>

7

8 Q72. DID ETI MAKE ANY CHANGES IN THE WAY IT UTILIZES THE  
9 STORAGE FACILITY SINCE THE LAST RECONCILIATION PERIOD?

10 A. No.

11

12 Q73. HOW DO OPPORTUNITIES IN THE PURCHASED POWER MARKET  
13 AFFECT THE VOLUME OF GAS PURCHASED BY ETI?

14 A. I described earlier in my testimony the planning processes that the EMO  
15 undertakes to determine the mix of resources to be used to serve  
16 customers. During these processes, the respective teams will evaluate  
17 whether purchased power can be used more economically than gas,  
18 Company witness Jaycox describes these planning processes in greater  
19 detail.

---

<sup>5</sup> Docket No. 32710, *Application of Entergy Gulf States, Inc. for the Authority to Reconcile Fuel and Purchased Power Costs*, Order (Findings of Fact 90-94) (Sep. 5, 2007).

1 Q74. DURING THE RECONCILIATION PERIOD, DID POWER PURCHASES  
2 AFFECT THE VOLUME OF GAS PURCHASED BY ETI?

3 A. Yes. Company witness O'Brien explains that a sustained, high level of  
4 cogeneration and independent power production continue to provide a  
5 significant proportion of the Company's energy requirements. As greater  
6 reliance is placed on purchased power, the generation from gas-fired  
7 generating plants is diminished. This, in turn, led to a lower volume of gas  
8 purchases than would otherwise have been the case if power purchases  
9 were not so prevalent during the Reconciliation Period.

10

11

V. CONCLUSION

12 Q75. PLEASE SUMMARIZE YOUR CONCLUSIONS REGARDING THE  
13 COMPANY'S NATURAL GAS AND FUEL OIL EXPENSES DURING THE  
14 RECONCILIATION PERIOD.

15 A. The total eligible expenses were necessary to provide electricity to the  
16 Company's customers and were reasonably incurred based upon the mix  
17 of monthly and daily gas purchases, the processes used to solicit and  
18 evaluate bids for gas supply and transportation, the comparison to  
19 relevant market indices, and in light of the alternatives available to the  
20 Company. During the Reconciliation Period, the Company performed very  
21 well in managing its diverse portfolio of fuel sources and pricing  
22 arrangements in the evolving fuel markets to produce electricity for  
23 customers at a reasonable total cost.

1                   Finally, the natural gas and fuel oil inventories maintained by ETI  
2                   are reasonable and used and useful in the provision of reliable electric  
3                   service to ETI's customers.

4

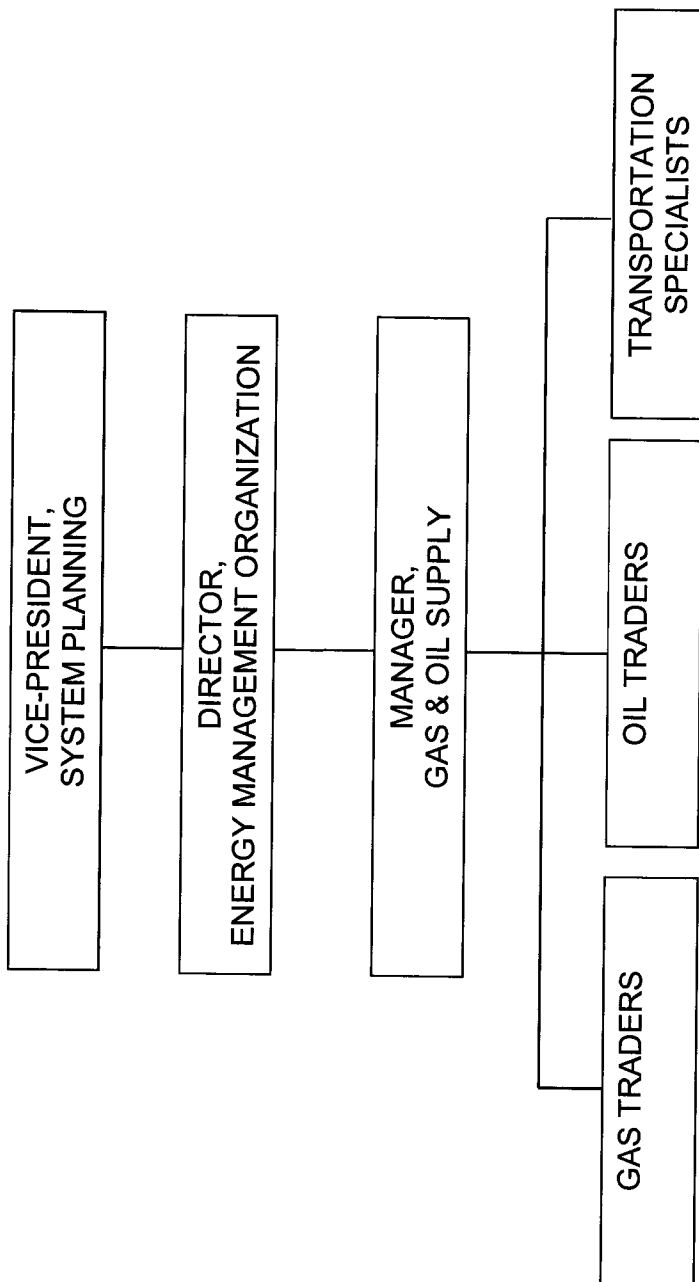
5   Q76. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

6   A.    Yes.

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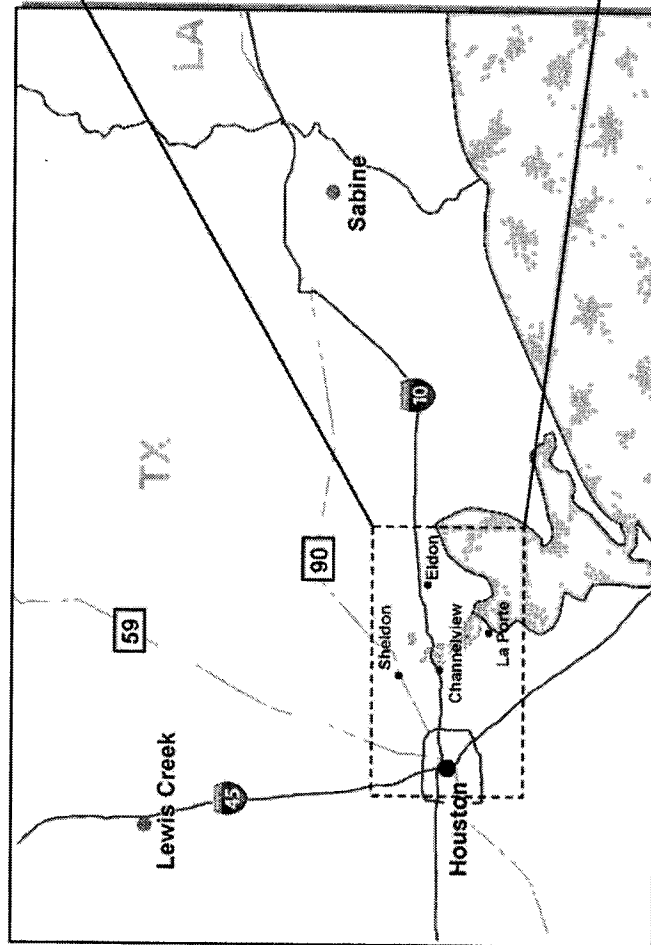
**G&O GROUP ORGANIZATION CHART**



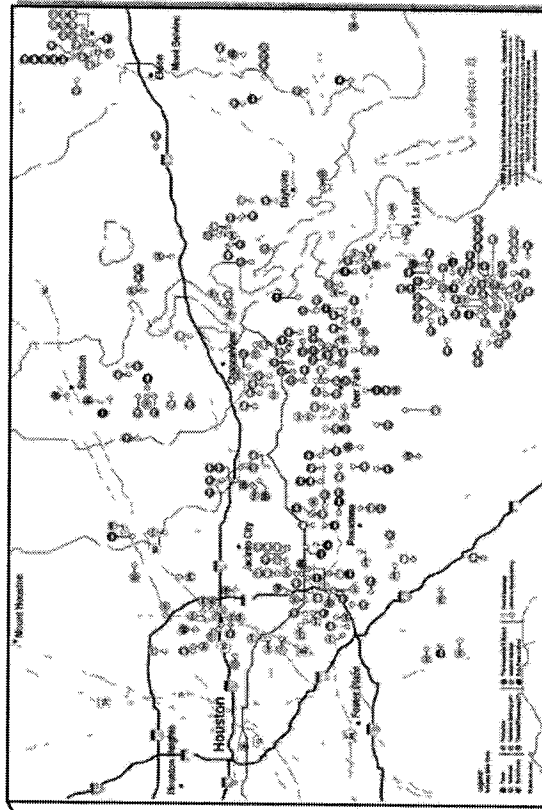
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# Sabine & Lewis Creek Location vs. Houston Ship Channel Area

Regional Overview



Houston Ship Channel Zoom-in



## Houston Ship Channel (daily and monthly survey)

Deliveries to end-users and pipelines that serve them in the Houston Ship Channel region, an industrial area extending from the east side of Houston to Galveston Bay and northeastward to the Port Arthur/Beaumont area. Gas is delivered in this area by numerous pipelines, including Kinder Morgan Texas Pipeline, Kinder Morgan Tejas Pipeline, Houston Pipe Line, and the former EPGT and Channel pipelines.

(Platt's Methodology – North American Gas Markets;  
Appendix: Definitions of Trading Locations)

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# METHODOLOGY AND SPECIFICATIONS GUIDE

## North American Natural Gas

(Latest Update: April 2013)

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## INTRODUCTION

This statement of methodology for Platts' North American natural gas price indexes and assessments reflects core principles that long have provided the foundation for Platts' price reporting in North American gas markets. It also includes detailed information on the submission of price data from market participants, the formation of indexes and assessments, and the publication of index-related information, including volumes and deal counts.

Platts' methodology will continue to evolve as natural gas markets change. This update reflects the addition of two pricing locations in both the daily and the monthly bidweek spot-price surveys: Transcontinental Gas Pipe Line, Leidy Line receipts and Tennessee Gas Pipeline, Zone 4-200 leg. Detailed descriptions of all price locations are located in the Appendix: Definition of Trading Locations. A revision history, a cumulative summary of changes beginning with the first of two January 2011 updates, is included at the end of the Appendix. The statement continues to incorporate price reporting standards that went into effect July 1, 2003, and also takes into consideration standards for price reporting stated in the Federal Energy Regulatory Commission's July 24, 2003, policy statement on U.S. natural gas and electricity price indexes (PL03-3).

If you have questions concerning reporting to Platts or our statement of methodology, or would like to discuss any gas price reporting issues, please call or e-mail one of our editors: Brian Jordan, editorial director for North American natural gas and electricity markets, 202-383-2181 ([brian\\_jordan@platts.com](mailto:brian_jordan@platts.com)); Tom Castelman, daily markets editor, 202-383-3263 ([tom\\_castelman@platts.com](mailto:tom_castelman@platts.com)); Kelley Doolan, monthly bidweek markets editor, 202-383-2145 ([kelly\\_doolan@platts.com](mailto:kelly_doolan@platts.com)); and Mike Wlczek, forward markets editor, 202-383-2246 ([mike\\_wlczek@platts.com](mailto:mike_wlczek@platts.com)).

Platts has a Quality & Risk Management (QRM) function that is independent of the editorial group. QRM is responsible for ensuring quality and adherence to Platts' policies, standards, processes and procedures. The QRM team conducts regular assessments of editorial operations, including checks for adherence to published methodologies.

Platts discloses publicly the days of publications of its price assessments and indexes, and the times during each trading day in which Platts considers transactions in determining its assessments and index levels. The dates of publications and the assessment periods are subject to change in the event of outside circumstances that affect Platts' ability to adhere to its normal publication schedule. Such circumstances include network outages, power failures, acts of terrorism, and other situations that result in an interruption in Platts' operations at one or more of its worldwide offices. In the event that any such circumstance occurs, Platts will endeavor, whenever feasible, to communicate publicly any changes to its publication schedule and assessment periods, with as much notice as possible.

## HOW THIS METHODOLOGY STATEMENT IS ORGANIZED

This description of methodology for natural gas indexes in North America is divided into five sections (I-V) that parallel the entire process of producing the benchmarks. A separate appendix is a list of definitions of the trading locations for which Platts publishes daily, monthly bidweek and/or forward indexes and assessments.

- Part I describes what data goes into Platts' natural gas indexes and assessments, including details on what market participants are expected to submit, and the process for submitting data as well as the components of published data.
- Part II describes the security and confidentiality practices that Platts uses in handling and treating data.
- Part III is a detailed account of what Platts does with the data to formulate its daily, monthly bidweek and forward natural gas indexes and assessments, and includes descriptions of the statistical and editorial tools Platts uses to convert raw data into indexes and assessments. This section also describes the process for screening outliers.
- Part IV lays out the verification and correction process for revising published prices and the criteria Platts uses to determine when it publishes a correction.
- Part V explains the process for verifying that published prices comply with Platts' standards.

## PART I: DATA QUALITY AND SUBMISSION

Platts' standards for data quality are at the heart of its process to produce reliable indexes and assessments and are designed to ensure that market participants provide complete and accurate information.

To that end, Platts' standards call for formalized reporting relationships with market participants in which data is submitted from a central point in the mid- or back office (a segment of the reporting entity that does not have a commercial interest in the reported prices). The reporting entity must certify that it is making a good-faith effort to report completely and accurately and will have staff assigned to respond to questions concerning data submittals. The entity also is obligated to make reasonable efforts to inform Platts in the case of any errors or omissions.

Daily and monthly bidweek price indexes are based on original reporting and do not incorporate publicly available price surveys. Prices for those indexes are collected firsthand by Platts from actual buyers and sellers.

Data submitted to Platts must be detailed, transaction-level data. Below is a summary of what should be reported. A Platts sample reporting format is available upon request.

Platts strongly encourages companies to surpass minimum reporting requirements and to report transactions in addition to those required to create existing daily and bidweek indexes. As long as companies clearly define transactions by key attributes, including trade date, flow date(s), and whether a transaction is physical or financial, Platts is able to sort transactional data and include the applicable deals in the relevant indexes and assessments.

For example, Platts encourages companies to report on a daily basis all their forward deals, both financial and physical, beginning with balance-of-month transactions and extending out the forward curve. Platts also encourages companies to report daily and monthly bidweek transactions at locations for which Platts does not currently publish indexes or assessments.

Following are the minimum reporting requirements for the day-ahead and monthly bidweek indexes, plus information on the data Platts seeks for balance-of-month and forward markets.

### WHAT TO REPORT

- For the daily price survey, report each business day all fixed-price physical deals completed prior to the NAFESB nomination deadline (11:30 am Central Prevailing Time) for next-day delivery in North America. Transactions done on Friday usually are for flow on Saturday, Sunday and Monday inclusive. Trading patterns may vary in the case of holidays or the end of a month that occurs on a weekend.
- For the monthly bidweek price survey, bidweek is defined as the last five business days of each month. For each day of bidweek, report all fixed-price physical deals negotiated that day for delivery throughout the next month. Also report a physical basis deal in which the basis value is negotiated on one of the first three days of bidweek and the price is set by the final closing value of the near-month NYMEX futures contract plus or minus the negotiated basis. Platts' current policy is to use physical basis deals for points east of the Rocky Mountains, except in the Permian Basin region at Waha, El Paso Natural Gas Co., Permian Basin and Transwestern Pipeline Co., Permian Basin.
- For the balance-of-month and forward markets, Platts requests that companies report each business day all financial and physical forward transactions completed that day at all locations. Those transactions should be included along with daily transactions in the report sent each day to gasprice\_daily@platts.com.
- Platts expects reported data for the daily and monthly bidweek indexes to include all transactions done by the entity at all locations reported by Platts, not a selective subset of those locations.
- Price reports should be for deliveries into the pipeline, on a dry basis, and should specify the point of delivery. For market center locations, see point descriptions in the appendix. For daily and monthly bidweek transactions, Platts also requests reports for points where it does not currently publish indexes or assessments. For those locations, use either the point's common name or the pipeline and meter designation. If sufficient trading develops at a location and is sustained, Platts would consider adding that pricing point to its list of reported points. In addition, information on deals at those points adds to Platts' understanding of the market.
- All transactions should be listed individually. In addition to the delivery point, specify the price (\$/MMBtu or, inside Canada, C\$/gigajoule), volume (MMBtu/day or gigajoule/day), source (company name), buy/sell indicator, trade date, start flow date, end flow date, counterparty name and intermediary name (broker or trading platform). For forward transactions, also include whether a transaction is financial or physical. Because the gas industry currently lacks consensus on the issue of counterparties, Platts for now will accept and use data that does not include counterparty information. However, Platts firmly believes that counterparty data is the best single way to verify reported transactions, and Platts encourages

market participants that are not already reporting counterparties to initiate changes to agreements that may currently prevent them from doing so. Platts reserves its right to refuse in the future to use data that lacks counterparties.

- For the daily and monthly bidweek price surveys, financial deals should be clearly marked as such.
- For the daily and monthly bidweek surveys, Platts' policy is not to include so-called linked or prearranged spread trades between two parties. These trades are concluded as one leg of a transaction linked to a similar trade in another location. They are excluded because the two counterparties are transacting based on the difference between the two linked transactions rather than on the outright values at the locations. Again, Platts encourages companies to report these transactions, provided they are clearly labeled as one arm of a linked, spread transaction, in order for market editors to better understand market-value relationships, as well as to consider new benchmarks for the marketplace.
- Platts requests daily time stamps indicating when a transaction was made because they provide a clearer picture of the movement of prices through the trading period and provide another tool for evaluating data quality. However, Platts understands that many market participants are currently unable to provide time stamps because deals are entered into trading systems in bulk after trading is completed rather than as each transaction occurs.
- In the event that a data provider has no trade information to submit, a notification stating that fact should be sent in.

### HOW TO REPORT

- Reports should be compiled and sent to Platts by a noncommercial department of the company. Even in the case of small entities, FERC's standards state that prices should be provided by individuals "separate from trading activities" such as accounting or bookkeeping staff. Platts values the participation in its surveys of smaller market participants that may not have formal back-office or risk-management groups and will discuss with them ways to meet Platts and FERC standards for assuring the quality of data provided to Platts.
- Platts should be provided at least two contacts (with phone numbers and e-mail addresses for both) who are responsible for submissions and can answer questions about reported transactions.
- Reports should be sent electronically in either Excel or CSV (comma-separated values) formats. Platts can provide reporting entities with a sample Excel sheet showing the preferred format and the information needed for each transaction.
- While electronic submission of data is the standard, Platts will accept faxed reports in circumstances where e-mail transmission fails or is unavailable. Reporting entities should be prepared in the rare cases of e-mail malfunctions to fax submissions to Platts. The fax numbers are 713-

658-0125 for the daily price survey and 202-383-2109 for the monthly price survey

- Because of the fundamentally different nature of the gas forward daily price assessments which are market on close assessments rather than traditional indexes (see Part III), market editors producing Platts' forward assessments may collect information on forwards prices and discuss market dynamics with market participants over the telephone
- Reports for the daily price survey should be sent to gasprice\_daily@platts.com each day by 3:00 pm Central Prevailing Time. Reports for the monthly price survey should be sent to gasprice\_monthly@platts.com by 6:00 pm EDT on each of the first four days of bidweek and by 2 pm EDT on the final day of bidweek
- If reporting entities are unable to complete the needed information by the Platts deadline on a given day, they should notify Platts editors of the delay and the length of the delay by either e-mail or phone. This will help Platts editors decide whether to wait for the submission

## PART II: SECURITY AND CONFIDENTIALITY

Platts has a long history of ensuring the security and confidentiality of price data, through both its information technology systems and its policies on access to the data. Following is a description of Platts' processes:

- Price data is e-mailed to specific Platts e-mail addresses. E-mails to those addresses enter a secure network and are accessible only by market editors and designated administrators. Encryption is available upon request of the reporting company. In the case of faxes, accepted only in unusual circumstances where e-mail is or is unavailable, documents are stored and saved in compliance with Platts' record retention policies
- Data is entered into a proprietary software system designed specifically to store and analyze trade data and into customized Excel spreadsheets accessible only by designated market editors
- Data is stored in a secure network, and under internal procedures audited and enforced by the Platts compliance staff, is kept for a period of at least three years
- Regular compliance examinations check for adherence to the parameters set forth in the Platts Compliance Plan, which seeks to ensure that reporters and editors adhere to published methodologies as well as internal standards that require accurate records are kept, in order to document a market reporter's work
- Price data is used only for constructing indexes and assessments. Platts has a strict internal policy of never using price data from an individual source for news reporting purposes. Platts news reporters do not have access to individual entities' transaction reports. Data aggregated from all reporting sources (e.g. changes in prices and trading volumes over time) may be used as the basis for news stories

## PART III: CALCULATING INDEXES AND MAKING ASSESSMENTS

For North American gas, Platts publishes prices in three discrete markets: the day ahead, monthly bidweek and forward markets. Prices are published in several ways, ranging from a daily data feed to a biweekly newsletter. Platts' prices are available to any party who subscribes to the publication or news service in which those prices are published. Platts' prices are copyrighted and may not be distributed or used for commercial gain by any third party without an explicit agreement with Platts.

For the daily market, Platts publishes three price components: the midpoint (the volume-weighted average), the common range and the absolute range. The daily midpoint, commonly called the GDA (*Gas Daily* average), is the volume-weighted average of all the deals reported to Platts for each point, excepting any outliers that are not used. The absolute range shows the absolute low and high of deals reported, excluding outliers that are not used. The common range is 50% of the absolute range and is built around the volume-weighted average, also known as the midpoint.

Midpoints (volume-weighted averages) for points for which no new data is received are not carried over from the previous day; when no data is received, the survey shows only dashes in the columns for midpoint, absolute and common range, volume, and deals. The daily survey relies solely on a volume-weighted average of reported transactions; no assessments using other factors are included.

Platts for years published electronically the daily volume at each reported point, and since May 2003 has published those volumes in the newsletter version of *Gas Daily*. In August 2004 Platts also began publishing daily the number of transactions at each point to increase transparency on the amount of trading activity.

A monthly average of the daily midpoints for each location is published in the next month's *Gas Daily Price Guide*, a monthly supplement to *Gas Daily*. The monthly average of the daily midpoints is the simple average of the location's daily midpoint for each day of gas flow during the delivery month.

For the monthly bidweek market, Platts publishes a range of reported prices, excluding outliers, and either an index or an assessment, as explained below. Prices are published on the first business day of the month in which the gas will flow.

Platts relies on straightforward quantitative analysis of the data in calculating indexes. For low-liquidity points where few or, in some cases, no transactions are reported, Platts may perform assessments. Those prices are clearly marked with an asterisk (\*) to make clear an assessment process has been used. If insufficient market information is available at a point, Platts does not publish a price (N/A).

In July 2003, Platts adopted a three-tier system grouping points in its monthly survey by the reported volumes and number of trades. The top tier includes points with volumes of at least 100,000 MMBtu/day and at least 10 trades, the second tier includes points with volumes of 25,000 to 99,999 MMBtu/day and at least five trades, and the third tier includes points with volumes below 25,000 MMBtu/day and/or fewer than five trades.



In August 2004, Platts began publishing volumes and the number of transactions for points in tiers 1 and 2. Because of increased liquidity and data reporting by market participants effective February 2007, Platts added volumes and transactions for tier 3 points as well.

To provide more transparency on the formation of monthly bidweek indexes, Platts in February 2005 began publishing a table in *Inside FERC's Gas Market Report* that provided physical basis prices for points where physical basis deals were used and regularly reported. Beginning in February 2007, Platts expanded the table to include all points for which physical basis transactions are used (even if none are reported that month) and also began publishing the table in the *Gas Daily Price Guide*, a monthly supplement to *Gas Daily* as well as on its electronic news service, *Natural Gas Alert*. The physical basis price table shows the volume, deal count, low price, high price, average price, and cash equivalent price for each point for which physical basis deals are used.

For the daily forward market, Platts publishes a daily market-on-close assessment and an associated range. The market-on-close assessments reflect values in the financial basis-swap market at various North American locations at the 2:30 pm EDT close of open outcry trading of the New York Mercantile Exchange Henry Hub gas futures contract, which allows the assessments to line up and be compared with the NYMEX Henry Hub settlement prices.

The daily forward assessments are fundamentally different from the daily and monthly bidweek indexes. They represent a value at the close of the market rather than a mathematically derived price representing market activity over a defined period of time like the daily and monthly bidweek indexes. The purpose of the daily forward assessments is to increase transparency in forward markets and to provide the market with independently derived values as a tool for mark to market and general valuation purposes.

## DAILY MARKET

A formula is used to calculate the common range. In most markets, the formula establishes the common range at 50% of the absolute range and builds the range around the volume-weighted average price (the midpoint). In the case of a point where a single price is reported and therefore there is no absolute range, a common range is not constructed. A volume-weighted price located more toward either end of the range may narrow the range further, as explained below.

An example of a common range calculation: On a given day, the lowest price, or absolute low, reported at a point was \$5.70 and the high was \$5.92. The actual volume-weighted average was \$5.843. The calculation follows this sequence:

— The volume-weighted average is rounded to the nearest half-cent, so \$5.843 becomes \$5.845 (the midpoint).

— The width of the absolute range is calculated, so  $\$5.92 - \$5.70 = \$0.22$ , that figure is divided by 4, which produces an increment of 0.055.

That increment is subtracted and added to the rounded volume-weighted average to produce a common low and high, so,  $\$5.845 - \$0.055 = \$5.79$ , and  $\$5.845 + \$0.055 = \$5.90$ .

This procedure can be further refined by Platts editors to prevent calculations that

in rare circumstances might place the common low or high below or above the absolute range.

## MONTHLY MARKET

The current format for the monthly survey has been in place since March 1986. Platts has reported monthly index prices since January 1988. The monthly bidweek index is a single benchmark price designed to represent a central or average value for dealmaking during the bidweek period.

A number of data sorts, statistical calculations and tests are performed on the collected transactional data. These typically include an analysis of the quality and completeness of each pricing point's survey sample, the identification and consideration of anomalous or outlying deals, a comparison of volume-weighted average prices for each data submitter and the calculation of a number of overall measures of central tendency, including the volume-weighted average, the median, the simple average, the mode and the midpoint.

Other statistical and analytical tools are also used to examine the reported data, including identification and consideration of the price series' skew, its standard deviation and distribution, the relationship between series data and that of related trading points, and the track record of the survey participants reporting prices at the point.

In limited instances, when points are too thinly traded to permit use of the traditional index method, Platts uses an assessment methodology. In those cases, in the absence of sufficient trade data to calculate a representative monthly index, Platts will examine other market information to determine whether it can publish an assessment. If that is not possible, Platts will publish no index price for the month, designated as "N/A." Except in the case of corrections (see *Part IV*), Platts does not revise prices after the fact. Once an N/A is published for a month, no price will be published even if additional information is subsequently provided.

To derive the index, Platts editors use volume-weighted averages as the foundation. At pricing points with robust dealmaking and a generally normal distribution curve, the index is the simple volume-weighted average. This applies to the large majority of bidweek indexes.

Because survey samples of reported trading at any individual pricing point can vary under different market conditions, the volume-weighted average alone is not always an adequate indicator of average dealmaking over the five-day bidweek period. Survey samples can vary with participation levels and the completeness of data elements reported. In a thinner and/or very volatile market, a single party with one or two large-volume deals reported at an extreme end of the market's price range can significantly move a volume-weighted average away from the average value at which most parties traded. In these situations, Platts editors also consider the median of the price series, which tends to represent the centerpoint of trading better than the volume-weighted average.

At points where trading is robust and the distribution of reported transactions is generally normal, the volume-weighted average and the median are usually aligned with each other. When the two measures significantly diverge, an analysis of the data set typically is performed to determine why. If the analysis finds that the characteristics of the survey sample are creating an unrepresentative skew of the volume-weighted average, either the median is used as the index or the average of

the median and the volume-weighted average is used.

In the limited instances of thin, illiquid markets, the use of volume-weighted indexes may not be possible. Platts believes that price assessments using available information other than reported transactions help provide market transparency. At such thinly traded or thinly reported points, defined as those with volumes below 25,000 MMBtu/day and/or fewer than five trades, Platts editors make a determination whether the reported transactions reflect a representative central value for the bidweek time period based on current market conditions at the trading point and a comparison with other related and more deeply traded locations. If the reported data for such a point produces an average that substantially correlates with those of other related and more deeply traded points, Platts will establish its index using just the reported data.

If, however, the reported transactions at the illiquid point do not produce an average that substantially correlates with those at more liquid related points, then Platts will make an assessment if adequate alternative market information is available on which to base an assessment. If insufficient other market information is available, Platts editors may elect to publish no price for that point.

Assessments, which are clearly designated by asterisks in price tables, may incorporate any transactional data reported or may be based solely on other information, including an analysis of bid/ask spreads, basis relationships to values at related liquid pricing points, implied physical values derived from financial swaps and derivative index deals, and daily market trading at the point during bidweek. Assessments are based on objective factual information in addition to actual transactions, not on editors' subjective judgments of where markets would have traded or industry participants' opinions on prices.

## FORWARDS MARKET

Platts gas forwards prices provide the market with a daily assessment of values in the financial basis market at major pricing points in North America. Trading generally is done for the balance of the month, for the prompt month, for nearby months, and for the season. Standard products traded are for two seasons: summer (April through October) and winter (November through March). Trades also are done for the balance of the current season.

Forward markets, other than the balance-of-the-month market, are commonly traded as a basis differential to the corresponding NYMEX Henry Hub futures contract, *i.e.*, the closing price of that month's futures contract for a specified month, or the average of the months that comprise a seasonal strip of futures contracts. (The exception is balance of the month, which is typically traded as a fixed-price swap rather than a financial basis swap.) Depending on the location, the differential price may be a plus or minus to Henry Hub. Prices are reported in US cents/MMBtu. In addition to a market on close assessment expressed as a basis differential, Platts also publishes a range and a full value equivalent price (the corresponding NYMEX Henry Hub gas futures contract price plus or minus the basis differential). For balance of the month, which trades at a fixed price, Platts also publishes both a full value, fixed price and a price expressed as a basis differential to the Platts Henry Hub balance-of-the-month assessment.

Editors use forward transactions and bids and offers as well as differentials to other trading locations. Bids and offers made and transactions done nearer the close receive greater weight in the assessment process than those from early in the day.

Assessments across the curve are in agreement. For example, the daily assessments for individual months should be consistent with and reflected in the balance-of-season assessment that includes those months.

Platts gathers information on the forward market through the non-commercial departments of companies as well as from traders and brokers active in the market. In addition, Platts incorporates gas forward trading activity from IntercontinentalExchange (ICE), including transactions and bids and offers.

The curve is a subjective assessment of market activity and assessments are made even if there is no trading for a given market on that day.

## OUTLIERS

To identify non-applicable outliers, transactions greater than two and three standard deviations from the data series' mean are routinely flagged by Platts' data analysis systems. (Standard deviation is a statistic that describes how tightly all data points are clustered around the mean in a set of data.) Transactions that are outside what the editor has otherwise seen as the established range of trading also are flagged for additional examination.

Transactions at prices more than two standard deviations from the mean are not necessarily out-of-market, distressed or inaccurately reported deals. Platts often works with sets of data that are not normally distributed around the mean. This so-called "skew" of the normal distribution can reflect normal market activity in any given market, and prices of more than two standard deviations are not automatically discarded. When a transaction falls outside of three standard deviations from the price series' mean, it receives greater scrutiny. When such a deal has a significant impact on the volume-weighted average or when it reflects a value significantly outside the range of values seen in related markets (*e.g.*, trading at nearby points or NYMEX values plus reported basis), Platts editors routinely attempt to contact the reporting party for more specifics on the transaction, as described below. If a satisfactory answer cannot be obtained, editors may elect not to include the price in calculations.

Among the tests used by Platts editors to determine whether to use an outlying price when calculating prices to be published are:

- The direction and magnitude of the skew for the set of data, compared with how far beyond two standard deviations the transaction is.
- The completeness of transaction-specific information reported for the deal, including time stamp, buy/sell indicator and counterparty name.
- Information from another party that verifies the deal, for example the reporting of the transaction by a named counterparty.
- An explanation by the data provider of the market fundamentals accounting for the "outlier" nature of the deal. The explanation must also hold for transactions other than the potential outlier.
- Information, or lack of information, demonstrating that the deal was distressed, such as credit issues for either counterparty, or completion of the deal after the expiration of day options.
- The record of the entity submitting the data. The most credible data

providers are those that have contacts designated to answer questions and inquiries on data submissions who are readily accessible and responsive to inquiries by Platts editors, report every day or month and on time, and when problems arise that prevent reporting on time, notify Platts of the delay in a timely fashion, rarely make errors in data submissions and follow up quickly when errors are made, and submit reports that include few outliers, and provide explanations for the outliers at the time when the outliers are reported.

## PART IV: VERIFICATION AND CORRECTIONS

Platts editors make their best efforts to verify the accuracy of prices based on information they have in hand when they must meet daily or monthly price reporting deadlines. As described in Part III, Platts editors routinely contact data providers about transactions that raise questions and may request supporting information, such as counterparty, to verify the deal.

In cases where editors cannot obtain a satisfactory answer to their questions about an individual or series of transactions, they may choose to take their concerns to the entity's chief risk officer or comparable senior official. If editors cannot resolve their concerns, they may opt to exclude the entity from participating in Platts' price surveys until senior company management provides sufficient reassurance that the entity is responsibly reporting full and accurate data.

Platts is committed to promptly correcting any material errors in published prices that result from human or computational mistakes. When corrections are made because of such errors, they are limited to corrections to data that was available when the index or assessment was calculated.

Because it is extremely important that Platts' reported prices provide certainty, after-the-fact revisions are not made for reasons other than human or computational errors. In particular, Platts cannot revise indexes or assessments in cases where market participants submit new, as opposed to corrected, information that they want included in the published prices. Allowing such revisions could open Platts to a never-ending revision process as market participants continually come forward with more data.

Errors in data submission discovered within 10 business days following the submission should be brought to the attention of the appropriate Platts editor listed in the introduction of this methodology as soon as possible. Data providers should have price-reporting processes in place that identify errors in data submissions within that 10-day period. Data providers are not expected to monitor transactions beyond that 10-day period for purposes of reporting errors in submissions to Platts, with one important exception. In cases in which a problem in a data provider's reporting system has caused discrepancies between what it has reported to Platts and what is in its books and records, the data provider should notify Platts as soon as possible of the systemic problem, and steps being taken to correct it, regardless of the time elapsed.

Errors that data providers should report to Platts are limited to inaccuracies in the attributes (price, volume, location, etc.) at the time the transaction was done and reported to Platts, and do not include operationally driven, after-the-fact changes in the nature of the transaction. For instance, if an interruption in transmission service forces two counterparties to alter flows and delivery points, Platts does not consider those changes to be corrections so long as the price, volume, and location

information originally reported to Platts accurately reflected those attributes at the time the trade was made and reported to Platts.

If Platts is notified of an error in a submission after a price is calculated and published, editors will determine the nature of the error, whether the erroneous data was used in calculating an index or making an assessment, the impact of the erroneous data if it was used and whether Platts had in hand other data corroborating that the data should not have been included. The impact of the error also will be considered. If the removal of the data fails to make a material change in the index or assessment, no correction will be made.

In defining what constitutes a material change, in cases of computational and human errors on the part of Platts or data providers, Platts will consider three primary factors: the percentage change in the index or assessment, the number of business days since the price in question was published, and the liquidity of the trading point as reflected in the volumes reported to Platts.

For example, an error resulting in a change of greater than 2% that is discovered within five business days of publication of a price for a high-liquidity point would be deemed material; an error resulting in a change of less than 0.5% that is discovered more than 10 days after publication of a price for a low-liquidity point would be deemed immaterial.

In addition to the three principal factors used to determine materiality, Platts also will consider other measures of the magnitude of the error, including the absolute change in the price, the change in the range (low trade and high trade), the change in an index as a percentage of the range, the number of sources represented by the published price, the volume represented by the published price and the volume affected by the error, and the number of transactions represented by the published price and the number of transactions affected by the error.

## PART V: PLATTS EDITORIAL STANDARDS

Platts has in place a Code of Ethics with which all of its employees, including its editorial staff, must comply. Components of the code specifically address standards for market reporting.

In addition, all Platts employees must adhere to The McGraw-Hill Companies' Code of Business Ethics. Editors must re-sign each code annually. Company policies, among other things, prohibit editorial personnel and their spouses from trading in commodities or stocks, bonds or options of companies in the industry covered by the publication(s) and from dealing with outside parties in a manner that creates even an appearance of a conflict of interest. The McGraw-Hill Companies' Code of Business Ethics reflects McGraw-Hill's commitment to integrity, honesty and acting in good faith in all its dealings. The Platts Code of Ethics is designed to ensure that Platts information is the product of honest, fair and open reporting.

Platts has an independent compliance staff whose functions are to ensure that Platts market editors follow the stated methodology, records retention policy and Code of Ethics. In addition, The McGraw-Hill Companies' internal auditor, an independent group that reports directly to the parent company's board of directors, reviews the Platts compliance program.

## APPENDIX: DEFINITIONS OF TRADING LOCATIONS

Platts recognizes the need for stability in the description and definition of its pricing point locations. At the same time, market dynamics warrant the periodic addition, deletion or change in pricing points. Platts generally will not delete or change the description of a pricing point with less than 60 days' notice, although it will consider adding or changing a point on shorter notice if market conditions require faster action.

Platts combined the *Gas Daily* and *Inside FERC's Gas Market Report* daily and monthly price surveys in July 2002. The most recent change to the surveys took effect October 1, 2012, when Platts added two locations in both the daily and the monthly biweekly spot-price surveys: Texas Eastern M-2, receipts and Millennium Pipeline, East receipts. A revision history, a cumulative summary of changes beginning with the first of two January 2012 updates, is included at the end of the Appendix.

Price points common to both surveys and any differences in daily and monthly pricing methodology are noted in the descriptions.

Points are arranged within three overall geographic regions – East, Central and West – and are alphabetically within each region and subregion.

### EAST

#### NORTHEAST

##### Algonquin, receipts (daily survey only)

Deliveries into Algonquin Gas Transmission from Texas Eastern Transmission at the Lambertville and Hanover, N.J., interconnects; from Transcontinental Gas Pipeline at the Centerville, N.J., interconnect; from Columbia Gas Transmission at the Hanover, N.J., and Ramapo, N.Y., interconnects; from Millennium Pipeline at Ramapo, N.Y., from Tennessee Gas Pipeline at the Mahwah, N.J., Cheshire, Conn., and Mendon, Mass., interconnects; from Iroquois Gas Transmission System at the Brookfield, Conn., interconnect; and from Maritimes & Northeast Pipeline at the Beverly, Mass., interconnect.

##### Algonquin, city-gates (daily and monthly survey)

Deliveries from Algonquin Gas Transmission to all distribution company city-gates in Connecticut, Massachusetts and Rhode Island.

##### Columbia Gas, Appalachia (daily and monthly survey)

Deliveries into Columbia Gas Transmission in eastern Kentucky, eastern Ohio, West Virginia, Pennsylvania, northern Virginia and western New York. The Appalachian pool for deliveries into Columbia begins downstream of the Leach, Ky., interconnection with Columbia Gulf Transmission; deliveries at Leach are not included. Columbia Gas operates supply pool and market-area storage facilities within this northern Appalachia region, which also has local production. Prices include deliveries systemwide at pools, interconnects and on-system points.

##### Columbia Gas, delivered (daily survey only)

Deliveries from Columbia Gas Transmission to Mid-Atlantic city-gates in zones 1, 4 and 1C, which extend from the southern tip of New York south to the Virginia/North Carolina border and encompass the western half of Pennsylvania, Maryland, New Jersey and the eastern two-thirds of Virginia. Zone 1 includes the eastern third of Virginia and southern Maryland, zone 4 includes eastern Pennsylvania, New Jersey, Delaware and the southern tip of New York (including New York City), and zone 1C includes central Virginia and northern Maryland. This point was discontinued on August 1, 2004.

##### Dominion, North Point (daily survey only)

Deliveries into Dominion Transmission starting at the Valley Gate delivery point at the end of Dominion's South Point system, about 40 miles northeast of Pittsburgh in Armstrong County, Pa., and continuing north into New York and eastward across the state, crossing the Hudson River and terminating in Rensselaer County, near Albany, Troy and Schenectady, N.Y. Dominion North Point has major interconnects with Columbia Gas Transmission, National Fuel Gas Supply, Texas Eastern Transmission, Transcontinental Gas Pipeline and Tennessee Gas Pipeline. Major compressor stations in the North Point system include Purxsutawney, Arden, Finnefrock, Leidy, Greenlick, Ellsburg and Sabinsville, Pa., and Harrison, Woodhall, Borger and Utica, N.Y.

##### Dominion, South Point (Dominion, Appalachia in monthly survey)(daily and monthly survey)

Deliveries into two Dominion Transmission main lines. One runs northeast from Warren County, Ohio, midway between Cincinnati and Dayton, and merges with the second line just northeast of Pittsburgh, Pa. The second line runs from Buchanan County, Va., on the Virginia/West Virginia border north to the end of the zone at Valley Gate in Armstrong County, Pa. Major stations in the South Point system include interconnections with ANR Pipeline (Lebanon station), Columbia Gas Transmission (Windridge and Loudoun stations), Tennessee Gas Pipeline (Cornwell station), Transcontinental Gas Pipeline (Nokesville station) and Texas Eastern Transmission (Lebanon, Oakford, Chambersburg, Perulack and Windridge stations). Storage pools in the South Point system include South Bend, Murrysville, Oakford, Gamble, Hayden, Webster, Colvin, North Summit, Bridgeport, Lost Creek, Kennedy, Frank and Rocket Newberne.

##### Dominion, delivered (daily survey only)

Deliveries from Dominion Transmission to Mid-Atlantic city-gates located in east-central New York (Schenectady, Troy, Albany), southwestern Pennsylvania (Pittsburgh), and the Virginia suburbs outside Washington, D.C. This point was discontinued on August 1, 2004.

##### Dracut, Mass. (daily survey only)

Deliveries into Tennessee Gas Pipeline at the Dracut interconnect with Maritimes & Northeast Pipeline near Middlesex, Mass. This is the primary delivery point for offshore Nova Scotia gas into the Northeast market area. Dracut also includes gas entering from Portland Natural Gas Transmission System.

##### Iroquois, receipts (daily and monthly survey)

Deliveries into Iroquois Gas Transmission System at the U.S./Canadian border at

the Waddington interconnect with TransCanada Pipelines. This point was added to the monthly survey effective Sept 1, 2008.

#### **Iroquois, zone 2 (daily and monthly survey)**

Deliveries from Iroquois Gas Transmission System starting at the Athens, N.Y., power plant downstream to the terminus of the pipeline at Hunts Point and South Commack. This point was added to the monthly survey in August 2007.

#### **Lebanon Hub (daily and monthly):**

Deliveries to or from Texas Gas Transmission Corp., ANR Pipeline Co., Texas Eastern Transmission Corp., Panhandle Eastern Pipeline Co., Columbia Gas Transmission Corp., Dominion Gas Transmission Inc. and Rockies Express Pipeline at interconnects in the Lebanon, Ohio, area. This point was added July 1, 2009.

#### **Leidy Hub (daily and monthly survey)**

Deliveries into and from Dominion Transmission, National Fuel Gas Supply, Columbia Gas Transmission, Texas Eastern Transmission and Transcontinental Gas Pipeline in the vicinity of the Leidy storage facility in Clinton County, Pa. This point was added to the monthly survey Aug 1, 2011.

#### **Millennium Pipeline, East receipts (daily and monthly survey)**

Receipts into Millennium Pipeline Co. downstream of the Corning compressor station in Steuben County, New York, and upstream of the Ramapo interconnect with Algonquin Gas Transmission in Rockland County, New York. (This location does not include deliveries out of Millennium.)

#### **Niagara (daily and monthly survey)**

Cross-border deliveries to and from TransCanada Pipelines and the Niagara spur and loop lines, a border-crossing point between eastern Canada and the northeastern United States, north of Niagara Falls, N.Y. Niagara Spur Loop line and Niagara Spur line interconnects are with Tennessee Gas Pipeline, National Fuel Gas Supply, Dominion Transmission and Texas Eastern Transmission.

#### **Rockies Express Pipeline, Clarington, Ohio (daily and monthly survey)**

Deliveries from REX at Clarington in Monroe County, Ohio, to Dominion Transmission Inc. or Texas Eastern Transmission Corp. Deliveries to the local distributor Dominion East Ohio are not included at this location. This point was added effective Aug 1, 2010.

#### **Tennessee Gas Pipeline Co., zone 4-Ohio (daily and monthly survey)**

Deliveries to Tennessee from Rockies Express Pipeline in Guernsey and Muskingum counties in East Ohio. This point was added effective Aug 1, 2010.

#### **Tennessee Gas Pipeline, Zone 4-200 leg (daily and monthly survey)**

Deliveries into Tennessee at all points of receipt on the 200 line in the states of Pennsylvania and Ohio as well as transactions at Tennessee's Station 219 pool. This location does not include deliveries from Tennessee to other systems in zone 4. This point was added effective April 1, 2013.

#### **Tennessee, zone 4-300 leg (daily and monthly survey)**

Deliveries into Tennessee, zone 4-300 leg from, and including, station 315 in Tioga County, Pennsylvania, to, and including, station 321 in Susquehanna County, Pennsylvania. This point was added to the daily survey effective January 17, 2012, and to the monthly survey effective with the late January biweekly for February 2012 delivery.

#### **Tennessee, zone 5 delivered (daily survey only)**

Deliveries from Tennessee Gas Pipeline on the 200 Leg in New York state and the 300 Leg in New Jersey. This point was discontinued on Aug 1, 2004.

#### **Tennessee, zone 6 delivered (daily and monthly survey)**

Deliveries from Tennessee Gas Pipeline on the 200 and 300 Legs in Connecticut, Massachusetts, Rhode Island and New Hampshire.

#### **Texas Eastern M-2, receipts (daily and monthly survey)**

Receipts into Texas Eastern Transmission on its 24- and 30-inch lines in the pipeline's Market Zone 2, which extends on the 24-inch line from the Illinois-Indiana state line to the suction side of Bern compressor station in Lewisville, Ohio, and on the 30-inch line from the Tennessee-Kentucky state line to the suction side of Delmont station in Westmoreland County, Pennsylvania, and to the discharge side of Station Site No. 22 in southwestern Pennsylvania. (This location does not include deliveries out of Texas Eastern, M-2.)

#### **Texas Eastern, M-3 (daily and monthly survey)**

Texas Eastern Transmission deliveries from the Delmont compressor station in Westmoreland County, Pa., east to the Hanover and Linden stations in Morris County, N.J. Included are deals delivered from Texas Eastern anywhere in zone M-3, including at interconnects with New York City distributors' city-gates and at interconnects with Algonquin Gas Transmission at Lambertville in Hunterdon County, N.J., and at the Hanover station.

#### **Transcontinental Gas Pipe Line, Leidy Line receipts (daily and monthly surveys)**

Deliveries to Transco's Leidy Line downstream of the Leidy/Wharton storage facilities in Clinton and Potter counties, Pennsylvania, to Transco's Station 505 in Hunterdon County, New Jersey. This pricing location does not include transactions at the storage-related interconnects with Dominion Transmission, National Fuel Gas Supply, UGI Storage or Tennessee Gas Pipeline. This point was added effective April 1, 2013.

#### **Transco, zone 6 non-N.Y. (daily and monthly survey)**

Deliveries from Transcontinental Gas Pipeline from the start of zone 6 at the Virginia/Maryland border to the Linden, N.J., compressor station and on the 24-inch pipeline to the Wharton, Pa., station. The non-New York point does not include deliveries to Public Service Electric and Gas in New Jersey, whose supply is taken downstream of Linden.

**Transco, zone 6 N.Y. (daily and monthly survey)**

Deliveries from Transcontinental Gas Pipeline at the end of zone 6 into city-gates downstream of Linden, N.J., for New York City area distributors — KeySpan Energy Delivery and Consolidated Edison Co. of New York — as well as Public Service Electric and Gas of New Jersey

**GULF COAST****Columbia Gulf, La. (daily and monthly survey)**

Deliveries into Columbia Gulf Transmission on its onshore lateral pipeline system stretching across South Louisiana, upstream of Rayne, La. Columbia Gulf's East Lateral extends from Rayne to Venice, La. The West Lateral runs from Rayne to west of Cameron, La. Excluded are deals done in the offshore rate zone, at Rayne or elsewhere in the mainline rate zone

**Columbia Gulf, mainline (daily and monthly survey)**

Deliveries into Columbia Gulf Transmission anywhere along its mainline system zone in Louisiana and Mississippi. The mainline system extends northeast from Rayne, La., to Leach, Ky. This point was added to the monthly survey in August 2007

**Florida Gas, zone 1 (daily and monthly survey)**

Deliveries into Florida Gas Transmission beginning at compressor station 2 in Nueces County in South Texas to station 7 in Acadia Parish, La.

**Florida Gas, zone 2 (daily and monthly survey)**

Deliveries into Florida Gas Transmission downstream of station 7 in Acadia Parish, La. to station 8 in East Baton Rouge Parish. Included is supply into the mainline from the White Lake Lateral and from the Chacahoula Lateral, both of which extend south from the mainline into production areas

**Florida Gas, zone 3 (daily and monthly survey)**

Deliveries into Florida Gas Transmission downstream of compressor station 8 to just upstream of station 12 in Santa Rosa County, Fla., the demarcation point with the market area. Patts' daily and monthly biweekly surveys for zone 3 include deliveries between stations 8 and 12, including Mobile Bay deals into Florida Gas

**Florida Gas, Mobile Bay (daily survey only)**

Deliveries into Florida Gas Transmission from Transcontinental Gas Pipeline's Mobile Bay Lateral at the Citronelle interconnection in northern Mobile County, Ala., just upstream of station 11. This point was discontinued on June 7, 2006

**Florida city-gates (daily survey only)**

Deliveries from Florida Gas Transmission into all city-gates in the Florida market area, which begins in Santa Rosa County just west of station 12 in the extreme western Florida Panhandle and extends into southern Florida

**Southern Natural, La. (daily and monthly survey)**

Deliveries into Southern Natural Gas' mainlines anywhere in Louisiana, including an eastern spur starting in Plaquemines Parish and a western spur starting in St. Mary Parish in South Louisiana, and a line that starts at the Texas/Louisiana border in DeSoto Parish and runs to the Louisiana/Mississippi border in East Carroll Parish in northern Louisiana

**Tennessee, zone 0 (daily and monthly survey)**

Deliveries into Tennessee Gas Pipeline's 100 Leg from the Mexico/Texas border to the Texas/Louisiana border

**Tennessee, Louisiana, 500 Leg (daily and monthly survey)**

Deliveries into Tennessee Gas Pipeline's 500 Leg in zone 4 in southeastern Louisiana, including deliveries into the 500 Leg from the offshore Blue Water Header system. The 500 Leg meets the boundary of the market area at station 542 in eastern Mississippi

**Tennessee, Louisiana, 800 Leg (daily and monthly survey)**

Deliveries into Tennessee Gas Pipeline's 800 Leg in zone 4 in southeastern Louisiana, including deliveries from the offshore Blue Water Header system. The leg meets the boundary of the market area at station 834 at Winnsboro in central Louisiana

**Texas Eastern, East Texas (daily and monthly survey)**

Deliveries into Texas Eastern Transmission on the 24-inch line from the Huntsville, Texas, compressor station to the Little Rock station in Arkansas, including the segment from Joaquin to Sharon

**Texas Eastern, South Texas (daily and monthly survey)**

Deliveries into Texas Eastern Transmission on the 30-inch pipeline from the Mexico/Texas border to just upstream of the Vidor, Texas, compressor station, and deliveries into Texas Eastern on the 24-inch pipeline from the Hagist Ranch compressor station to just upstream of the Huntsville Texas station

**Texas Eastern, West Louisiana (daily and monthly survey)**

Deliveries into Texas Eastern Transmission on the 30-inch line from the Vidor, La., compressor station to just upstream of the Opelousas, La., compressor station. Included are deliveries from Texas Eastern's offshore Cameron Line at the Gill's, La., compressor station

**Texas Eastern, East Louisiana (daily and monthly survey)**

Deliveries into Texas Eastern Transmission on the 30-inch line from the Opelousas, La., compressor station to the Kosciusko, Miss., compressor station. Included are deliveries into the 30-inch pipeline from Texas Eastern's Venice Line at the New Roads, La., compressor station

**Texas Eastern, M-1 30-inch (Kosi) (daily and monthly survey)**

Deliveries into Texas Eastern Transmission on the 30-inch line at the Koscusko, Mississippi, compressor station, which is the demarcation point between Texas Eastern's production and market zones. Deliveries into the 24-inch mainline are not included. This point was added to the monthly survey in August 2007.

**Texas Eastern, M-1 24-inch (daily survey only)**

Deliveries to Texas Eastern's 24-inch line downstream of the suction side of the Little Rock, Arkansas, compressor station to the Illinois-Indiana state line. This point was added effective Sept. 1, 2008.

**Transco, zone 1 (daily and monthly survey)**

Deliveries into Transcontinental Gas Pipe Line on two 24-inch lines running from South Texas to compressor station 30 in Wharton County, Texas, which is Transco's pooling point for gas gathered on the Gulf Central Texas lateral and for onshore coastal South Texas production.

**Transco, zone 2 (daily and monthly survey)**

Deliveries into Transcontinental Gas Pipe Line on the 30-inch line downstream of station 30 in Wharton County, Texas, to compressor station 45 in Beauregard Parish, La., the only pooling point in the zone.

**Transco, zone 3 (daily and monthly survey)**

Deliveries into Transcontinental Gas Pipe Line on the 30-inch, 36-inch and 42-inch lines downstream of compressor station 45 in Beauregard Parish, La., to station 65 on the Louisiana/Mississippi border in St. Helena Parish, La. Pooling points in the zone are at stations 50, 62 and 65.

**Transco, zone 4 (daily and monthly survey)**

Deliveries into Transcontinental Gas Pipe Line on the 30-inch, 36-inch and 42-inch lines downstream of compressor station 65 at the Louisiana/Mississippi border in St. Helena Parish, La., to the Georgia/South Carolina border. Gas enters the Transco mainline from the Mobile Bay Lateral at station 85 in Butler, Ala., the only zone 4 pooling point.

**Transco, zone 5 delivered (daily survey only)**

Deliveries from Transcontinental Gas Pipe Line on the 30-inch, 36-inch and 42-inch lines from the Georgia/South Carolina border to the Virginia/Maryland border. Deliveries into Transco at the Pleasant Valley receipt point near Fairfax, Va., from Dominion's Cove Point LNG terminal are not included.

**CENTRAL****UPPER MIDWEST****Alliance, into interstates (daily survey only)**

Deliveries from Alliance Pipeline into Vector Pipeline, Natural Gas Pipeline Co. of America, ANR Pipeline and Midwestern Gas Transmission at the tailgate of the Aux Sable plant in north central Illinois at the terminus of Alliance. Deliveries into the Northern Indiana Public Service, Peoples Gas Light & Coke and Ncor Gas city-gates in the Chicago area are not included.

**ANR, ML 7 (daily and monthly survey)**

Deliveries into ANR Pipeline in its northern market zone starting at the Sandwich, Ill., compressor station at the terminus of the Southwest main line north through Wisconsin to the Crystal Falls, Mich., interconnection with Great Lakes Gas Transmission. Also, deliveries into ANR east from Sandwich to the Defiance, Ohio, compressor station at the terminus of the Southeast main line, and north from the Bridgman, Mich., station to the Orient, Mich., station.

**Chicago city-gates (daily and monthly survey)**

Deliveries into the Ncor Gas, Peoples Gas Light & Coke, North Shore Gas and Northern Indiana Public Service city-gates in the Chicago metropolitan area from Natural Gas Pipeline Co. of America, ANR Pipeline, Alliance Pipeline, Northern Border Pipeline and Midwestern Gas Transmission.

**Consumers Energy city-gate (daily and monthly survey)**

Deliveries into all city-gates of Consumers Energy, which serves most of central Michigan and the areas around Saginaw Bay.

**Dawn, Ontario (daily and monthly survey)**

Deliveries from Union Gas' Dawn Hub, a gathering point for 15 adjacent storage pools in Ontario near Port Huron, Mich., on the U.S./Canadian border. Included are deliveries into TransCanada Pipelines at Kikwa I, Ontario, deliveries into Great Lakes Gas Transmission at St. Clair, Mich., deliveries into Consumers Energy at Bluewater, Mich., deliveries into Parhandle Eastern Pipe Line at Ojibway, Mich., and deliveries into Dawn storage. Deliveries from Union into TransCanada at Parkway, Ontario, are not included.

**Emerson, Viking GL (daily and monthly survey)**

Deliveries into Great Lakes Gas Transmission from TransCanada Pipelines at the Emerson 2 meter station at the U.S./Canadian border at Emerson, Manitoba, and deliveries into Viking Gas Transmission from TransCanada at the Emerson 1 station. This point was added to the monthly survey Aug. 1, 2011.

**MichCon city-gate (daily and monthly survey)**

Deliveries into all city-gates of Michigan Consolidated Gas, which serves the Detroit and Grand Rapids areas and much of north and northeast Michigan. The

main MichCon city-gas are located at interconnects with ANR Pipeline at Willow Run and Wolkfork, Mich., Panhandle Eastern Pipeline at River Rouge, Greas. Lakes Gas Transmission at Belle River, Union Gas at Sinclair Pipeline and Consumers Energy at Northville. MichCon also receives in-state production at Kalkaska.

## GULF COAST

### Agua Dulce Hub (daily survey only)

Deliveries into Kinder Morgan Texas Pipelines, Houston Pipe Line, Gulf South Pipeline, Natural Gas Pipeline Co. of America, Transcontinental Gas Pipeline, Tennessee Gas Pipeline, TransTexas Gas and EPGT Texas at the Agua Dulce Hub in Nueces County, Texas, about 20 miles west-southwest of Corpus Christi. Deliveries from the ExxonMobil King Ranch plant are included.

### ANR, La. (daily and monthly survey)

Deliveries into ANR Pipeline along the southeastern Louisiana lateral that starts offshore and runs to the Patterson, La., compressor station onshore and on to the Eunice, La., station, where ANR's Southeast mainline begins. Also, deliveries into ANR along a second lateral that runs from the MISO system downstream of West Cameron 167 offshore to the Grand Chenier, La., station onshore and on to the Eunice station, as well as deals done at the Eunice pool.

### Carthage Hub (daily survey only)

Deliveries into Reliant Energy Gas Transmission, Gulf South Pipeline, Lone Star Pipeline, Southern Natural Gas, Kinder Morgan Texas Pipelines, Tennessee Gas Pipeline, Texas Eastern Transmission and Texas Gas Transmission at the tailgate of the Carthage, Texas, processing plant in Panola County, Texas.

### EPGT, Texas (daily and monthly survey)

Deliveries into EPGT Texas' gathering system east and south of Bandera County, Texas. Points in the West Texas portion of EPGT Texas, including the Waha header, are not included. In the past, the system was known as PC&E Gas Transmission-Texas and Valero Natural Gas. This point was discontinued on Aug. 1, 2004.

### Gulf South, S. La./East Side (daily and monthly survey)

Deliveries into Gulf South Pipeline in capacity allocation area 2, which includes Santa Rosa County, Fla., southern Alabama and southeastern Mississippi area 3, which includes southern Louisiana's Mississippi River Delta region, area 4, which covers the Baton Rouge, La., region, area 5, which includes south-central and central Louisiana, and area 6 in southwestern Louisiana. In the past, the system was known as Koch Gateway Pipeline and United Gas Pipeline. This point was discontinued on Aug. 1, 2004.

### Henry Hub (daily and monthly survey)

Deliveries into interstate and intrastate pipelines from the outlet of Henry Hub on Sabine Pipe Line in Vermilion Parish, La. Pipelines include Gulf South Pipeline, Southern Natural Gas, Natural Gas Pipeline Co. of America, Texas Gas Transmission, Sabine Pipe Line, Columbia Gulf Transmission, Transcontinental Gas Pipeline, Trunkline Gas, Jefferson Island Pipeline and Acadian Gas.

### Houston Pipe Line (daily survey only)

Deliveries into Houston Pipe Line's gathering system in South Texas starting at Fairfarms in Brooks County on the 8-inch lateral and at the Thompsonville compressor station in Jim Hogg County. The gathering system is generally demarcated by its Nueces compressor station near the Three Rivers plant in Live Oak County, and by the Refugio station in central Refugio County. This point was discontinued on Aug. 1, 2004.

### Houston Ship Channel (daily and monthly survey)

Deliveries to end-users and pipelines that serve them in the Houston Ship Channel region, an industrial area extending from the east side of Houston to Galveston Bay and northeastward to the Port Arthur/Beaumont area. Gas is delivered in this area by numerous pipelines, including Kinder Morgan Texas Pipeline, Kinder Morgan Texas Pipeline, Houston Pipe Line, and the former EPGT and Channel pipelines.

### Katy (daily and monthly survey)

Deliveries into Oasis Pipeline, Lone Star Pipeline, Houston Pipeline and Kinder Morgan Texas Pipelines in the Katy, Texas, area, including deliveries and receipts into and out of Katy storage.

### Lone Star (daily survey only)

Deliveries into Lone Star Pipeline's S2 Lateral starting in Henderson County, Texas, east to the Carthage plant in Panola County, Texas. This point was discontinued on Aug. 1, 2004.

### MRT, mainline (daily and monthly survey)

Deliveries into Mississippi River Transmission's mainline from the Perryville, La., compressor station north through Arkansas and Missouri to the St. Louis area. This point was discontinued on Aug. 1, 2004.

### MRT, West Leg (daily and monthly survey)

Deliveries into Mississippi River Transmission's West Leg west of the Perryville, La., station to the terminus of the line at an inter-connection with Natural Gas Pipeline Co. of America in Harrison County, Texas. This point was discontinued on Aug. 1, 2004.

### NGPL, South Texas (daily and monthly survey)

Deliveries into Natural Gas Pipeline Co. of America at the beginning of the mainline at the Thompsonville receipt point in Jim Hogg County, Texas, north to compressor station 302 in Montgomery County, Texas.

### NGPL, Texok zone (daily and monthly survey)

Deliveries to Natural Gas Pipeline Co. of America in all areas of the Texok zone excluding the portion in Texas and Oklahoma on the A/G Line. Applicable to the Texok zone are deliveries to Natural from the Louisiana/Texas border westward to compressor station 302 in Montgomery County, Texas, and northward to the interconnect with the Gulf Coast Mainline receipt zone in Cass County, Texas. The "Texok Gulf Coast Pooling Point" is included in this posting, but the "Texok A/G



Pooling Point" is not.

#### **NGPL, La. (daily and monthly survey)**

Deliveries into Natural Gas Pipeline Co. of America from compressor station 344 in Jefferson County, Texas, to the terminus of the line in Vermilion Parish, La., at Erath and Henry Hub. This point was discontinued in the daily and monthly surveys on Jan. 1, 2012.

#### **Stingray Pool (daily survey only)**

Receipts into and deliveries from the Stingray Pipeline pooling point located onshore and offshore Louisiana. This point was added effective Sept. 1, 2008. This point was discontinued on Jan. 1, 2012.

#### **Texas Gas, zone 1 (daily and monthly survey)**

Deliveries into Texas Gas Transmission starting just south of the Pineville, La., compressor station in Rapides Parish north to Crockett County, Tenn.

#### **Texas Gas, zone SL (daily and monthly survey)**

Deliveries into Texas Gas Transmission on two southeastern Louisiana laterals, including offshore segments. The southwest spur begins offshore at Grand Chenier and runs through Cameron Parish to the Eunice compressor station. The southeast spur begins offshore and runs through Terrebonne Parish to Eunice. Zone SL extends to the vicinity where Texas Gas crosses the Red River in Rapides Parish.

#### **Trunkline, Texas (daily and monthly survey)**

Deliveries into Trunkline Gas in the Texas field zone starting at the Beeville compressor station in Bee County, Texas, north to the Longville, La., station in Beauregard Parish, La. This point was discontinued on Aug. 1, 2004.

#### **Trunkline, W. La. (daily survey only)**

Deliveries into Trunkline Gas along two laterals starting at an offshore Louisiana lateral leading to the Kaplan, La., station in Vermilion Parish, northwest to the Longville compressor station. Included are deliveries at the Kaplan compressor station, which demarcates the WLA and ELA zones.

#### **Trunkline, E. La. (daily survey only)**

Deliveries into Trunkline Gas on an offshore gathering system running from south of Terrebonne Parish west to the Kaplan station in Vermilion Parish, the boundary with the WLA zone.

#### **Trunkline, La. (monthly survey only)**

Deliveries into Trunkline Gas at points upstream of the Longville compressor station on the lines that do not extend to Texas.

#### **Trunkline, zone 1A (daily and monthly survey):**

Deliveries to Trunkline Gas Co. in zone 1A from the discharge side of its Longville, Louisiana, compressor station north to the suction side of its Dyersburg, Tennessee,

station, as well as transactions at Trunkline's zone 1A pool. This point was added July 1, 2009.

### **MIDCONTINENT**

#### **ANR, Okla. (daily and monthly survey)**

Deliveries into ANR Pipeline at the start of the Southwest mainline at the Custer, Okla., compressor station into the Texas Panhandle north to the Greensburg, Kan., station.

#### **CenterPoint, East (daily and monthly survey)**

Deliveries into CenterPoint Energy Gas Transmission's flex/neutral and north pooling areas in northeastern Arkansas and southeastern Oklahoma. The north pooling area is separated from the south pooling area by a generally northwest-to-southeast line between LeFlore County, Okla., and Bolivar County, Miss. The flex (or neutral) pooling area in Oklahoma comprises all of Pushmataha, Latimer, Haskell and Pittsburg counties and the northeast section of Atoka County. In the past, the system was known as NorAm Gas Transmission, Arkla Energy Resources and, prior to Aug. 1, 2004, Reitan Energy Gas Transmission.

#### **NGPL, Amarillo receipt (daily survey only)**

Deliveries into Natural Gas Pipeline Co. of America starting at the Trailblazer Pipeline interconnection in Gage County, Neb., on the Amarillo mainline at compressor station 106 east to NGPL's interconnection with Northern Border Pipeline at station 109 in Keokuk County, Iowa.

#### **NGPL, Midcontinent (daily and monthly survey)**

Deliveries into Natural Gas Pipeline Co. of America starting at compressor station 155 in Wise County, Texas, west to the Amarillo mainline at station 112 in Moore County in the Texas Panhandle, and then north to the Trailblazer Pipeline interconnection in Gage County, Neb. Included are deliveries into NGPL at all Oklahoma points west of station 801, as well as those in North Texas north and east of station 170 and in Kansas south of station 103.

#### **NGPL, Iowa-III. receipt (daily survey only)**

Deliveries into Natural Gas Pipeline Co. of America on the Amarillo mainline from the interconnection with Northern Border Pipeline at station 109 in Keokuk County, Iowa, east to the interconnection with Wisconsin Gas in Lake County, Ill. Also, deliveries into NGPL on the Gulf Coast mainline from the Missouri/Illinois border to compressor station 113 in Will County, Ill. This point was discontinued on Aug. 1, 2004.

#### **Northern Border, Ventura Transfer Point (daily and monthly survey):**

Deliveries on Northern Border Pipeline Co. at its Ventura Transfer point (DRN# 125771). This location is designed to capture gas traded on Northern Border at Ventura that is *not* traded for delivery to Northern Natural Gas Co. at the Northern Natural/Northern Border Ventura interconnect (DRN#4680). This point was added July 1, 2009.

**Northern, MIDS 1-6 (daily survey only)**

Deliveries into Northern Natural Gas' mileage indicator districts on the southern end of the system, in the Permian Basin from the El Dorado compressor station in MID 1 in Schleicher County, Texas, north to the Brownfield station in MID 6 in Terry County, Texas. This point was discontinued on August 1, 2004.

**Northern, Tx.-Okla.-Kan. (daily and monthly survey)**

Deliveries into Northern Natural Gas' mileage indicator districts 7 through 16, from the Plainview compressor station in MID 7 in Hale County, Texas, north to the demarcation point between Northern Natural's production and market zones at the Clifton station in Clay County, Kan. Deliveries at the demarcation point are not included. This point was discontinued on August 1, 2004.

**Northern, demarcation (daily and monthly survey)**

Deliveries into Northern Natural Gas at the demarcation point between its production (field) and market zones, at the Clifton station in Clay County, Kan.

**Northern, Ventura (daily and monthly survey)**

Deliveries to Northern Natural Gas at Ventura in Hancock County, Iowa.

**Oneok, Okla. (daily and monthly survey)**

Deliveries into Oneok Gas Transportation's mainline systems from several gathering systems, all of which are located in Oklahoma. One of the two largest is near the east central part of the state in Pittsburg and Haskell counties. The second, in the west central part of the state, extends from Blaine and Canadian counties southeast to Grady County. Oneok operates a single price pool for all gas coming into the system. In the past, Oneok was known as ONG Transmission.

**Panhandle, Tx.-Okla. (daily and monthly survey)**

Deliveries into Panhandle Eastern Pipeline on two laterals running from the Texas and Oklahoma panhandles, southwestern Kansas and northwestern Oklahoma upstream of the Haven, Kan., compressor station. Deliveries to Panhandle at the Haven pooling point—the demarcation between Panhandle's field and market zones—are not included.

**Reliant, West (daily and monthly survey)**

Deliveries into Reliant Energy Gas Transmission's west pooling areas 1 and 2 from just east of the Chiles Dome storage facility west to the Texas Panhandle and north from the Custer, Okla., compressor station to Cowley County, Kan. Reliant is now named CenterPoint Energy Gas Transmission. In the past, the system was known as NorAm Gas Transmission and Ark Energy Resources. This point was discontinued on August 1, 2004.

**Southern Star, Tx.-Okla.-Kan. (daily and monthly survey)**

Deliveries into Southern Star Central Gas Pipeline's system from Hemphill County in the Texas Panhandle eastward, from Carter County in south-central Oklahoma northward and from Grant County in southwestern Kansas eastward. In the past, the system was known as Williams Natural Gas and, prior to August 1, 2004, Williams Gas Pipelines Central.

**WEST****CALIFORNIA****PG&E, Malin (daily and monthly survey)**

Deliveries into Pacific Gas and Electric's lines 400 and 401 at the Oregon/California border at Malin, Ore. This location includes deliveries from Gas Transmission Northwest and Ruby Pipeline.

**PG&E, South (daily and monthly survey)**

Deliveries into Pacific Gas and Electric in Southern California from El Paso Natural Gas and Transwestern Pipeline at Topock, Calif., from Kern River Gas Transmission at Daggett, Calif., and the High Desert Lateral, from Southern California Gas at the Kern River station, and from Questar Southern Trails Pipeline at Essex, Calif.

**PG&E, city-gate (daily and monthly survey)**

Deliveries from Pacific Gas and Electric's intrastate transmission system to city-gates on PG&E's local distribution system in Northern California.

**SoCal Gas (daily and monthly survey)**

Deliveries into Southern California Gas from El Paso Natural Gas at Topock, Calif., and Blythe, Calif. (Ehrenberg, Ariz.), from Transwestern Pipeline at Topock/Needles, Calif., from Kern River Gas Transmission at Wheeler Ridge and Kramer Junction, Calif., and from Questar Southern Trails Pipeline at Needles. The point also includes deliveries from Pacific Gas and Electric at several points, including Kern River station and Pisgah/Daggett, and in-state production.

**SoCal Gas, city-gate (daily and monthly survey)**

Deliveries at Southern California Gas Co.'s city-gate pool. The SoCal Gas city-gate pool is a "virtual" trading location on SoCal Gas' system for deliveries to and from holders of the distributor's city-gate pool contracts. This point includes storage transactions delivered to and from the city-gate pool. The SoCal, city-gate point was added effective October 1, 2008.

**ROCKIES/NORTHWEST/CANADA****Cheyenne Hub (daily and monthly survey)**

Deliveries into Trailblazer Pipeline, Public Service Co. of Colorado and Colorado Interstate Gas in the vicinity of the Cheyenne Hub in northeast Colorado.

**CIG, Rocky Mountains (daily and monthly survey)**

Deliveries into Colorado Interstate Gas 20-inch, 22-inch and 24-inch mainlines in Wyoming and Colorado. Also included are deliveries into the Parachute to Natural Buttes segment in Uintah County, Utah, and deliveries into CIG's 16-inch lateral running from the Rawlins station in Carbon County, Wyo., to the Elk Basin station in Park County, Wyo. Not included are deliveries into CIG's system at points south of Cheyenne, Wyo.

**El Paso, Bondad (daily survey only)**

Deliveries into El Paso Natural Gas at the Bondad compressor station in the San Juan Basin. Bondad is located in the northern part of the San Juan Basin in La Plata County, Colo., south of the Ignacio plant on Northwest Pipeline and north of the Blanco plant on El Paso.

**El Paso, South Mainline (daily survey only)**

Deliveries on El Paso's south mainline at points between Cornudas station in West Texas to but not including Ehrenberg, Arizona. This point was added effective Sept. 1, 2008.

**El Paso, San Juan Basin (daily and monthly survey)**

Deliveries into El Paso Natural Gas south of the Bondad compressor station in the San Juan Basin, including gas from the Blanco, Chaco, Rio Vista, Milagro and Valverde plants in New Mexico.

**GTN, Kingsgate (daily survey only)**

Deliveries into Gas Transmission Northwest, from Foothills Pipeline at the Kingsgate interconnect on at the U.S./Canadian border in Boundary County, Idaho. Prior to Aug. 1, 2004, the system was known as PG&E Gas Transmission, Northwest.

**Kern River, delivered (daily survey only)**

Deliveries from Kern River Gas Transmission upstream of the Southern California Gas system in the Las Vegas, Nevada area, excluded are deliveries at Wheeler Ridge, Kramer Junction and Daguerre. This point was added to the daily survey on June 6, 2006.

**Kern River/Opal plant (daily survey only)**

Deliveries into Kern River Gas Transmission at the Opal, Wyo., processing plant and Muddy Creek compressor station in southwestern Wyoming where Kern River interconnects with Northwest Pipeline, Questar Pipeline and Colorado Interstate Gas. Gas traded at the Opal plant that isn't nominated into a specific pipeline is included in the daily Kern River/Opal plant pricing point.

**Kern River, Wyoming (monthly survey only)**

Deliveries into Kern River Gas Transmission anywhere in Wyoming. Transactions done at Opal, Wyo., and the Muddy Creek compressor station — where Kern River interconnects with Northwest Pipeline, Questar Pipeline and Colorado Interstate Gas — are used in both the Kern River, Wyoming, and Northwest Pipeline, Rocky Mountain, monthly postings because gas traded at those points often isn't for nomination into a specific pipeline.

**Northwest, Wyoming pool (daily survey only)**

Deliveries into Northwest Pipeline from the Green River, Wyo., compressor station to the Kemmerer, Wyo., station. Included are deliveries at the Opal, Wyo., plant as well as at the Panther, Anschutz, Muddy Creek, Granger, Shute Creek and Whitney stations.

**Northwest, S. of Green River (daily survey only)**

Deliveries into Northwest Pipeline from the Green River, Wyo., compressor station south to the La Plata interconnection with El Paso Natural Gas in the San Juan Basin in La Plata County, Colo. Included are deliveries from Clay Basin storage, the Piceance Basin and the Ignacio plant.

**Northwest, Rocky Mountains (monthly survey only)**

Deliveries into Northwest Pipeline's mainline in Wyoming, Utah and Colorado between the Kemmerer and Moab stations. Deliveries at Ignacio, Colo., and elsewhere in zone MO are excluded. Transactions done at Opal, Wyo., and the Muddy Creek compressor station where Northwest interconnects with Kern River Gas Transmission, Questar Pipeline and Colorado Interstate Gas are used in both the Kern River, Wyoming, and Northwest Pipeline, Rocky Mountain, monthly postings because gas traded at those points often isn't for nomination into a specific pipeline.

**Northwest, Canadian border (Sumas) (daily and monthly survey)**

Deliveries into Northwest Pipeline from Westcoast Energy at the Sumas, Wash./Brenton, British Columbia, interconnection at the U.S./Canadian border.

**Northwest, all city-gates (daily survey only)**

Deliveries from Northwest Pipeline into city gates northwest of the Kemmerer, Wyo., compressor station in Idaho, Nevada, Oregon and Washington. This point was discontinued on Aug. 1, 2004.

**Nova, same-day (daily survey only)**

Deliveries for same-day flow into Nova Gas Transmission at the AECO-C, NIT hub in southeastern Alberta. AECO-C is the principal storage facility and hub on Nova, paying the rate for NIT service, or Nova Inventory Transfer, will cover transactions for delivery of gas to AECO-C and most other points. The price is reported in Canadian dollars per gigajoule. This point was discontinued on Aug. 1, 2004.

**PSCo city-gate (daily survey only)**

Deliveries into Public Service Co. of Colorado from Front Range points, primarily from Denver-Julesburg Basin production. Excluded is gas entering the system from the Chalk Bluffs Hub, which is priced at Cheyenne Hub, and gas entering the system at Fort Lupton, where gas competes with long-haul supply on Colorado Interstate Gas. This point was discontinued on Aug. 1, 2004.

**Questar, Rocky Mountains (daily and monthly survey)**

Deliveries into Questar Pipeline on its North system, which runs from northwestern Colorado through southern Wyoming to Salt Lake City, and on its South system, which runs from western Colorado to Payson, Utah, east of the Fidler compressor station. A 20-inch line running parallel to the Utah/Colorado border connects the two systems.

**Stanfield, Ore. (daily and monthly survey)**

Deliveries into Northwest Pipeline from PG&E Gas Transmission Northwest (now

named Gas Transmission Northwest) at the Stanfield compressor station in Umatilla County, Oregon, on the Oregon/Washington border. This point was discontinued in the monthly survey on January 1, 2012. It continues to be published in the daily survey.

#### **TCPL Alberta, AECO-C (daily and monthly survey)**

Deliveries into TransCanada's Alberta System at the AECO-C, NIT Hub in southeastern Alberta. AECO-C is the principal storage facility and hub on TCP Alberta, paying the rate for NIT service, or Nova Inventory Transfer, will cover transmission for delivery of gas to AECO-C and most other points. The monthly bidweek posting is composed of fixed price deals only. The price is reported in Canadian dollars per gigajoule. Prior to August 1, 2004, the system was known as Nova.

#### **TCPL Alberta, AECO-C Physical Basis (monthly survey only)**

Deliveries on TransCanada's Alberta System at the AECO-C NIT Hub in southeastern Alberta. Postings composed of physical basis deals in which the basis value is negotiated on one of the first three days of bidweek and the price is set by the final closing value of the near-month NYMEX futures contract plus or minus the negotiated basis. AECO-C is the principal storage facility and hub on TCPL Alberta, paying the rate for NIT service, or Nova Inventory Transfer, will cover transmission for delivery of gas to AECO-C and most other points. The price is reported in US dollars per MMBtu. This point was added effective September 1, 2008.

#### **Transwestern Pipeline Co., San Juan Basin (daily and monthly survey)**

Deliveries to Transwestern at points included in Transwestern's Blanco Hub in San Juan County, New Mexico. This point was added effective August 1, 2010.

#### **White River Hub (daily survey only)**

Deliveries to or from pools or interconnects that make up the White River Hub in Rio Blanco County, Colorado. This point was added to the daily survey August 1, 2011.

#### **Westcoast, station 2 (daily survey only)**

Deliveries into Westcoast Energy at compressor station 2 in north-central British Columbia, where much of northern British Columbia and Alberta production is pooled for shipment south and east. The price is reported in Canadian dollars per gigajoule.

### **WEST TEXAS**

#### **El Paso, Permian Basin (daily and monthly survey)**

Deliveries into El Paso Natural Gas in the Permian Basin from three pools: the Waha plant south (Waha pool), the Keystone station south to Waha (Keystone pool) and the Plains station south to Keystone (Plains pool).

#### **Transwestern, Permian Basin (daily and monthly survey)**

Deliveries into Transwestern Pipeline from the West Texas zone located southeast and southwest of the W-1 compressor station in Lea County, New Mexico and the Central zone bordered by station 8 in Lincoln County, New Mexico, to the northwest, station P-1 in Roosevelt County, New Mexico, to the east and station WT-1 in Eddy County, New Mexico, to the south.

#### **Waha (daily and monthly survey)**

Deliveries into interstate and intrastate pipelines at the outlet of the Waha header system and in the Waha vicinity in the Permian Basin in West Texas. Pipelines include El Paso Natural Gas, Transwestern Pipeline, Natural Gas Pipeline Co. of America, Northern Natural Gas, Delhi Pipeline, Oasis Pipeline, EPGT Texas and Lone Star Pipeline.

### **REVISION HISTORY**

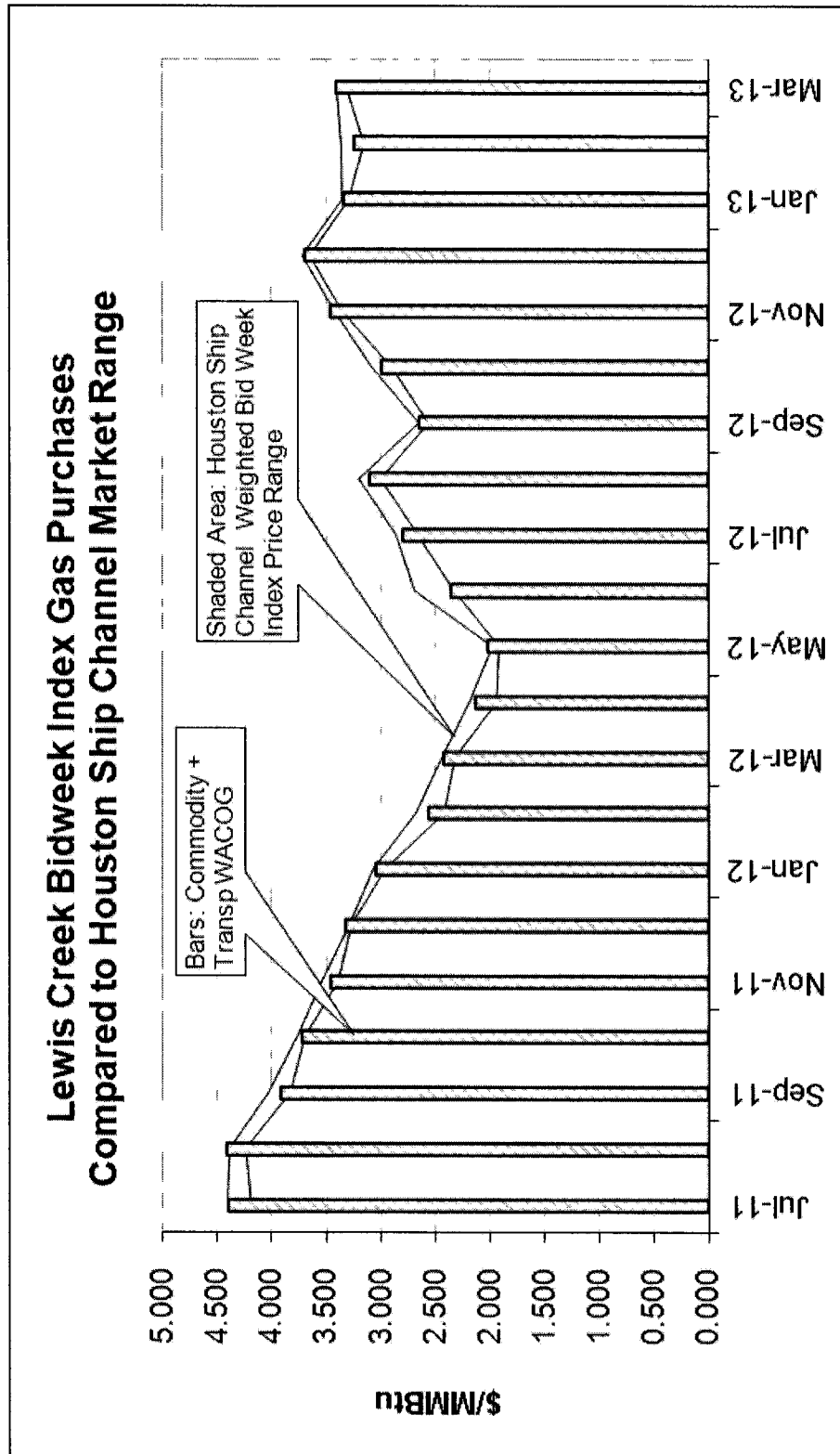
January 2012 version: Discontinuation of three pricing locations: Natural Gas Pipeline Co. of America Louisiana, in the daily and monthly bidweek surveys, Stingray Pool in the daily survey, and Stanfield, Oregon, in the monthly bidweek survey only (The Stanfield, Oregon, location continues in the daily survey). The changes became effective January 1, 2012. Additionally, language was added to the PG&E, Main location description to make explicit that the location includes deliveries from Gas Transmission Northwest and Ruby Pipeline.

January 2012 version: (second update in January 2012) Addition of Tennessee, zone 4-300 leg to the daily survey and the monthly bidweek survey.

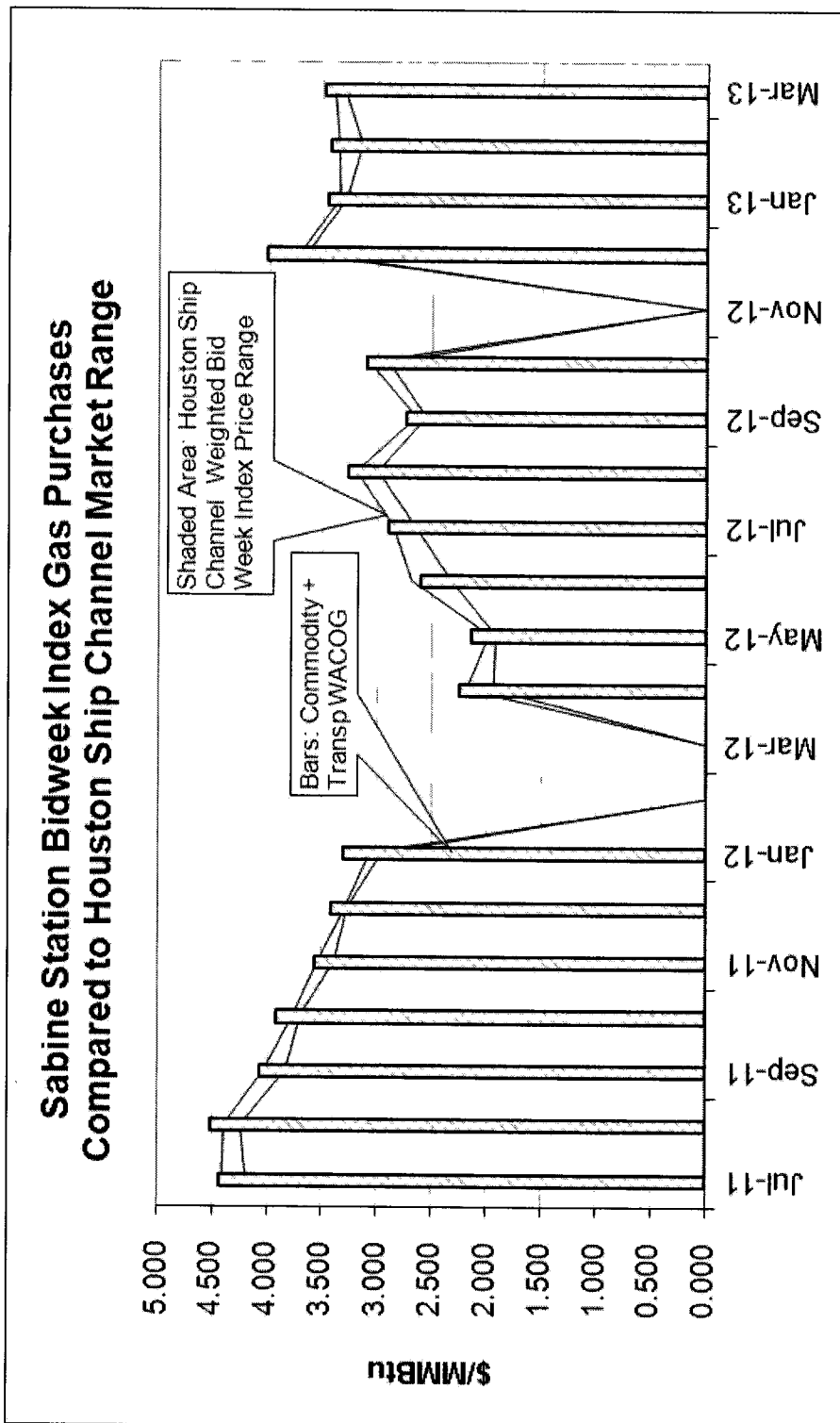
October 2012 version: Additions of Texas Eastern M-2, receipts and Millennium Pipeline, East receipts to the daily and monthly bidweek surveys.

January 2013 version: Modification of description for Niagara pricing location to reflect US exports to Canada as well as US imports from Canada.

April 2013 version: Additions of Transcontinental Gas Pipeline, Leidy Line receipts and Tennessee Gas Pipeline, Zone 4-200 leg pricing locations to the daily and monthly bidweek surveys.

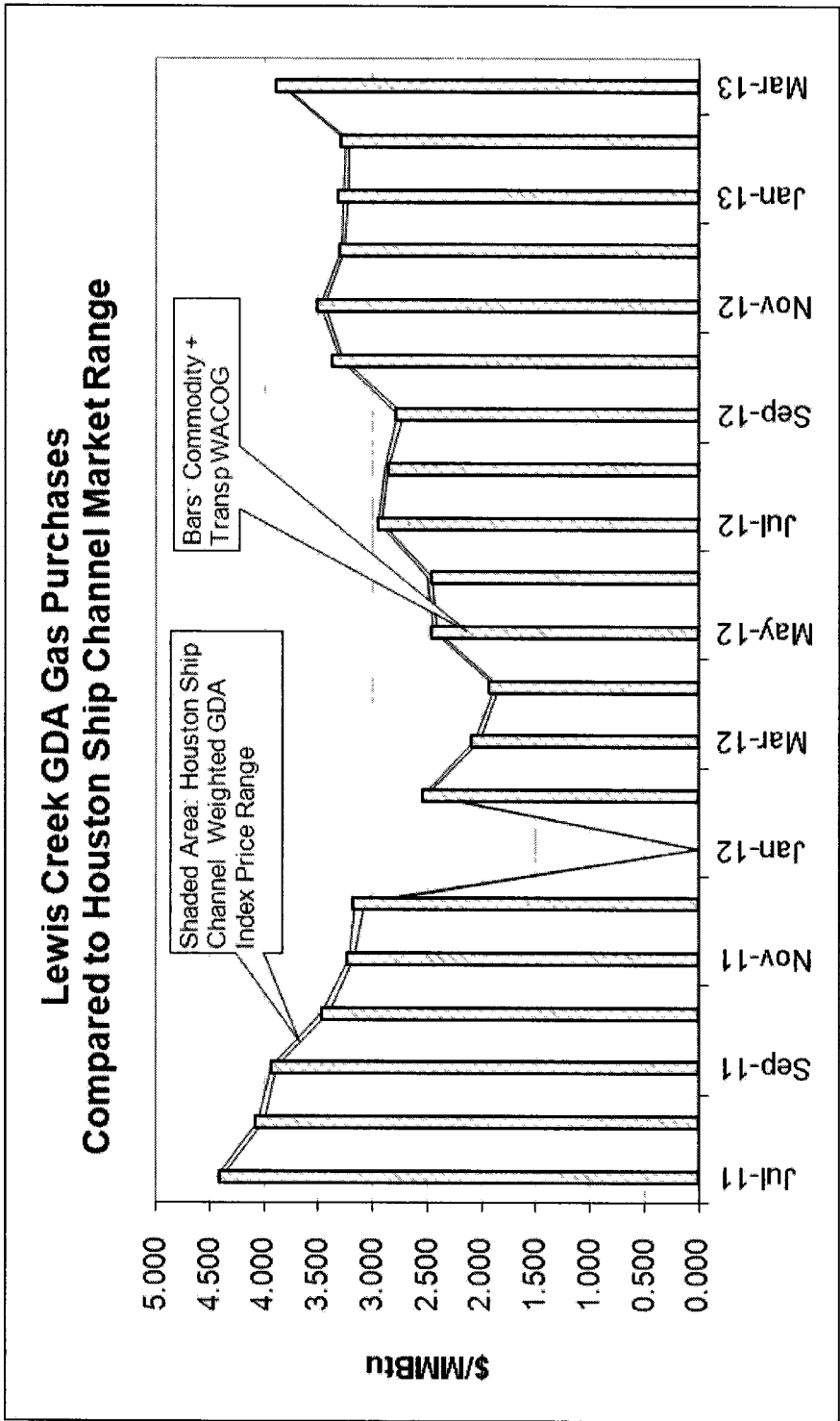


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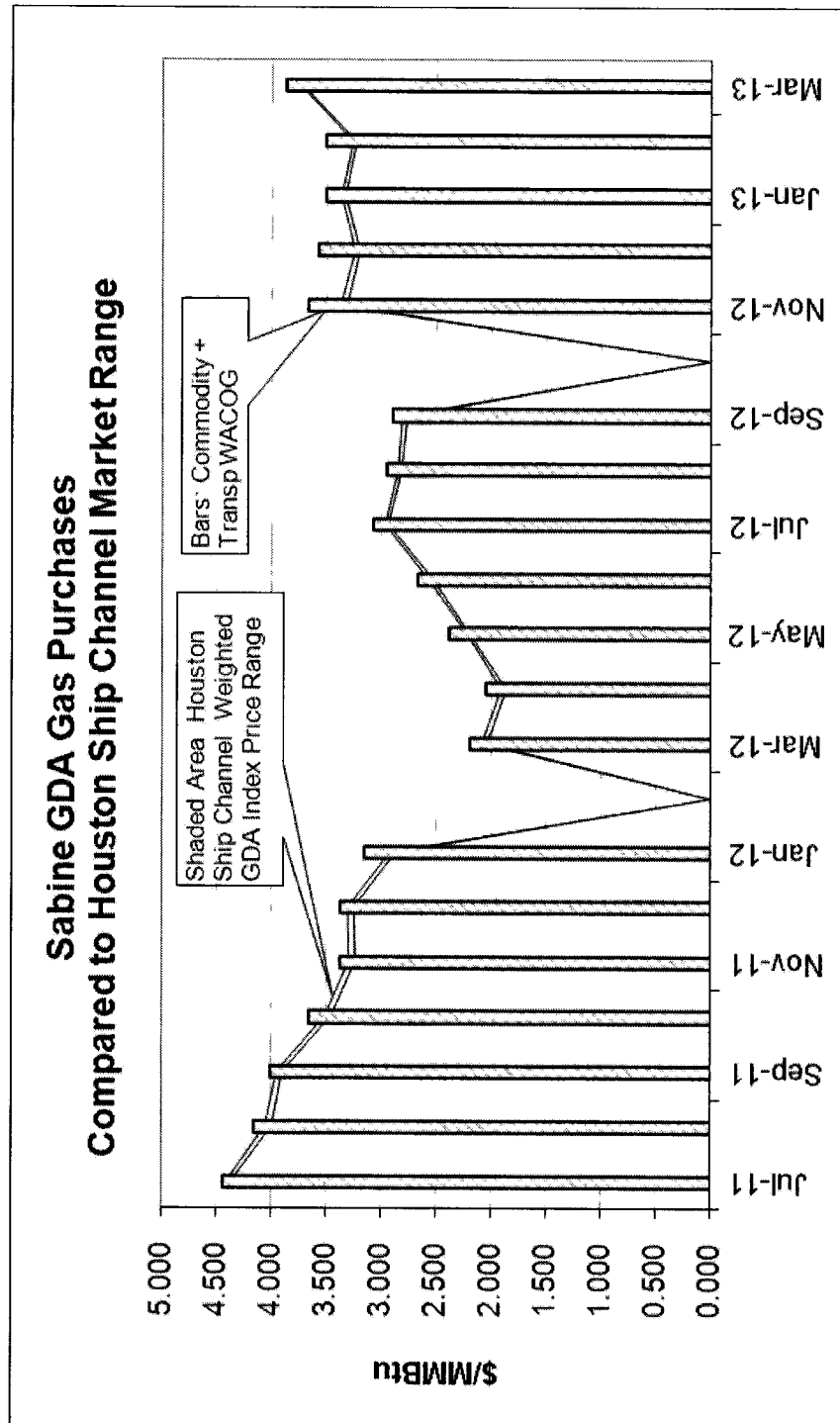


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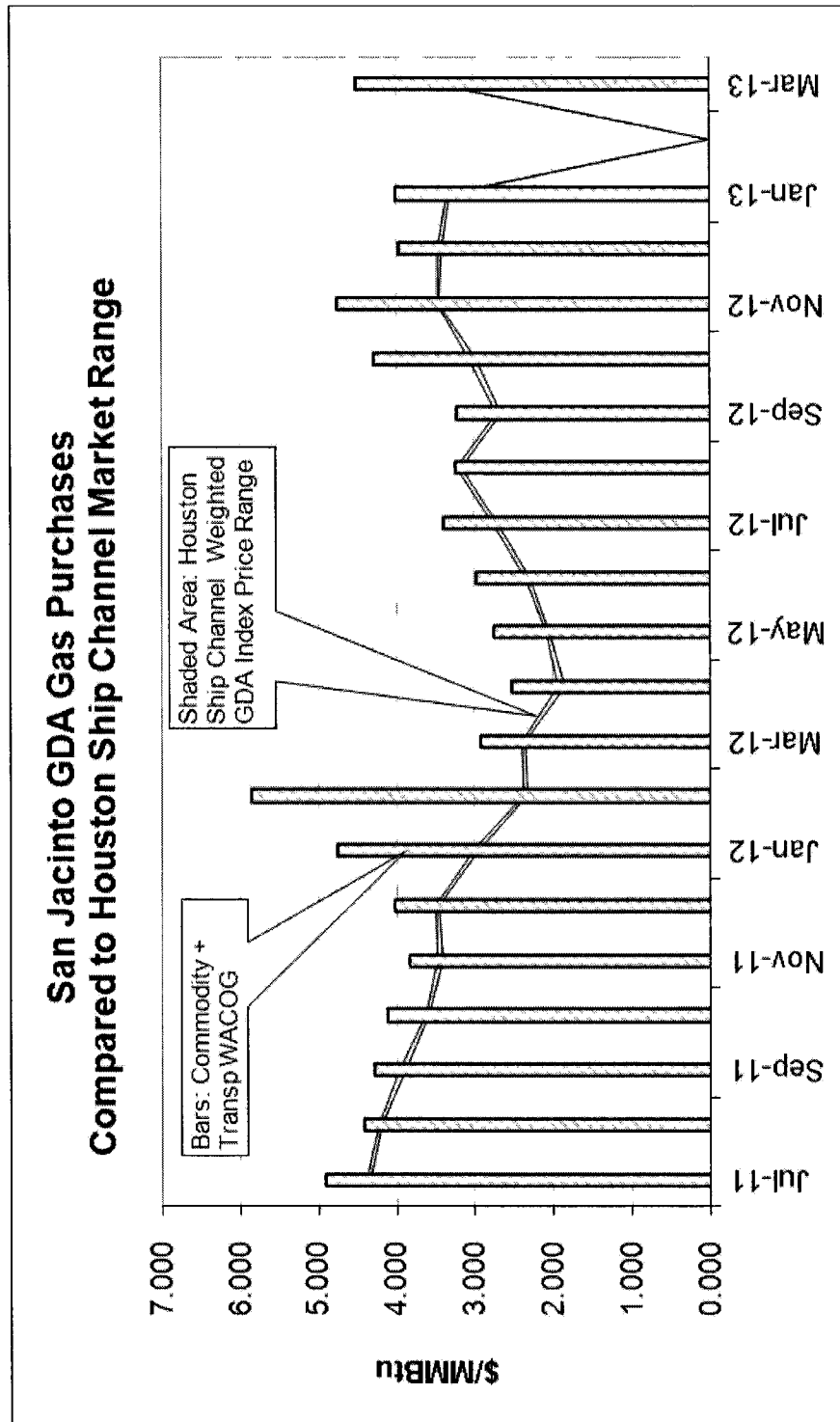




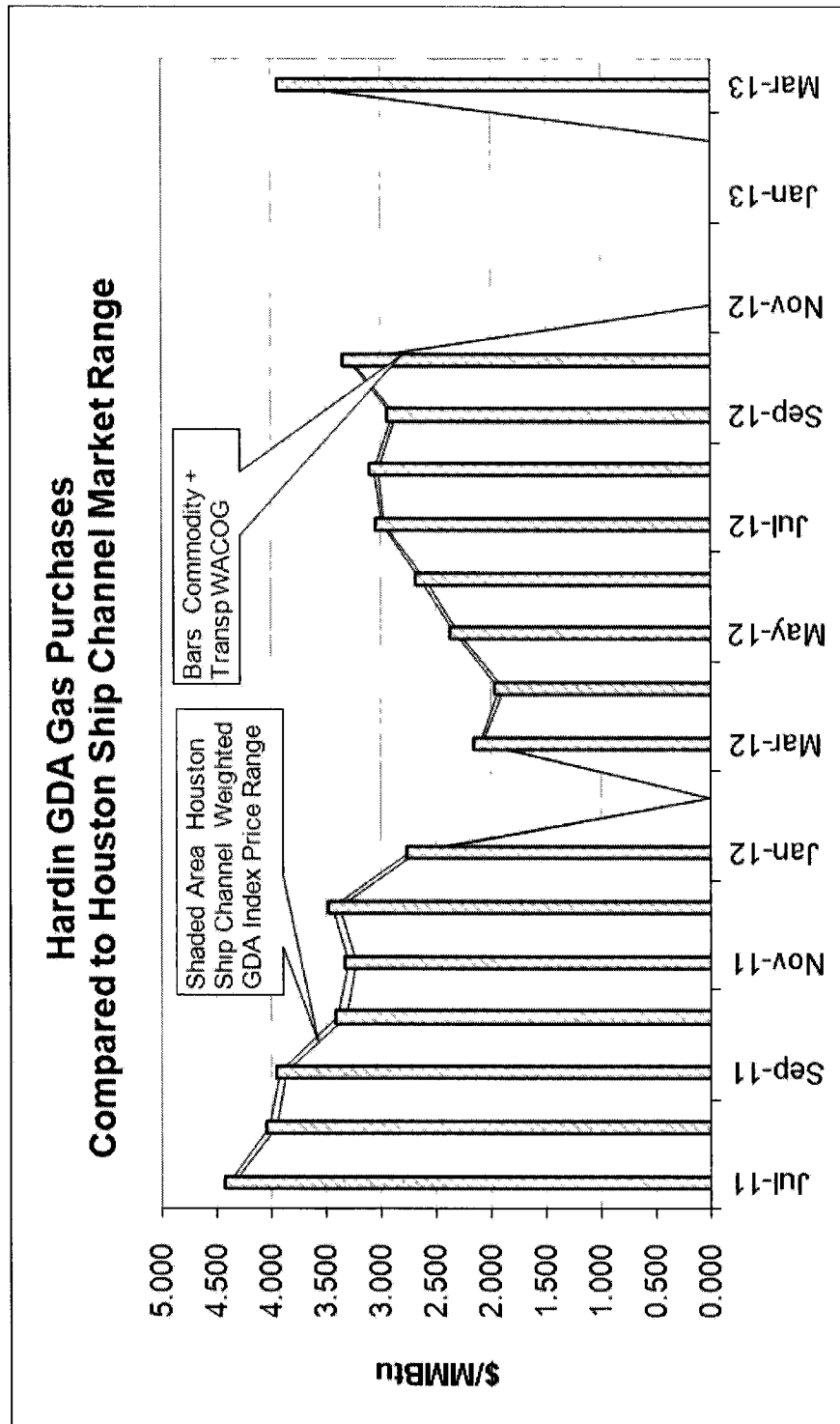
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**Volumes of Gas Purchased and Transported by the Company**

	<u>Lewis Creek</u>	<u>Sabine</u>	<u>Hardin</u>	<u>San Jacinto</u>	<u>Total Company</u>
Jul-11	1,615,000	240,000	0	134,549	1,989,549
Aug-11	1,725,000	150,000	0	243,860	2,118,860
Sep-11	1,595,000	120,000	0	154,663	1,869,663
Oct-11	920,000	145,000	0	111,119	1,176,119
Nov-11	820,000	155,000	0	114,401	1,089,401
Dec-11	710,000	275,000	0	83,744	1,068,744
Jan-12	1,240,000	180,000	0	18,740	1,438,740
Feb-12	705,000	0	0	10,289	715,289
Mar-12	1,025,000	100,000	0	61,497	1,186,497
Apr-12	1,545,000	20,000	0	163,587	1,728,587
May-12	1,335,000	15,000	0	163,287	1,513,287
Jun-12	1,640,000	55,000	0	246,546	1,941,546
Jul-12	1,600,000	30,000	0	325,228	1,955,228
Aug-12	1,585,000	45,001	0	342,143	1,972,144
Sep-12	1,155,000	450,000	0	314,996	1,919,996
Oct-12	335,000	0	0	51,605	386,605
Nov-12	615,000	305,000	0	31,537	951,537
Dec-12	1,075,000	0	0	99,669	1,174,669
Jan-13	1,315,000	0	0	81,962	1,396,962
Feb-13	1,085,000	70,000	0	0	1,155,000
Mar-13	1,000,000	20,000	0	119,483	1,139,483
Total Period	24,640,000	2,375,001	0	2,872,905	29,887,906
Total Purchases (a)	31,806,836	85,707,908	2,317,167	2,872,905	90,897,980
Percent Transported	77%	3%	0%	100%	24%

(a) From Schedule I-16.2, "Fossil Fuel Mix (Purchased)"

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CALCULATED STORAGE CAVERN CAPACITY  
SEPTEMBER 1, 1992-PRESENT  
(all volumes Bcf)

DATE	CAVERN #1			CAVERN #2			TOTAL			REMARKS
	GROSS	PAD GAS	WORKING	GROSS	PAD GAS	WORKING	GROSS	PAD GAS	WORKING	
9/1/1992	1.170	0.534	0.636	0.000	0.000	0.000	1.170	0.534	0.636	Completion Of Small Cavern #1
7/13/1994	0.000	0.000	0.000	5.082	2.319	2.763	5.082	2.319	2.763	Completion Of Cavern #2, Cavern #1 Out Of Service For Expansion
11/21/1996	6.410	2.916	3.494	5.082	2.319	2.763	11.492	5.235	6.257	Expansion Of Cavern #1
10/13/1997	5.935	3.074	2.861	4.663	2.415	2.248	10.598	5.489	5.109	Adjustment Following Installation Of Pressure/Temperature Probes
10/15/1997	6.423	2.932	3.491	5.047	2.303	2.744	11.470	5.235	6.235	Adjustments Following Commingling Of Caverns
4/1/1998	6.037	2.755	3.282	4.555	2.079	2.476	10.592	4.834	5.758	Adjustments For Closure
4/3/1998	6.037	2.119	3.918	4.555	1.599	2.956	10.592	3.718	6.874	Adjustments Made Resulting From Rock Mechanics Study

- It should be noted that cavern capacity is a dynamic number and varies over time based on cavern closure rates, temperature of the cavern, and an assumed minimum operating pressure.
- Pad gas (also referred to as cushion gas or base gas) is the gas in the cavern that is unavailable for use by the Company. It is required in order to maintain structural integrity of the cavern and prevent a catastrophic collapse of the cavern walls. The pad gas is also used as the force that causes gas to be pushed from the cavern during withdrawals. Pad gas can be compared to the product that remains in an aerosol can when you empty the can, product still remains, but is unusable. Likewise, pad gas is in the cavern, but is not available for plant burn or sale.
- Working capacity is the capacity of the caverns that can be used to store natural gas for plant burn or sale. It should be noted that this capacity is not always fully utilized. To the extent that operations permit, some capacity should be reserved for injections during unexpected plant outages or other emergencies. If the cavern is completely full, working capacity is the approximate maximum volume that can be withdrawn. 6.874 Bcf is the approximate maximum volume that could be withdrawn if the cavern is completely full.
- Gross capacity is the sum of pad gas and working capacity and represents the approximate volume that can be injected. 10.592 Bcf is the approximate maximum volume that can be injected.

SPINDLETOP STORAGE  
ESTIMATED INJECTION / WITHDRAWAL CAPACITY  
(AT SELECTED CAVERN PRESSURES)

INJECTION CAPACITY					WITHDRAWAL CAPACITY	
CAVERN PRESSURE (psig)	COMPRESSORS (MMBtu/ day)				CAVERN PRESSURE (psig)	MAXIMUM DELIVERY (MMBtu/day)
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>		
1800	80,000	150,000	180,000	220,000	800	150,000
2400	65,000	120,000	160,000	190,000	900	175,000
2900	50,000	100,000	140,000	170,000	1,000	200,000
					1,100	225,000
					1,200	250,000
					1,300	275,000
					1,400	300,000
					1,500	325,000
					1,600	350,000
					1,700	375,000
					1,800	400,000
					1,900	425,000
					2,000	450,000
					2,100	475,000
					2,200	500,000
					2,300	525,000
					2,400	550,000
					2,500	575,000
					2,600	600,000
					2,700	625,000
					2,800	650,000

SPINDLETOP HEADER SYSTEM  
INTERCONNECTIONS & CAPACITY

PIPELINE	IN (MMBTU/day)		OUT (MMBTU/day)	
	MIN*	MAX	MIN*	MAX
CENTANA #1	5,000	150,000		
CENTANA #3	5,000	140,000		
ENBRIDGE	5,000	200,000		
HOUSTON P/L & CHANNEL	5,000	275,000		
KINDER MORGAN TEXAS	5,000	210,000		
KINDER MORGAN TEJAS #2	5,000	150,000	5,000	150,000
TEXAS EASTERN	5,000	130,000		
TEXOMA	5,000	150,000	5,000	150,000
CENTANA (AT STORAGE)			5,000	80,000
MIDCON (AT STORAGE)			5,000	80,000

\* Minimum volumes do not represent obligations, but are physical limits at the station if any quantity is taken at that station.

(A) This pipeline has been removed from service.

**OPERATIONS CONSTRAINTS  
SABINE GAS SPINDLETOP STORAGE FACILITY**

1. Withdrawal rates are not fixed. They are affected by the pressure in the caverns. The cavern operator is required to provide 480 MMCF/day (MMCFPD) at 2500 psig cavern pressure. Higher cavern pressure generally results in higher withdrawal rates. Lower cavern pressure generally results in lower withdrawal rates.
2. Injection rates are affected by both suction and discharge pressure available to the compressors, as well as rod load developed by the compressor frames while in operation. The compressors cannot operate at suction pressures below 200 psig or above 400 psig. The compressors cannot operate at discharge pressures above 3000 psig. The rate of injection available depends on a combination of suction and discharge pressures available at the time, as well as compressor rod load, unloading pocket position, and temperature of the gas being moved. Practically speaking, the compressors can provide up to 320 MMCFPD total capacity under some conditions, and as little as 180 MMCFPD under other combinations of conditions.
3. The 150 psig regulator station at Sabine Plant cannot be safely operated at pressures exceeding 400 psig. This tends to dictate compressor performance.
4. Compression and withdrawal cannot be instantly started and stopped. It requires the cavern operator to plan ahead between 1 hour and 8 hours, on a continuous basis, depending on the anticipated operations.
5. The operator of the facilities must assure that there is adequate gas available to the power plant at all times. All maintenance and repair functions must be scheduled such that the risk of a fuel outage to the power plant is minimized.
6. All fuel burn targets must be met each day, regardless of actual load requirements. This requires hour-by-hour revision of rates injected to and withdrawn from storage.
7. Cavern capacity, as well as the split between working gas and cushion gas, has been found to be affected by such things as salt "creep" or closure, temperature of the cavern, and method of operation of the cavern system. This situation requires a frequent reassessment of inventory and inventory accuracy for prediction of maximum and minimum usable volume in each cavern. Prudent operation dictates that these estimates be realistic, but conservative.
8. To deliver gas to Lewis Creek via Tejas, the 14-mile system pressure must be raised to in excess of 600 psig. This limits the ability to inject and withdraw under certain specific situations.
9. The compressors are powered by electric drive motors. The electric supply contract is interruptible. Therefore there are times when compression needed for injection is not available.
10. Off-system deliveries are limited by the demand for gas by Sabine Plant and Lewis Creek Plant.
11. Each compressor at the facility undergoes an annual planned maintenance outage and is not available during these maintenance periods.
12. Cavern pressure at the casing shoe (the bottom of the production casing string which is the weakest point of a salt dome storage cavern) should be maintained at or above 1,000 psig.
13. The time spent at operating pressures below 2,000 psig should be minimized in order to keep cavern closure rates to acceptable levels.

**ENTERGY TEXAS, INC.**  
**ANALYSIS OF NATURAL GAS STORAGE INVENTORY**  
**JULY 2011 – MARCH 2013**

	<b>Spindletop Gas Inventory Activity</b>			
	<b><u>Net</u></b>	<b><u>Total Daily</u></b>	<b><u>Total Daily</u></b>	<b><u>Adjustments</u></b>
	<b><u>Monthly</u></b>	<b><u>Injections</u></b>	<b><u>Withdrawals</u></b>	
Jul-11	153,694	796,987	(575,426)	(67,867)
Aug-11	(124,910)	732,545	(857,455)	0
Sep-11	(85,197)	735,155	(725,490)	(94,862)
Oct-11	60,978	435,593	(374,615)	0
Nov-11	(33,610)	303,351	(359,700)	22,739
Dec-11	(14,543)	445,643	(399,670)	(60,516)
Jan-12	279,633	481,690	(229,637)	27,580
Feb-12	(55,394)	206,766	(299,406)	37,246
Mar-12	97,385	456,604	(336,598)	(22,621)
Apr-12	46,824	658,501	(609,361)	(2,316)
May-12	(45,705)	612,005	(577,643)	(80,067)
Jun-12	(70,894)	579,935	(614,908)	(35,921)
Jul-12	107,794	850,807	(729,745)	(13,268)
Aug-12	(257,142)	690,947	(947,817)	(272)
Sep-12	112,941	730,942	(508,779)	(109,222)
Oct-12	(200,137)	343,881	(640,385)	96,367
Nov-12	206,954	405,706	(198,716)	(36)
Dec-12	140,397	321,080	(180,682)	(1)
Jan-13	(55,922)	374,091	(430,013)	0
Feb-13	(7,731)	242,233	(249,963)	(1)
Mar-13	181,008	589,692	(394,001)	(14,683)
	436,423	10,994,154	(10,240,010)	(317,721)

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**ENTERGY TEXAS, INC.**  
**SUMMARY OF COST TO OPERATE THE SPINDLETOP STORAGE**  
**FACILITY**  
**JULY 2011 – MARCH 2013**

	<b>Payments to</b>	<b>Cost Allocation to</b>		<b>Eligible</b>
	<b><u>Storage Operator</u></b>	<b><u>Injections</u></b>	<b><u>W/Drawals</u></b>	<b><u>Fuel Cost</u></b>
Jul-11	21,378	(16,936)	0	4,442
Aug-11	442,904	0	20,923	463,826
Sep-11	271,653	0	13,788	285,441
Oct-11	491,697	(7,993)	0	483,705
Nov-11	233,076	0	5,624	238,700
Dec-11	320,765	0	5,413	326,178
Jan-12	644,527	(62,269)	0	582,258
Feb-12	356,796	0	9,234	366,029
Mar-12	222,600	(10,496)	0	212,104
Apr-12	434,495	(4,258)	0	430,237
May-12	532,599	0	10,163	542,762
Jun-12	457,900	0	11,872	469,773
Jul-12	373,604	(1,245)	0	372,359
Aug-12	382,383	0	42,261	424,644
Sep-12	297,793	(14,021)	0	283,772
Oct-12	248,172	0	33,864	282,035
Nov-12	644,737	(4,312)	0	640,426
Dec-12	620,052	(27,451)	0	592,601
Jan-13	408,425	0	8,925	417,350
Feb-13	677,791	0	1,170	678,961
Mar-13	321,706	0	0	321,706
	<b>8,405,052</b>	<b>(148,980)</b>	<b>163,237</b>	<b>8,419,308</b>

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