

Consultancy for standardizing the contracts for supply and pipeline transportation of natural gas in Colombia

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Team Leader:

- Paul Milgrom, paul@auctionomics.com

Additional team members:

- Bob Broxson, FTI Consulting, Bob.Broxson@fticonsulting.com
- Gustavo Suarez Camacho, Gsuarez@suzalegal.com
- Silvia Console Battilana, silviacb@auctionomics.com

Auctionomics and FTI consulting

209 Hamilton, Suite 220

CA 94301, Palo Alto

United States

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Report on Existing Natural Gas Contracts in Colombia

Paul Milgrom, Bob Broxson and Gustavo Suarez Camacho
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Introduction

As commodities markets develop, the contracts used to govern trade tend to change and become more standardized, favoring practices that allow for clear and concise execution of both day-to-day and long-term transactions. In the Colombian natural gas market, that process of development has resulted in some standardization of language, but has not yet reached maturity. Our review of over four hundred (400) contracts and related amendments utilized in the Colombian natural gas market uncovered a still-significant range in types of contracts and language used to memorialize business transactions.

The Bilateral Nature of Contracts in International Markets

Before entering into a discussion of the contracts reviewed as part of this consultancy, it is important to briefly describe the nature of gas contracts in fully open markets. Until the early 1980's, the North American natural gas market was highly regulated. Pipeline companies acted as the sole buyers of natural gas in the market and also made the vast majority of sales to local distribution companies, who in turn made sales to residential, industrial and commercial customers. These transactions were regulated in a variety of ways. The pipeline companies purchased natural gas under regulated prices established under the Natural Gas Policy Act. The pipelines were further regulated by the Federal Energy Regulatory Commission (FERC), who approved ratemaking policies

for these companies. The local distribution companies were also regulated heavily at the state level. It is clear that contracting was centrally controlled to a significant extent. As generally discussed in our paper, “History and Development of Natural Gas Contracts,” which is attached as an exhibit to this report, as the market began to become more open, both in North America and Europe the industry began to make strides in developing contract forms that would meet the needs of participants in the market. This resulted in contracts that were standardized and negotiated strictly between the parties on a bilateral basis. The bilateral negotiations in both the North American and European markets allow market participants to negotiate freely specific terms and conditions of transactions within the confines of an industry accepted standard contract form. It is important to point out that the development of standardized contracts in these markets were developed as part of an initiative of industry participants who desired to create a contracting system that met the needs of buyers and sellers. It should also be pointed out that the infrastructure sectors of these markets (transporters and distributors) are still heavily regulated by the national and local governments responsible for meeting the needs of the public. While individual companies are free to contract with these companies, they do so in the context of regulated tariffs.

Contracts in the Colombian natural gas market are negotiated on a bilateral basis, and the pipeline transportation companies and distributors are regulated in much the same manner as in other markets. The next step in this process, if deregulatory activities follow a similar course as other “liberalized” markets, the effort to establish standardized contracts in the Colombian will follow, and it will be lead by market participants.

Normative Contracting Structure in the Colombian Natural Gas Market

The natural gas market in Colombia is small relative to other developed natural gas markets around the world. With total production of approximately 1 Billion Cubic Feet per Day, the market has developed its own unique contracting regimen. This regimen is dictated for the most part by the producing sector, which controls the majority of commercial terms for the industry. The Colombian regulator has been quite active in its work to maintain order in the market, but in spite of these efforts, the producers, working within the existing regulatory framework, have been successful in maintaining and exercising control of the tone and tenor of sales contracts.

Particularly for a market of its size, Colombia has a large number of contract “types. Having so many contract types can be a source of confusion, cost, and delay as market participants grapple with and negotiate about variations in contract rights and obligations. This contract variety represents the most significant weakness in the Colombian contracting regime. When comparing to much larger markets, the absolute number of contract types is excessive. In mature gas markets, contract types include Firm and Interruptible. Options are concluded in a separate “Over the Counter” market.

The lack of standardization of terms can lead to challenges in meeting contract obligations. In discussions with Industry participants, it became apparent that at least some terms were defined loosely, and there were varied “interpretations” of “firm” or “interruptible.” In order for there to be an efficient market, commercial terms must be consistent in every contract and consistently interpreted and enforced across the sector.

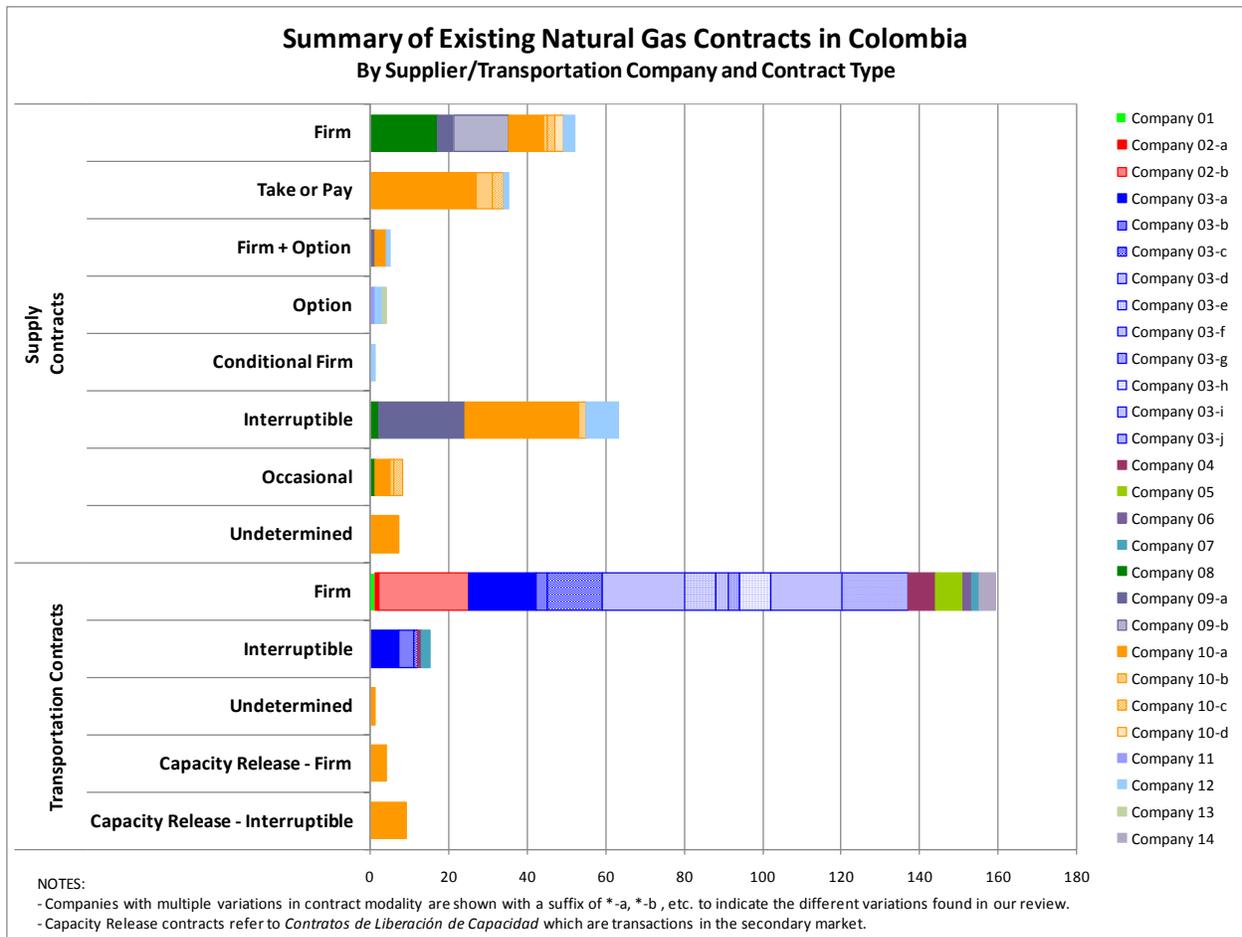
One of the strengths of the supply and market contracting practices in Colombia has been the introduction of option contracts, or contracts that operate similarly to option

contracts. The Conditional Firm contract, while not purely an option, provides options for producers and markets that do not exist in the standard contracts we have reviewed. The Option Contract form used in Colombia provides significant flexibility to suppliers and users of gas, allowing them flexibility to call on supplies as they are required, and on a firm basis.

The Transportation Agreements reviewed are typical in relation to other markets. As discussed later in the report, the transportation agreements are highly regulated and the adopted terms and conditions are similar to other contracts reviewed from other markets.

Review of Documents

Our review focused on certain critical sections and clauses in the physical supply and transportation agreements that are crucially important to the orderly functioning of the natural gas markets. These clauses include the ones governing Force Majeure, Exempting Events, Excused Events, Unforeseeable Circumstances and Firm and Interruptible obligations. Throughout the sample of contracts there were twenty-seven (27) unique versions of transportation agreements and twenty-nine (29) different versions of natural gas supply and sales agreements. The “uniqueness” of these various versions were not necessarily the entirety of the agreements (because many were very similar), but consisted in many cases of small insertions or differences from one contracting party to the next. The following figure illustrates the number of unique contract forms that exist in the market.



As the figure reveals, the number of unique forms is substantial. Contract negotiations would likely be simpler, faster and less contentious if there were standard contracts in place that were accepted across the Colombian natural gas industry.

Diversity of Documents Reviewed and Need for Consistency

The set of agreements that we reviewed included contracts of following types:

- Firm and Take-or-Pay Natural Gas Supply Agreements
- Firm + Option Contracts
- Natural Gas Purchase Option Contracts
- Conditional Firm Natural Gas Supply Agreements

- Interruptible Natural Gas Supply Agreements
- Occasional Supply Contracts
- Firm Transportation Contracts
- Interruptible Transportation Contracts

Each of these forms of agreement contains specific terms and conditions describing the obligations of the parties and embeds an understanding of how these contracts “fit” within the regulatory and market environment in Colombia. Though these various contract types incorporate different levels of commitment, they share consistent patterns of construction. As discussed below, many of the contracts, regardless of type, contain nearly identical language with regard to the key clauses.

The variety of agreements in Colombia is not unusual from a historical market perspective. For example, when the North American natural gas markets were initially deregulated, each participating company had its own unique form of contract for purchasing and selling natural gas. As in Colombia, natural gas transportation agreements were and are highly regulated and dictated by government approved tariffs. Even when tariffs were transformed to reflect the new regulatory framework of an open market, each individual pipeline company maintained its own unique contracting process.

Among the documents we reviewed, there is a clear diversity in the treatment of issues like Take-or-Pay, Firm, Interruptible, Force Majeure, Unforeseeable Circumstances and Exempting or Excusable Events, among others. And, while all of the various versions of the contracts appear to comply with the spirit of the existing regulatory and market

framework, the diversity of clauses could promote confusion among the participants as to what events meet, or do not meet the regulatory criteria for each type of circumstance.

Having consistent contract language across the industry is beneficial both because it facilitates consistent understanding and behavior and because it encourages the development of routines that lead to quicker, less costly execution of market transactions. Small contract variations, such as we have found in the set of Colombian contracts, add cost and uncertainty for market participants without providing any substantial benefits. Throughout this report, we will discuss the types of contracts, and associated clauses that were reviewed and point out specific areas where variations in language are used with different counterparties.

Types of Contracts and Terminology in International Perspectives

In this section, we review the types of contracts used in the Colombian market and compare the meanings given to corresponding terms according to international standards. For comparison, we use standard contracts of the North American Energy Standards Board (NAESB) and, where applicable, of the European Federation of Energy Traders (EFET). An important strength of these standards is the clarity of the critical contract clauses, in which exceptions and qualifications are made explicit.

Firm and Take-or-Pay Contracts

The definition for “Firm” in the North American Energy Standards Board (NAESB) Base Contract for Sale and Purchase of Natural Gas defines Firm as follows:

- 2.19.1 "Firm" shall mean that either party may interrupt its performance without liability only to the extent that such performance is prevented for reasons of Force Majeure; provided, however, that during Force Majeure interruptions, the party invoking Force Majeure may be responsible for any Imbalance Charges

as set forth in Section 4.3 related to its interruption after the nomination is made to the Transporter and until the change in deliveries and/or receipts is confirmed by the Transporter.

This language is very similar to that found in most of the contracts in the sample of Colombian contracts reviewed. The NAESB, and other standard contract forms define a Firm obligation in simple terms and provide for relief from the obligation to deliver only during Force Majeure.

While Take-or-Pay contracts have existed in the North American natural gas market, the use of such contracts has given way to Firm Sales. The Firm obligation is now seen as the highest level of commitment to perform in the physical natural gas market, only excused by an event of Force Majeure. This Firm commitment is enforced by the “Performance Obligation” section of the NAESB Base Contract, which calls for the defaulting party to pay the replacement cost of commodity not taken or delivered. This type of language has the same impact of a Take-or-Pay clause, but is quickly resolved through a financial settlement as the Performance Obligations requires the defaulting party to replace supplies or pay for the cost of replacement to the non-defaulting party.

Take-or-Pay “refers to a certain volume of gas that must be taken in a time period (e.g. a month or year). If the buyer does not take the agreed-upon volume of gas in that timeframe, the buyer must pay as if it took the gas. After payment, there may be an opportunity for the buyer to take an equivalent gas quantity at a later date. In today’s market, what had been the take-or-pay provision is now more normally called a *reservation charge*. Without this provision, a liquidated damages provision may apply to

encourage contract performance.”¹ Thus, Take-or-Pay contracts are no longer common in developed natural gas markets, but have been replaced by Firm contracts with Liquidated Damages penalties in the event of default.

In light of these definitions, it is clear that there is a great deal of similarity between Firm and Take-or-Pay contracts. In some other markets, Take-or-Pay is regarded as a type of Firm Contract, because of the similarity of commitments made by the buyer. The significant difference in these two terms is that in a Take-or-Pay contract, a Buyer may elect to pay for supplies but take only at a later date. This ability to take “makeup” gas is governed by additional provisions in the specific contract. Nonetheless, Take-or-Pay and Firm contracts have similar characteristics. In the Colombian natural gas market, the use of Take-or-Pay is primarily utilized to maintain control of both transportation capacity and natural gas supply.

There are several different types of language used in the Colombian contracts with regard to a “Firm” or Take-or-Pay commitment, as follows:

- “3.1 Purpose: [...] the Sellers commit to supply and deliver the Gas, in firm, and according to the Energy Quantities agreed in 3.2. [...] The Buyer will take-or-pay a minimum payment.”
- “The Sellers only commit to deliver the Solicited and Accepted Daily Quantity (CDSA) up to the CDGF, under the terms of this contract.”
- “(a) From the Supply Start Date to the Supply Termination Date, the Buyer commits to Take-or-Pay the Corrected CDSA, in conformity with the terms of this contract.”
- “From the Supply Start Date to the Supply Termination Date, as long as there are reserves and supply and is technically and economically feasible, the Seller commits to delivering daily to the Buyer the Daily Firm Quantity of Gas (CDGF) equivalent to XXXX MMBtu/d.”

All of these variations of Take-or-Pay or Firm Commitment contracts appear to be within international industry norms, but they differ from one version of a contract to another.

¹ Jennings, Feiten & Brock, Petroleum Accounting, Principles, Procedures & Issues 5th Edition, 2000 PricewaterhouseCoopers LLP (p. 314)

Surprisingly, some sellers of gas in Colombia use different language from one counterparty to the next, even when the commitment is the same.

Conditional Firm

A conditional firm contract is a firm supply contract that is subject to interruption if the price in the electricity market exceeds the “Scarcity Price” as defined in Article 2 of CREG Resolution 071 of 2006.

This type of contract allows generators to have the capability to purchase firm supplies of natural gas, and effectively release that gas on a firm basis until certain market conditions are met. This type of contract is healthy for the Colombian market because it allows users of natural gas other than the thermal electric plants to have access to firm gas supplies, only losing gas supply when extreme pricing or other conditions exist. In the Colombian market, however, a key to the value of these contracts is to ensure that they are backed not only by firm gas supply but also by adequate transportation capacity. In crisis situations like El Nino events, Conditional Firm contracts together with adequate transportation capacity can allow the market to remain in an orderly footing.

In US, Canadian and European markets, this Conditional Firm type of arrangement would be designated a “Callable” contract, where one party has the right to call on gas given certain events. These types of contracts, similar to the Purchase Option Contract discussed below, can be helpful in managing fluctuations in demand.

Purchase Option Contracts

Gas Purchase Options provide a buyer the right, but not the obligation, to buy gas at a given strike price. This is a contract for physical delivery, not merely a financial contract.

Gas Purchase Options have been used in natural gas markets for many years. The correct use of options can provide significant flexibility for users of natural gas, such as electric generators and natural gas distributors, as they can call on the gas when it is required. In this review, several variations of option were noted, including those that combined both natural gas supply and transportation capacity. This, like the Conditional Firm contracts, can be very helpful in allowing the flexibility required to meet the needs of entities with high priority but hard-to-predict demand. Purchase option contracts rely on the assumption that physical supplies of natural gas are sufficient to meet the potential demand represented by the Option holders, even if the Options are subject to being called in the same time period.

Interruptible Contract

Following is the definition of “Interruptible” as it appears in the 2006 NAESB Base Contract for Sale and Purchase of Natural Gas:

2.24 "Interruptible" shall mean that either party may interrupt its performance at any time for any reason, whether or not caused by an event of Force Majeure, with no liability, except such interrupting party may be responsible for any Imbalance Charges as set forth in Section 4.3 related to its interruption after the nomination is made to the Transporter and until the change in deliveries and/or receipts is confirmed by Transporter.

The definition of “Interruptible” above, like “Firm” is stated clearly, explaining that in an interruptible purchase or sale arrangement is tentative and can be interrupted at any moment and for any reason. When compared to the language in some of the Colombian contracts reviewed here, there is a significant difference, as Firm obligations can arise in an interruptible sale or purchase in the Colombian contracts. For example, in the case of an interruptible agreement if a nomination is made by the buyer and is accepted by the seller, then the commitment to take that volume is firm. Likewise, if a nomination is made and accepted and the volume is not delivered, Seller will suffer a penalty for non-delivery of the volume. “Except for

events of Force majeure, Unforeseeable Circumstances or Exempting Events, when [the seller] fails to perform the delivery to Buyer of the Daily Quantity of Energy Nominated and Approved (CDNA), Seller will pay the Buyer . . .” The liability for this type of failure to take or deliver is limited, but its presence in an “Interruptible” contract is notable. These types of contracts are not typical of other open markets, but may be necessary and/or valuable in the Colombian market.

Transportation Contracts

The review of the transportation contracts revealed that the terms are fairly standard throughout the major transportation companies and their clients. The vast majority of the transportation contracts are written on a Firm basis where the transportation company agrees to ship and maintain available capacity of a certain quantity and pressure from determined Points of Entry to determined Points of Delivery.

Capacity Release. The transportation contracts allow the Shippers to temporarily release their unused capacity to other companies through Capacity Release Agreements. These Capacity Release transactions allow the Shippers to avoid non-performance penalties. Capacity Release arrangements do not relieve the Shipper from its long-term obligations in its Firm Transportation Contracts.

Penalties. The transportation contracts have various penalty provisions, two of which are penalties for variations from daily nominated and accepted amounts (entry and exit variations) and for imbalances over the entire gas day. The penalty for variations in some contracts is applied when the excess amount is 2% - 4% of the nominated and accepted amount; in Interruptible contracts, this penalty is applied when the gas taken exceeds the nominated amount by at least 2%.

The penalties for imbalances that are not resolved within a few days of being reported are applied when the imbalance is +/- 0.5% - 2% of the nominated and accepted amount. Shippers have the ability to take gas at different Points of Delivery in order to clear imbalances. Other transportation contracts have imbalance clauses where there is no penalty until the difference is +/- 10%. If the variation is greater than 10%, there is a tiered penalty based on the amount of gas taken in excess of the contracted amount. In addition to the penalty, if the imbalance is negative (more gas was taken than agreed), the Transporter will purchase gas from a supplier to make up the difference and the Shipper is responsible for this cost, the transportation cost of this gas to the Point of Delivery, and an additional charge of 5%. If the imbalance is positive (less gas was taken than agreed), the Transportation Company will request the producer to deliver less gas into the pipeline.

One issue that was discovered in our review was the number of variations in the levels and timing of penalties in the transportation agreements reviewed. In many cases it was observed that different timelines and levels of tolerance were used on the same pipeline with different customers. This type of inconsistency in contracting for transportation capacity is not good for the efficient operation of the market. In other markets, pipelines are consistent in the form of agreement, the tolerance levels of variations, called overruns and how they are resolved and penalties are enforced.

Incremental Capacity. Some firm transportation contracts allow additional gas to be nominated, and if the Transporter has the capacity, they may accept this amount. Other contracts allow for higher amounts to be requested when those amounts are notified at least 6 months in advance.

As stated earlier, pipeline tariffs are highly regulated in all natural gas markets. Based on our review, while there are a large number of small variations in the transportation contract language in the sample we reviewed, the transportation contracts and regulations in Colombia are not significantly different from other open natural gas markets.

Force Majeure, Unforeseeable Circumstances, Exempting and Excusable Events

For the purpose of comparison, presented below are standard Force Majeure clauses as established in North America and Europe:

European Federation of Energy Traders (EFET) Standard Language

“1. Definition of Force Majeure: Unless otherwise specified in the Election Sheet, for purposes of the Agreement **"Force Majeure"** means an occurrence beyond the reasonable control of the Party claiming Force Majeure (the **"Claiming Party"**) which it could not reasonably have avoided or overcome and which makes it impossible for the Claiming Party to perform or procure performance of its delivery or acceptance obligations, including, but without limitation, due to one or more of the following:

- (a) the failure of communications or computer systems of the relevant Network Operator(s) which prevents the Claiming Party from performing its obligations of delivery or acceptance; or
- (b) the relevant Network's Operator failure to respond to all efforts by the Claiming Party to communicate with such Network Operator;

Provided that **"Force Majeure"** shall not include any curtailment or interruption of transportation rights or any problem, occurrence or event affecting any relevant pipeline system unless this constitutes a Transportation Failure.

2. Release from Delivery and Acceptance Obligations: If a Party is fully or partly prevented due to Force Majeure from performing or procuring performance of its obligations of delivery or acceptance under one or more Individual Contracts and such Party complies with the requirements of § 7.3 (**Notification and Mitigation of Force Majeure**) then, without prejudice to § 7.5 (**Long Term Force Majeure Limit**), no breach or default on the part of the Claiming Party shall be deemed to have occurred and it shall be released (and not merely suspended) from those obligations but only for the period of time and to the extent that such Force Majeure prevents its performance. Without prejudice to § 7.5 (**Long Term Force Majeure Limit**), no obligation to pay damages pursuant to § 8 (**Remedies for Failure to Deliver or Accept the Contract Quantity**) will accrue to the Claiming Party with respect to Default Quantities arising under such Individual Contracts as a result of Force Majeure affecting the Claiming Party's obligation.

3. Notification and Mitigation of Force Majeure: The Claiming Party shall as soon as practicable after learning of the Force Majeure notify the other Party of the commencement of the Force Majeure and of the Individual Contract(s) affected thereby and, to the extent then available, provide to it a bona fide non-binding estimate of the extent and expected duration of its inability to perform. The Claiming Party shall use all commercially reasonable efforts to mitigate and overcome the effects of the Force Majeure (which, in the case of a Transportation

Failure, shall include using all commercially reasonable efforts to procure that the relevant Network Operator mitigates and overcomes the effects of the Transportation Failure) and shall, during the continuation of the Force Majeure, provide the other Party with reasonable bona fide updates, when and if available, of the extent and expected duration of its inability to perform such Individual Contract(s).

4. Effects of Force Majeure on Other Party: In the event, and to the extent, that a Seller's delivery obligations are released by Force Majeure, the Buyer's corresponding acceptance and payment obligations shall also be released. In the event, and to the extent that a Buyer's acceptance obligations are released by Force Majeure, the Seller's corresponding delivery obligations shall also be released.

5. Long Term Force Majeure Limit: Where in respect of an Individual Contract the obligations of the Claiming Party have been adversely affected by Force Majeure on each Day for a consecutive period of Days exceeding the Long Term Force Majeure Limit and by on average more than fifty (50) per cent of the contracted quantity during such period, then the Party which is not the Claiming Party shall have the right to terminate such Individual Contract forthwith by written notice to the Claiming Party. Such termination shall be without prejudice to the accrued rights and obligations of the Parties under such Individual Contract up to the date of termination but neither Party shall have any liability whatsoever to the other in respect of the unexpired portion of the Total Supply Period under such Individual Contract after the date of termination."

NAESB Standard Language

"SECTION 11. FORCE MAJEURE

11.1 Except with regard to a party's obligation to make payment(s) due under Section 7, Section 10.4, and Imbalance Charges under Section 4, neither party shall be liable to the other for failure to perform a Firm obligation, to the extent such failure was caused by Force Majeure. The term "Force Majeure" as employed herein means any cause not reasonably within the control of the party claiming suspension, as further defined in Section 11.2.

11.2 Force Majeure shall include, but not be limited to, the following: (i) physical events such as acts of God, landslides, lightning, earthquakes, fires, storms or storm warnings, such as hurricanes, which result in evacuation of the affected area, floods, washouts, explosions, breakage or accident or necessity of repairs to machinery or equipment or lines of pipe; (ii) weather related events affecting an entire geographic region, such as low temperatures which cause freezing or failure of wells or lines of pipe; (iii) interruption and/or curtailment of Firm transportation and/or storage by Transporters; (iv) acts of others such as strikes, lockouts or other industrial disturbances, riots, sabotage, insurrections or wars, or acts of terror; and (v) governmental actions such as necessity for compliance with any court order, law, statute, ordinance, regulation, or policy having the effect of law promulgated by a governmental authority having jurisdiction. Seller and Buyer shall make reasonable efforts to avoid the adverse impacts of a Force Majeure and to resolve the event or occurrence once it has occurred in order to resume performance.

11.3 Neither party shall be entitled to the benefit of the provisions of Force Majeure to the extent performance is affected by any or all of the following circumstances: (i) the curtailment of interruptible or secondary Firm transportation unless primary, in-path, Firm transportation is also curtailed; (ii) the party claiming excuse failed to remedy the condition and to resume the performance of such covenants or obligations with reasonable dispatch; or (iii) economic hardship, to include, without limitation, Seller's ability to sell Gas at a higher or more advantageous price than the Contract Price, Buyer's ability to purchase Gas at a lower or more advantageous price than the Contract Price, or a regulatory agency disallowing, in whole or in part, the pass through of costs resulting from this Contract; (iv) the loss of Buyer's market(s) or Buyer's inability to use or resell Gas purchased hereunder, except, in either case, as provided in Section 11.2; or (v) the loss or failure of Seller's gas supply or depletion of reserves, except, in either case, as provided in Section 11.2. The party claiming Force Majeure shall not be excused from its responsibility for Imbalance Charges.

11.4 Notwithstanding anything to the contrary herein, the parties agree that the settlement of strikes, lockouts or other industrial disturbances shall be within the sole discretion of the party experiencing such disturbance.

11.5 The party whose performance is prevented by Force Majeure must provide Notice to the other party. Initial Notice may be given orally; however, written Notice with reasonably full particulars of the event or occurrence is required as soon as reasonably possible. Upon providing written Notice of Force Majeure to the other party, the affected party will be relieved of its obligation, from the onset of the Force Majeure event, to make or accept delivery of Gas, as applicable, to the extent and for the duration of Force Majeure, and neither party shall be deemed to have failed in such obligations to the other during such occurrence or event.

11.6 Notwithstanding Sections 11.2 and 11.3, the parties may agree to alternative Force Majeure provisions in a Transaction Confirmation executed in writing by both parties."

The language found in the Colombian Agreements is similar to the referenced clauses above, but contains a couple of unique additions. While the Colombian Agreements are consistent with the need to follow government regulations, they are also different because they add other language that expands the typical Force Majeure language. For example, the following terms were added or are included with Force Majeure:

- **Unforeseeable Circumstances** are defined very similarly to Force Majeure and at times are treated exactly the same. Many times this term appears in the same clause or paragraph of the contract.
- **Exempting Events (sometimes called Excusable Events)** are treated in generally the same way as Force Majeure, but add a wrinkle with regard to “excusing” events under the contract. For example, in many contracts, one finds clauses like this one: “the following are considered Exempting Events that excuse the Buyer or the Seller, whichever the case may be, from all responsibilities for the failure to perform the obligations of the contract: a) Unscheduled maintenance or emergency shut downs of plants, or of the transporting pipeline, provided that the emergency stops do not occur more than 30 days in each fiscal year or b) operational problems that impact the flow of natural gas.” Other variations of this type of allowed curtailment of supply include scheduled maintenance as an Exempting or Excusable Event.

Unforeseen Circumstances is generally described, and can sometimes replace the Force Majeure term in contracts, and in that sense does no harm to the standard established for claiming a Force Majeure-type event. However a term like Exempting or

Excusable Events could potentially have a significant impact in what would be generally accepted as Force Majeure. The inclusion of scheduled maintenance and other routine operational issues clouds the effectiveness and purpose of Force Majeure. Further, it confuses the issue of Force Majeure to include a term that has substantially the same effect as Force Majeure, while limiting it to “30 days in each fiscal year.”

An unusual feature of the Colombian contracts is the treatment of maintenance, and particularly scheduled maintenance, which in the standard contracts is set apart from Force Majeure. The treatment of maintenance should take into consideration the entirety of the contractual agreement between the parties along with the impact that maintenance events can have on the industry. In a market with two major supply points, two major transportation systems and relatively few suppliers, maintenance events can add substantial variation to market activity.

The purpose of Force Majeure is to excuse contractual obligations in instances where the affected party has no control over the events, like weather events, which occur from time to time. In the NAESB standard contracts, events like hurricanes, explosions and freezing of wells or earthquakes are the ones that comprise Force Majeure.

Scheduled maintenance is a necessity, and relieves the supplier or consumer of its obligation to deliver or take natural gas. However, it should not be considered as part of a claim of Force Majeure or Unforeseeable Circumstances, but as part of the supply reliability and planning process for the natural gas industry in Colombia. Planning is the key to providing dependable supply and delivery of natural gas, and it is the inability to

foresee and control circumstances of Force Majeure that distinguishes those conditions from all others.

Discussion on Damages

Most of the Firm natural gas contracts in Colombia feature Take or Pay clauses. Many times the level of required take or pay is minimal, and can in many cases represent an incentive not to perform, as it would be more economic to pay the penalty and not make deliveries. The language regarding take levels and penalties is varied across the sample of contracts reviewed. In some cases the take levels are very high, up to 100% of the daily quantity. In many cases, as discussed in the industry discussions in Bogota, the take levels are as low as 25%.

A small random sample of Firm Supply contracts from different companies was reviewed to identify differences in performance penalties. The review revealed very different and complex penalty language. In terms of sellers, some penalties varied depending on whether end use customers are in the regulated or unregulated market. Some penalties become applicable when the delivered quantity is less than 96%, 98% or 100% of the Daily Solicited and Accepted Quantity (also known as *CDSA – Cantidad Diaria Solicitada y Aceptada*); some contracts require the delivered quantity to be compared with the CDSA while others require the CDSA to be corrected by various factors. Some penalties are calculated based on multiplying 96%, 100%, 102% or 105% of the under delivered or received quantity by a weighted average or contracted price. Many penalties contain limitations as to the number of days the Seller will pay be required to pay a penalty.

In terms of penalties to Buyers, penalties can be incurred when the taken quantity is below a predetermined minimum level, and this minimum level can be 90%, 95%, 96%, or 100% of the contracted firm quantity. Some penalties require multiplying the deficient quantity by a calculated average price vs. other penalties that call for the price stipulated in the contract, while other penalties are two-tiered where one tier factors in a weighted average price and another tier uses the contract price. As is evidently clear from this small sample, penalty language is not consistent, and very confusing to comprehend and enforce. And, it appears that the language tends to favor the producer/seller. In order for the market to run in an organized and efficient manner, the language of penalties and damages, like other areas discussed in this report, must be clear to all participants. Currently, this does not appear to be the case.

As is consistently stated throughout this report, contract language must be consistent and equally enforceable across the industry. Parties to contracts must be motivated to meet contract obligations. That said, it is difficult to surmise from the contracts that producers or other parties are “managing” contract rights and obligations in an effort to exert control over the market.

Take or Pay contracts have become less prominent in other markets, being replaced by Firm contract commitments, which are discussed in this report. Commitment to a Firm contract in other markets is accompanied by Default provisions that require the defaulting party to make up the difference in the contract price and the market price, which can be quite volatile, and can cause the penalty for non-performance to be quite significant. This is different from the market in Colombia, where prices are regulated and volatility is low. If the Colombian Government deregulated natural gas prices, and

then adopted a standard of performance similar to other open markets, performance on gas contract commitments would likely increase as the cost of non-performance would be more meaningful and motivating to market participants.

Discussion on Regulation – International

As noted throughout the discussions held in Bogota, the consensus of nearly every attendee was that regulations in Colombia are complex and confusing. Based on our review of the regulations related to the natural gas market, we would concur. The nature of the regulations that are enacted in Colombia is too often fragmented and “reactive,” rather than comprehensive and “proactive.” To be most effective, regulations should be clear and organized, and much like earlier comments in this report regarding gas contracts, understood and evenly enforced across the market.

Following is a brief “History” of deregulation in the United States. It is clear from the description that the regulations were replaced as time passed, not simply “added to” when new issues occurred.

“The Move Towards Deregulation

The Natural Gas Policy Act took the first steps towards deregulating the natural gas market, by instituting a scheme for the gradual removal of price ceilings at the wellhead. However, there still existed significant regulations regarding the sale of gas from an interstate pipeline to local utilities and local distribution companies (LDCs). Under the NGA and the NGPA, pipelines purchased natural gas from producers, transported it to its customers (mostly LDCs), and sold the bundled product for a regulated price. Instead of being able to purchase the natural gas as one product, and the transportation as a separate service, pipeline customers were offered no option to purchase the natural gas and arrange for its transportation separately.

Several events led up to the 'unbundling' of the pipelines' product. In the early 1980s, noticing that a significant number of industrial customers were switching from using natural gas to other forms of energy (for example, electric generators switching from natural gas to coal), several pipelines instituted what they called Special Marketing Programs (SMPs). Essentially, these programs, which were approved by FERC, allowed industrial customers with the capability to switch fuels the right to purchase gas directly from producers, and transport this gas via the pipelines. However, SMPs were found discriminatory by the District of Columbia Circuit Court of Appeals in several 1985 cases. The court ruled that SMPs were discriminatory in that no other

customer of the pipelines had the ability to purchase their own natural gas and transport it via pipeline. As a result of this, SMPs were eliminated on October 31, 1985.

However, the practice of allowing customers to purchase their own gas, and use pipelines only as transporters rather than merchants, was not abandoned. In fact, it became part of FERC policy to encourage this separation by way of Order No. 436.

FERC Order No. 436

In 1985, FERC issued Order No. 436, which changed how interstate pipelines were regulated. This order established a voluntary framework under which interstate pipelines could act solely as transporters of natural gas, rather than filling the role of a natural gas merchant. This order provided for all customers the same possibilities that the SMPs of the early 1980s had afforded industrial fuel-switching customers, thus avoiding the discrimination problems of the earlier SMPs. Essentially, FERC allowed pipelines, on a voluntary basis, to offer transportation services to customers who requested them on a first come, first served basis. The interstate pipelines were barred from discriminating against transportation requests based on protecting their own merchant services. Transportation rate minimums and maximums were set, but within those boundaries the pipelines were free to offer competitive rates to their customers. Although the framework established by Order 436 was voluntary, all of the major pipeline systems eventually took part.

FERC Order No. 436 had a number of immediate effects, including:

- Pipelines began offering transportation service to all customers
- Pipeline customers realized cost savings, in that the spot market prices of natural gas were much lower than the prices offered for natural gas by the pipelines (due to the long term 'take-or-pay' contracts that the pipelines were bound under)
- The payments necessary under these 'take-or-pay' contracts increased for pipelines, as few customers were willing to purchase higher priced gas from the pipelines
- Pipelines and producers were often forced into litigation to resolve issues surrounding 'take-or-pay' contracts

FERC Order No. 436 also had a number of longer term effects, including:

- The transportation function became the primary function of pipelines, as opposed to offering the bundled merchant service
- A wide variety of natural gas purchasing and transportation patterns and practices emerged due to the availability of choices to the end user
- New pricing patterns emerged, known as 'netback' pricing, in which a reasonable price was set at the point of consumption, and that minus the cost of distribution, minus the cost of transportation, gave the 'netback' price to the producer at the wellhead

The movement towards allowing pipeline customers the choice in the purchase of their natural gas and their transportation arrangements became known 'open access'. Order No. 436 thus became generally known as the Open Access Order.

While the general thrust of Order 436 was upheld in Court, several problems arose regarding the 'take-or-pay' contracts under which the pipelines were still obliged. Given these problems, and under remand from the D.C. Circuit Court of Appeals, FERC issued Order No. 500 in 1987. This order essentially encouraged interstate pipelines to buy out the costly take-or-pay contracts, and allowed them to pass a portion of the cost of doing so through to their sales customers. The LDCs to which these costs were passed through were allowed by state regulatory bodies to further pass

them on to retail customers. However, the open access provisions of Order No. 436 remained intact.

Open access to pipelines also spurred the first appearances of natural gas marketers.

The Natural Gas Wellhead Decontrol Act of 1989

As mentioned, under the NGPA, the deregulation of natural gas producers sale prices at the wellhead had begun. However, it wasn't until Congress passed the Natural Gas Wellhead Decontrol Act (NGWDA) in 1989 that complete deregulation of wellhead prices was carried forth. Under the NGWDA, the NGPA was amended and all remaining regulated prices on wellhead sales were repealed. As of January 1, 1993, all remaining NGPA price regulations were to be eliminated, allowing the market to completely determine the price of natural gas at the wellhead.

The NGWDA stated that 'first sales' of natural gas were to be free of any federal price regulations. The Act defined 'first sales' as the sale of gas:

- To a pipeline
- To a local distribution company
- To an end user
- Preceding the sale to any of the above
- Determined by FERC to be a first sale

Excluded from falling under the definition of a first sale were any sales of gas by pipelines and local distribution companies, including interstate pipelines.

FERC Order No. 636

While FERC Order No. 436 made the unbundling of pipeline services possible, the establishment of transportation only services by a pipeline continued to be only voluntary. FERC Order No. 636 completed the final steps towards unbundling by making pipeline unbundling a requirement. Issued in 1992, the Order states that pipelines must separate their transportation and sales services, so that all pipeline customers have a choice in selecting their gas sales, transportation, and storage services from any provider, in any quantity. Order 636 is often referred to as the Final Restructuring Rule, as it was seen as the culmination of all of the unbundling and deregulation that had taken place in the past 20 years. Essentially, this Order meant that pipelines could no longer engage in merchant gas sales, or sell any product as a bundled service. This Order required the restructuring of the interstate pipeline industry; the production and marketing arms of interstate pipeline companies were required to be restructured as arms-length affiliates. These affiliates, under Order 636, could in no way have an advantage (in terms of price, volume, or timing of gas transportation) over any other potential user of the pipeline.

FERC Order No. 636 is the culmination of deregulating the interstate natural gas industry. Distilled to its main purpose, the Order gives all natural gas sellers equal footing in moving natural gas from the wellhead to the end-user or LDC. It allows the complete unbundling of transportation, storage, and marketing; the customer now chooses the most efficient method of obtaining its gas.

Order 636 also requires that interstate pipelines offer services that allow for the efficient and reliable delivery of natural gas to end users. These services include the institution of 'no-notice' transportation service, access to storage facilities, increased flexibility in receipt and delivery points, and 'capacity release' programs. No-notice transportation services allow LDCs and utilities to receive natural gas from pipelines on demand to meet peak service needs for its customers,

without incurring any penalties. These services were provided based on LDC and utility concerns that the restructuring of the industry may decrease the reliability needed to meet their own customers' needs. The capacity release programs allow the resale of unwanted pipeline capacity between pipeline customers. Order 636 requires interstate pipelines to set up electronic bulletin boards, accessible by all customers on an equal basis, which show the available and released capacity on any particular pipeline. A customer requiring pipeline transportation can refer to these bulletin boards, and find out if there is any available capacity on the pipeline, or if there is any released capacity available for purchase or lease from one who has already purchased capacity but does not need it.²

The process of deregulation took many years, and as can be seen in the narrative above, the entirety of the natural gas market, from wellhead to burnertip, was taken into consideration. Every aspect of the industry was impacted, as this was necessary in providing a truly open market. Also seen in the information above, is that this move towards deregulation effectively replaced all prior regulation. Similar regulatory activities have followed in Europe as the European Union Regulator has worked systematically to “Liberalise” the natural gas market across Europe. And, like in the North American market, though in multiple constituencies, the new regulations effectively replaced the existing regulations allowing for more free market activities.

Discussion of Colombian Natural Gas Regulation

Over the past several years, regulations in the Colombian natural gas markets have undergone significant challenges and changes. In response to the impact related to weather-related events, the government reacted by enacting regulatory policies that have generated some controversy and confusion in the market. These sentiments were echoed in our December, 2010 Industry Participant meetings, when participants expressed their concern over inconsistencies in policy interpretation and the need for “clear” regulations,

² www.naturalgas.org/regulation/history “The Move Towards Deregulation”

“The industrial sector needs stable and clear rules. We need to have the possibility to negotiate bilateral firm contracts for a long term, having the chance to arrange competitive prices in order to preserve the business sustainability.”

“The development of a new framework requires serious studies and proven and workable proposals suitable for the Colombia market lead by the CREG with industry interaction.”

“Keep consistency with existing uniform transportation rules (RUT) i.e. Operating Balancing Agreements and Imbalances”

Subsequent to the publishing of this report, our team will provide a detailed response to the current regulatory regime in Colombia as compared to regulatory reforms in the other large open international markets.

Conclusions and Discussion

The Colombian natural gas market is maturing, but faces issues related to efficient operation when demand can be volatile and unpredictable. Based on our review, it is evident that parties within the natural gas market have worked diligently to develop contracting practices that reflect the operational realities of the market. Many practices within the Colombian natural gas market are influenced by the contracting practices in other markets. This is particularly true with regard to the transportation sector, where regulations have imposed strict requirements. To promote the next phase of maturity and more efficient planning and operations, there is room to add value by introducing a more standardized approach to these contracts.

There are a large number of different contract terms governing purchase and sale of natural gas, even though the variations in meaning often appear to be small. In part, these variations probably reflect attempts to adapt to circumstances that vary from one

company to another based on internal demands, and perhaps on market strength. But it is also probable that they partly reflect a failure to coordinate on standard terms.

Efficient contracting in a unique and maturing market like Colombia requires the establishment of practices that take into consideration the entire market, from wellhead to burner-tip. Issues like scheduled maintenance and other “Exempting Events” should be taken into consideration and measured against the requirements and peculiarities of the Colombian market. There is considerable value to be created by establishing clear terms, and industry accepted definitions of the key terms within contracts.

There are two contracts observed in the Colombian market that can be quite useful for dealing with its unique characteristics: the Gas Purchase Option Contract and the Conditional Firm Contract. These two contract types, if properly executed, can provide a significant level of economic value and operational flexibility to the entire market. Yet these two types of contracts can provide challenges to the market if the parties fail to take into consideration the realities of demand from the electric generation sector. There is a risk that supply could be over-contracted. With the execution of each of these types of contracts, there needs to be a mechanism to ensure the feasibility of commitments in light of supply availability. In the current regulatory regime, there is a requirement for producers to declare the natural gas supplies that are available for Firm sales. In light of the ability to enter into Option and Conditional Firm contracts, one solution would be to require the producers, when making the required declaration of Firm gas supplies available for sale, to declare the extent to which Option and Conditional Firm commitments have been made, and to prove that there is sufficient available gas supply to cover all contract obligations if, and when the Option is exercised, or Conditional Firm

gas sales are interrupted. It is imperative, in a market with limited resources to have transparency with regard to contract commitments and supply availability.

In our initial meetings in Bogota, we heard a recurring complaint by buyers that the contract terms tended to favor suppliers, imposing asymmetrically greater obligations on them. Our review of the contracts confirms that, compared to international practices, Colombian contracts do tend to favor suppliers.

In summary, it is important in any maturing natural gas market that both regulations and contract terms are known, consistently defined and enforced. The number of contract forms and types currently existent in the Colombian natural gas market are consistent with other markets in early stages of liberalization. As the market matures, the contracting practices will naturally become more efficient and reflect the level and complexity of transactions executed in the market. Typically, this has led to fewer “types” of contracts, replacing old forms with new, more streamlined agreements that clearly define obligations of both buyers and sellers.

Exhibits

“History and Development of Natural Gas Contracts” Milgrom & Broxson, 2011

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NAESB, Model Credit Support Addendum, October 9, 2003

User’s Guide for the Model Credit Support Addendum, October, 2003

Interconnector (UK) Limited, Standard Transport Agreement Summary, December 2010

Union Gas Limited, C1 Transportation Contract

Union Gas Limited, Firm M12 Transportation Contract

“How And When To Use the Gas Industry Standard Board’s (GISB) Contract For Short-Term Sales Of Natural Gas,” Carolyn s. Hazel, 1996

GasEDI Standard Contract, Overview and Comparison to GISB Base Contract (1996 Version)