Book Abstract:

Contents Under Pressure - A Handbook of Natural Gas Pipeline Transportation

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Natural gas pipeline transportation is the business of moving gas from its point of origin, where it comes from the ground, to its point of consumption, where it is consumed by an industry or individual. This process may take place on one pipeline or many travel across many pipelines. The gas that comes from the ground is handled by many different types of business entities: It may travel through multiple pipelines and be processed, compressed, and decompressed before being consumed.

I designed this book to give the reader sufficient knowledge of natural-gas transportation to support the business functions surrounding the process. There are many books available for natural-gas trading – the purchase and sale of natural gas in the marketplace. Many books are published about exploration, drilling, and production. There are no books that explain the complex regulatory, operational, business, and technical hurdles of moving the gas from locations such as the Gulf of Mexico to points of consumption such as Brooklyn, NY – until now. This comprehensive book covers the gas-transportation process in a thorough manner to assist anyone who may be involved in the natural-gas business, whether it is direct involvement with transportation, or peripheral support involvement in areas such as IT or secondary support companies.

Foundation: Before diving into the overall business and processes, this section provides a basic understanding of what natural gas is, where it comes from, and how natural-gas transportation fits into the overall natural-gas industry. There are many pieces of the natural-gas industry, such as exploration, drilling, production, processing, distribution, and utility management. The transportation sector is a key component because it moves the gas from the source to the destination, but there are other relationships worth understanding. In addition, as natural gas and transportation are highly regulated, the parties at the federal, state and local level are introduced.

Business Process: This section presents both the high-level and general transportation business-process flow that shows how the pieces and the terms discussed in the book fit together in the much bigger end-to-end picture. The flow includes the steps in the business process from contract initiation through accounting. It also includes the timeline for each of these steps. Some of the steps are on a broad, as-needed timeline while others have very tight and regulated tcimeline components.

Contracts: The Contracts section is the foundation of all natural-gas transportation transactions and discusses the terms of contracts and the responsibilities on the part of each party to the contract. The definition of a contract includes identification of the pipeline, the pipeline tariff, the terms of service, the contracted parties, locations and quantities for the service area, rates and charges to be assessed, credit terms and management as well as the possibilities from the capacity release program.

Nominations: Nominations, which are the heart of the gas-transaction business flow, outlines the difference between nominations and contracts and how the two fit together to enable the shipper to

communicate with the pipeline and schedule the flow of gas. This section addresses the models, cycles, and validation rules of the process.

Confirmations: The Confirmations section covers the communication between the upstream and downstream interconnecting parties to ensure continuous flow of the transportation transaction. The section outlines the parties involved, the timing of confirmations, and the established rules for how to determine the quantity of gas that will flow based on the responses received in the confirmation process.

Scheduling: Scheduling is one of the most important business processes on a pipeline system. The scheduling process determines how much gas can flow through each location and through each section of pipe for a given cycle, and how the pipeline compares its available operational capacity to confirmed nominations to determine which and how much of those requested quantities will be able to flow. This section also discusses the rules used to conduct the scheduling process.

Measurement: The Measurement section includes the recording of the active flow of the gas on the pipeline at a given time or interval on that pipe and how this process is used in gas transportation.

Allocations: Allocations are what pipelines use to determine how much gas each of the parties at a location really flowed versus what was scheduled and how they allocate the quantity of gas flow back to the parties and transactions in that flow. This section addresses the rules and scenarios of the allocation process.

Shipper Inventory: The Shipper Inventory section discusses four distinct types of inventory pipelines may maintain for shippers' accounts: contractual, storage, park and loan, and imbalance and how a pipeline manages the inventory in the OBA. In addition, the pipeline operations group must maintain the balance across all shippers on the pipeline to manage the operational pressures on that pipeline.

Accounting: This section covers pipeline accounting and its process, which involves volumetric resolutions, valuations, assessment of charges, and generation of invoices.

Appendices
Glossary
Index