

Transportation Solutions for LDCs



Introduction

It is a common misperception that Local Distribution Companies (LDCs) in the gas industry only deliver to, and manage contracts and billing accounts for, residential gas consumers. Many LDCs, however, will also have large-scale transportation agreements in place with industrial or commercial consumers on their distribution networks. This article will outline some of the challenges that industrial and commercial consumers can create for LDCs, and how LDCs can better manage their commercial transportation agreements using an industry-proven pipeline transportation management solution rather than rely on legacy systems or spreadsheets.

Challenge

LDCs will frequently provide transportation services to shippers (marketers or agents) who buy gas from producers or interconnected pipelines (either intrastate or interstate) and deliver it to large and medium-sized consumers or end-users in their distribution network. These shippers must buy transportation services from the LDC for the transportation of the gas from receipt point on the distribution network to the individual delivery point.

Depending on the size of the LDC, the amount of physical sub-networks and the number of market areas associated within that network may vary greatly. Similarly, the number of transportation agreements managed by the LDC may vary greatly. However, in general the number of commercial or industrial accounts will be much smaller than the number of accounts the LDC has for residential delivery. For example, an LDC with 150,000 residential customers might have less than 60 transportation agreements. In this case, the LDC will likely have a computer billing system that works well managing the contracts for the 150,000 residential customers, but poorly or not at all when it comes to managing the 60 transportation contracts because of the much more complicated formula and fee management requirements associated with those contracts.

In the 1990s, many LDCs initially addressed the challenge of the deregulated utility industry with a multi-service oriented business model. The approach combined traditional services with the expanded opportunities of specialized or non-traditional services in a comprehensive, integrated solution based on custom applications or complex, in-house solutions. Over time, however, undesirable side effects have caught up with many of those legacy applications and home-grown solutions resulting in:

- Limited scalability, with often poor performance and dependability as requirements grew
- Limited flexibility due to legacy code, making upgrades difficult and/or too expensive
- Mismatches with changing business processes, resulting in redundant data
- Patches and fixes that keep the system running without recognizing new workflows
- Outdated technology, resulting in anxiety for management and IT teams worried about system crashes
- A dead-end system with little or no outside support, technical documentation, product roadmaps, upgrades, etc.
- A limited and shrinking internal knowledge pool as people who know how to use the product and/or who developed the system leave the business or retire

A robust, viable solution for managing commercial and industrial transportation agreements can be a mission-critical part of the day-to-day operations of any larger LDC’s gas transportation business. As a result, many LDCs have now started to review current risks from their legacy systems in detail, and have begun to evaluate migration paths to an industry-proven solution like PipelineTransporter® from Emerson (formerly Energy Solutions International).

Solution

The first step for an LDC in this situation is to perform a gap analysis between their existing solution – as implemented and used by the LDC – and an available commercial solution like PipelineTransporter that has been designed to effectively manage large-scale commercial transportation agreements. Next, they should ensure that the vendor of any solution is well established, has excellent references, and can demonstrate industry expertise as well as a product that is industry proven. The subsequent gap analysis document would allow the LDC to make an informed decision based on the following items:

- Redundancy of data and fields
- Suggested changes to business processes
- Required customizations and configuration changes
- Identification and evaluation of existing third-party interfaces
- Required hardware and infrastructure

Based on the results of the gap analysis, the LDC should be able to find an off the shelf software product that assists the LDC by managing third-party access of gas shipped on their facilities. The gas business cycle for the LDC managing transportation agreements should be integrated into the product, from request for shipping of gas to invoicing for the shipment of gas, as seen in Figure 1.

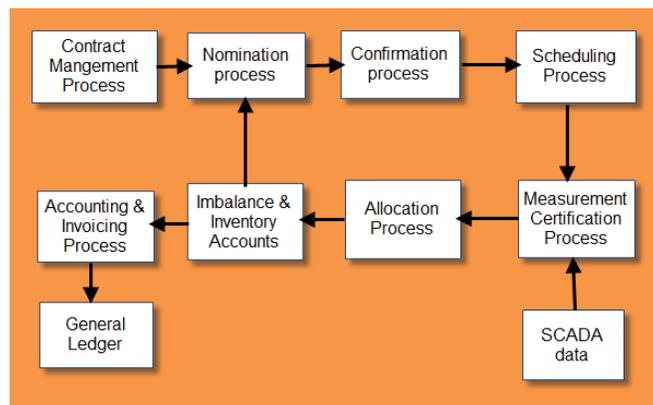


Figure 1. Typical LDC Business Operating Cycle

Key Capabilities

Some of the core functionality that the LDC should focus on when looking for a standard product to manage their gas transportation agreements:

Process	Description
Contract Management	The product should allow the LDC to create and manage their transportation agreements in a user-friendly interface, including a formula editor to assist in generating formulas for fees and services.
Nomination	A web portal should be available for the LDCs marketers or agents to provide nomination data (request for transport of gas) in a flexible and user friendly tool, including the ability to upload files rather than enter data manually.
Confirmation	Ability to allow the upstream producers or interconnected pipelines to perform confirmations. Auto confirmation should also be possible within the product.
Scheduling	Most LDCs operate in a steady state manner; hence the need for traditional transport scheduling is limited. The product should therefore have an auto-scheduling functionality.
Measurement Certification	The product should be able to collect measurement data either daily or monthly SCADA or third-party systems to be used as part of the post flow processing and accounting close process.
Allocation	The product should allow for Pre-defined Allocation rules to be configured for measurement points in the sub-networks so that accurate imbalances can be calculated on a daily and monthly basis for each contract.
Imbalance & Inventory Accounts, including virtual storage or actual storage	Many LDCs provide the capability for their customers to do virtual storage on the interstate or intrastate pipelines through specific functionality. Similarly the LDC might be utilizing actual storage. The product should, as a result, have the ability to model interruptions on a network, make adjustments to balances in both virtual storage and in actual storage and create fees associated with the same balances.
Accounting & Invoicing	It should be possible to review pre-invoicing data prior to being sent to the general ledger system or issued from the product itself.
Auditing Management	The product should be fully auditable including a detailed event log that can be used to audit all activities performed in the product.
Security Management	Roles should be defined in the product for each individual user allowing them to only see what the administrator at the LDC allows them to see both internally and externally, thus supporting segregation of duties.

Table 1. Typical Core Functionality Recommended for LDCs

Expected Results and Benefits

By selecting a commercially developed, product-based gas management solution to managing their industrial and commercial gas transportation agreements, the LDC would gain a highly tailored, yet standardized off-the-shelf product that meets its needs today and for the foreseeable future. Upgrading to the latest release of a product is becoming easier with each new release, minimizing disruption to the production environment. At the same time the product vendor continues to enhance the product for managing gas transportation agreements including adding more features and capabilities that are both market driven and product driven. The LDC has the added benefit to join forums or committees that would assist the vendor on developing future product roadmaps. The LDC should expect that the following would be part of the benefits realized after some time by implementing a commercial, product-based solution:

- **Product** - The solution they implement is based on a core product that has roadmaps and is supported by a larger reputable company understanding their business process.
- **Synchronization** - The core product could potentially be the repository for company information; hence data is only updated in one place and distributed to other systems accordingly.
- **Existing Infrastructure** - The LDC already has a gas management system for managing their residential customers based around a specific database and operating platform. By selecting a vendor product that work on similar databases and platforms, the IT team at the LDC will have fewer interfaces to support and lower risk.
- **Clean Up of Data** - During the implementation process of the new product the LDC should use the opportunity to clean up any outdated and redundant data found in the original legacy database.
- **Streamlining Business Processes** - The LDC should use the implementation of the new product to review all their business processes as attempt to make them more effective and efficient, while at the same time not interrupting normal day-to-day operation.
- **Less Paper** - The web client in the new product should allow the LDC to enable access to more detailed invoice data online for the customer to collect themselves, rather than sending multiple pages with every invoice.

Concluding Remarks

Technology has developed significantly over the past 10 years and while many vendors still provide their solutions based on highly-customized implementations, there are vendors in the market that have industry-proven core products that can deliver a very capable, “fit-for-purpose” solution at a reasonable cost. In most cases, the benefits of such a solution to help manage the complexity of the commercial and industrial transportation requirements now far outweigh the growing risks of staying on a legacy solution or rebuilding it with customize development.



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