



# GAS PLANT ACCOUNTING

## *SIMPLIFYING THE COMPLEXITIES*



*Gas plant accounting can be complex and each gas plant, while having some similarities, has its own unique characteristics. Understanding the complex measurements, contracts, allocations, and valuations requires the right people and the right systems.*

## The Challenge

Gas plant accounting is plagued by black box calculations, poor data transparency, lack of experienced personnel, and software limitations. This can result in lower productivity, missed opportunities, a negative reputation, and poor decision-making capabilities. There are real business costs when information is unreliable.

## Background

Processing oil and gas liquids into marketable products is the beginning of the midstream segment of the business. Gas processing plants, which remove natural gas liquids (NGL) from the produced oil and gas, are also a component of the midstream activities. These plants take the raw liquid stream and separate it into the various components of methane, ethane, propane, butanes, pentanes, and heavier liquids for ease in transportation and marketing. There are many types of gas processing plants and means of extraction, all of which have specific accounting obligations. Each producer with liquid coming into the plant will often have separate and unique agreements related to the processing activities. Liquids coming into the plant from various wells and pipelines must be tracked and reconciled to the quantities relinquished at the tailgate of the plant.

Accounting for the activity of gas plants is a highly specialized skillset within oil and gas accounting. Understanding the flow of natural gas through the plant, contractual agreements

with the producers, product pricing, and related gas plant expenses to revenue require complex allocations and calculations.

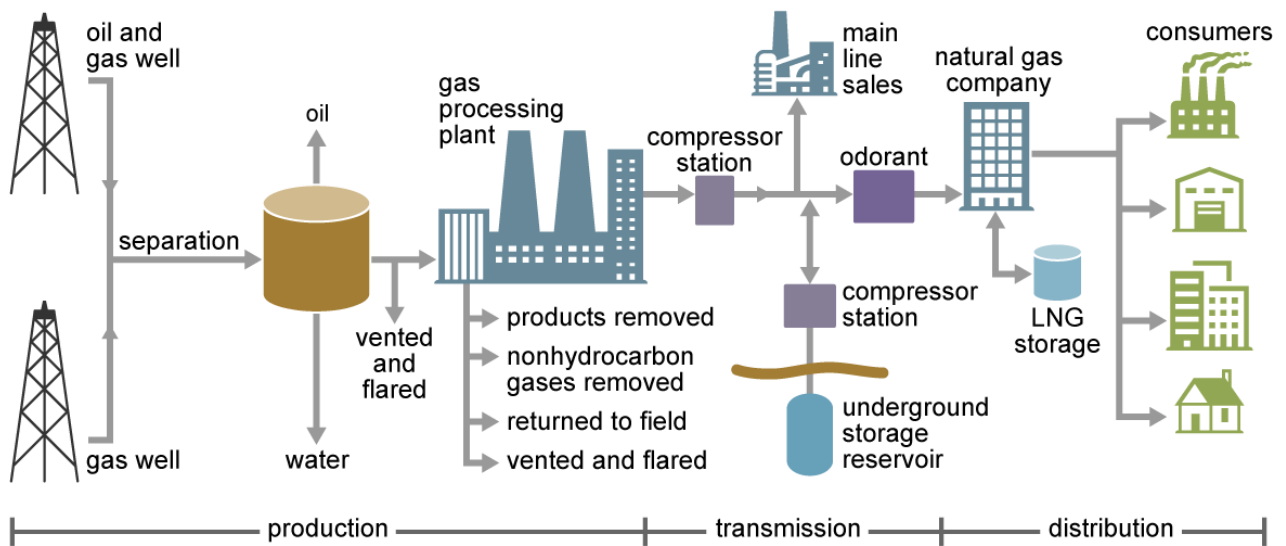
Gas plant accounting is comprised of understanding the source of the gas coming into the plant, the processing of the gas into the various components, the use of gas to operate the plant, the expenses incurred, and the disposition of the gas at the tailgate of the plant.

The volumes received by accounting personnel often must be converted to gas energy heating units to comply with the sales/transporter agreements; therefore, the accountant must possess a working knowledge of how to make appropriate conversion calculations in accordance with the sales or transporter agreements with the producers.

Gas processing plants extract liquid hydrocarbons from a natural gas stream. The actual liquid hydrocarbons recovered at the plant are allocated to the sources (leases/wells) of gas that are delivered to the plant. These allocations are generally performed based on the content of each component (ethane, propane, iso-butane, normal butane, and natural gasoline) in the source gas (theoretical or test gallons). These components are generally calculated based on GPMs. Some components of the gas stream may be consumed or lost during facility operations.

Gas flow schematic diagrams are a valuable tool in the design of the allocation system for complex lease operations:

# Natural gas production and delivery



Source: U.S. Energy Information Administration

Reconciliations of gas quantities received by a facility from the lease/field to the quantities disposed from the facility are necessary to ensure that all quantities of gas are properly measured and accounted for. These reconciliations, sometimes referred to as plant/facility balances, are performed by comparing volumes or MMBtu of gas delivered from the various gas streams to the facility (usually plant inlet meters) to the sum of all plant dispositions. Lease settlements are the payments made by the processor to the producers delivering gas to the plant for processing. These settlements may include payment for liquid hydrocarbons extracted from the gas processed, sulfur removed from the gas, helium extracted from the gas, and the gas remaining after treating and processing (residue gas). Fees may be deducted from the payments for services provided to the producer, such as compression, treating, and dehydration. Contractual elections and allocations are critical.

The set-up process can be complicated, and if done incorrectly, can cause errors and inaccuracies. A good understanding of the asset is key to setting up the accounting correctly the first time and allows for smooth transition when changes to the system arise such as contract changes, plant shutdowns, and additional volumes. Many companies use a combination of spreadsheets and databases to manage their assets. This process is very manual and raises concerns about control issues, data integrity, and efficiency. Historic software systems have a reputation for a lack of transparency - a "black box" in which there is limited visibility into allocation, settlement results, escalations, and other complex calculations. To survive in today's environment, gas processors are getting more creative and more complex in their transactions. The past way of doing things will no longer provide desired results. Slow processes and lack of knowledge create more work and negatively impact the bottom line.

When choosing a software platform for your gas plant accounting, be sure it is:

### *Scalable*

Any solution must be able to handle large numbers of meters and contracts, as well as complex calculations.

### *Integrated*

It must work seamlessly with other platform and workflows being used.

### *Transparent*

The platform must not create data silos and should provide audit trail for calculations and results.

### *Flexible*

It must be user-friendly, adaptable to changes in standards, and provide customized reporting.

## Solution

To drive long term success, midstream companies need to modernize their workflow, automate manual processes, and improve reporting. Experienced accountants that

understand the flow of gas from wellhead to burner tip are low in supply but will be high in demand to create value in a challenging market.

## Conclusion

Outsourced accounting solutions are the natural next step. Fractional use of experienced accountants and the latest technology will help teams achieve more with limited resources by reducing G&A and building confidence in the processes and results.

## References:

Professional Development Institute, Gas Plant Accounting

COPAS, AG-15 Gas Accounting Manual

W Energy Software, "7 Reasons to Replace your Legacy Plant Accounting Software"

Quorum Software, "Top 5 TIPS from Experts to Drive Midstream Success"

EKT Interactive, Midstream 101

### **Melodee Papke, CPA**

#### *VP of Accounting Operations*

Melodee holds a BBA degree with accounting focus from Northeastern State University. She has more than 25 years of oil and gas accounting experience and management, including significant work coordinating both transactional and reporting functions of accounting and finance.

### **PetroLedger Financial Services**

PetroLedger Financial Services offers a full range of oil and gas accounting services and support that will save you time and money. We'll partner with you to manage your financial resources so you can focus on your business.