

Transforming Production Management:

Allocation and Reporting Volumes



Transforming Production
Management
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Table of Contents

- 1 Executive Summary2
- 2 Defining Agility.....4
- 3 View from the Top5
- 4 Efficient Business6
- 5 Evolving IT Strategy.....7
- 6 The Business of Compliance.....8
- 7 Focys on the Bottom Line.....9
- 8 Hidden Costs of Spreadsheets 10
- 9 A Straightforward Choice 11

1 Executive Summary

Effective and efficient management of production data is a critical task for any oil and gas company, but traditional solutions for production allocation and reporting have increasingly become cumbersome, costly and complex to implement and change.

Even so-called "standard" systems are unnecessarily expensive to acquire, maintain and upgrade, with clients paying for high-cost manpower to cleanse data, manage information, and to provide the necessary visualisation and reporting. An aura of mystery surrounds the basic task of using flowrate data to provide auditable estimates of production by field, licence, reservoir and well.

These costs are not simply high, but extremely unpredictable over the life of an asset, and this provides a challenge for cost management in all companies, large and small. Despite the importance of this data, comparable in many respects with financial accounts, these problems have led many companies to adopt spreadsheets as the repository for data. This leaves business-critical information in the hands of a few individuals in the Production Department.

The risks inherent in this situation are substantial, and can impact every aspect of the business:

The CEO will be unable to justify the value of the asset to investors and shareholders or be able to accurately represent production of a disposal asset.

For the CFO, errors in allocation calculations and reporting can result in many millions of dollars in costs and penalties, to say nothing of the reputational risk with auditors and joint venture partners.

The CIO who is the owner of a traditional solution will see that nothing is easy. Licenses and consultant costs will wear down an already-stressed IT/IS budget. Adding new assets, or acquiring new fields, or upgrading the systems, will all represent difficult and complex projects, demanding specialist resources.

For the asset manager, there is an inability to effectively manage production, for example, when considering the merit of work overs, other well inventions, stimulations or other chemical treatments.

The production technologist and **reservoir engineer** will be uncertain of well performance to validate forecasts and estimates of available reserves will potentially be inaccurate.

The compliance officer will lack oversight of this important data and its handling. The consequences are many, and will impact government reporting, accounting standards compliance, and SEC returns. External audits will be difficult to manage. It is even possible that the company accounts will be disqualified.

This paper will explain how EnergySys, with its unique software platform hosted in our dedicated oil and gas cloud, can combine unmatched capabilities with an innovative pricing model to address all of these issues. For the first time, costs are a predictable and assured component of unit lifting costs over life of field.

We will also show how EnergySys redefines agility, delivering world-beating enterprise-class solutions for small and large companies alike. You will learn how EnergySys has reduced the time for implementation of a North Sea asset by a factor of ten, and the resource requirements by a factor of six.

Finally, we will show how the individual needs of each function of the business are satisfied by an EnergySys solution.

2 Defining Agility

At a time of falling oil prices, and demand to improve productivity and control costs, every oil and gas company needs to be agile. In the context of solutions for production data management, agility means four things:

- Cost agility, allowing the application of enterprise technology that is fast and easy to deploy, but which is cost-effective from the smallest to the largest asset base, throughout the life of field.
- Technical agility, allowing the application to handle a single asset with a handful of wells, through to a global deployment with hundreds of assets and thousands of wells.
- Design agility, allowing it to be used on the widest range of global assets, from offshore to onshore, from gas to oil, from LNG plants to pipelines, and from deep water assets to shale recovery.
- Platform agility, allowing the same product to be used to deliver additional applications, quickly and easily.

EnergySys is the only solution constructed specifically to address these four pillars of agility. By looking again at the problem, and throwing away old, tired ideas, we've achieved exceptional results:

- Following transfer of mature UK North Sea assets to a new owner there was a need to replace the traditional solution implemented by the original owner. In comparison with the original implementation, this was accomplished ten times faster with six times fewer resources.
- For a small set of shale assets in the US, the time from order to fully operational was three weeks, with one team member.
- Following a change in the regulations, a customer had to modify an emissions calculation, and add and share a new report. All of this, including changing the algorithm, storing the data, and sharing the new report with the relevant team members, was accomplished in two hours with no external help.
- For a customer with a large number of non-operated assets, the job of consolidating daily reports from multiple partners was reduced from one week a month to two hours a month.

3 View from the Top

As a CEO looks to grow his or her business, turning over the portfolio and entering new geographies, they struggle to predict with any certainty the unit lifting costs over the life of field. We believe that the challenge of cost management is fundamental to the success of our industry, and we are offering to partner with our customers in meeting those challenges,

To this end, our costs are simple, transparent, and directly related to forecast annual production. In this way we can offer the CEO a clear understanding of what costs will be today, tomorrow, and in five years. Interestingly, traditional procurement models that favour large up-front capital investment, with little or no consideration of operating expenditure, are almost a guarantee of a poor outcome. We are part of the unit lifting cost solution.

Looking at the actual requirements, our conversations with C-level executives make it clear that they desperately need and want the information that should be easily obtained from production allocation and reporting systems, and struggle to understand why this is a challenge. They need it in order to manage the company's performance, to report to partners, and to reassure the bank and their investors. They want data on the move, on their mobile device, and with links to other corporate systems. The benefit of EnergySys is secure access to data from anywhere at any time, whether that's information from a single asset or an understanding of the performance of the business as a whole. The configurability of the platform makes it easy for internal teams to respond immediately to requests for new information, or new views of data.

4 Efficient Business

For the business team, whether they be asset manager, production technologist, or reservoir engineer, the key to agility is ready access to data and the flexibility to make changes securely and with an audit trail. The solution for production allocation and reporting should be an enabler of change, not an obstacle to change. It should not require vast investment and significant specialist resources to implement and operate. It should dramatically improve the efficiency of the business.

In one of our reference cases, an operator acquiring interests in some mature assets required a modern, flexible solution for production allocation and reporting to replace a legacy traditional system. After selecting EnergySys, a major new system was implemented in less than three months, with the work largely undertaken by two hydrocarbon accountants within the client's organisation.

A key part of this transformation is a dramatic improvement in secure access to information, and the ability to rapidly share information with other parts of the business.

5 Evolving IT Strategy

Over many years the role of IT has increasingly been focussed on maintenance of infrastructure, such as software and hardware procurement, installation, management, monitoring, licensing compliance, database administration, backup, storage management, and disaster recovery. Staff require more and deeper technical skills, and retention of these specialists is difficult in a competitive market. Ultimately, though, the astute CIO recognises that none of this directly adds to business value.

For this CIO, cloud does not represent an opportunity to cut costs, but offers the possibility of strategic change. It represents a chance to improve quality of service, building on service level agreements, and to effect a dramatic improvement in flexibility. It means that skilled staff can be redirected to work on projects that offer real, demonstrable and immediate benefit to the business.

Cloud services have the capacity to be a revolutionary change in the landscape of solution provision. However, the full benefit will only come from genuine cloud solutions, not simply hosted versions of traditional software. While the latter might bring some cost benefits, transformational change comes from systems in which every customer is on the same version of the same software platform, delivering economies of scale and the benefits of shared development.

6 The Business of Compliance

Compliance is about demonstrating that the corporation has the controls in place to meet its obligations to stakeholders, be that staff, government regulators, investors or partners. One key feature of the compliance landscape is obviously SOX. The Sarbanes-Oxley Act was implemented following high-profile accounting errors and, in some cases, financial fraud in major corporations. However, its impact is not only on finance, but extends to IT and the storage and retention of electronic documentation. Failure to comply with the act could mean fines and even imprisonment of its officers.

EnergySys has been built to help compliance, with secure retention of data, full back-up, and disaster recovery. It also has versioning and an audit history built-in, with named user access that allows every change to be tracked and every historic data item to be retrieved. In combination with procedures and policies it can form a key component of every oil and gas company's compliance framework.

7 Focus on the Bottom Line

Cloud pricing models are typically based on a consumption metric. It's normal for upfront costs to be significantly reduced, and to pay only for what you use. For example, the Salesforce CRM system charges on a per user basis. You can add or subtract users, as your needs change, and what you pay goes up or down.

The annual subscription charge for the EnergySys service is around one cent per barrel of annual forecast production under management in the system, and figure can be fixed for three, five or even ten years. It can even be paid monthly. Thus, you can be absolutely sure of what you'll pay for the most comprehensive system available on the market today; if your production is forecast to fall, then your subscription will fall too. We're with you all the way. If you pay monthly by direct debit, we can use the forecast you give us to bill only in months when you anticipate having production.

Our cloud solution doesn't require customers to purchase software licenses, or separate maintenance and support agreements. It doesn't require investment in servers, or storage, or disaster recovery sites, or upgrades. It doesn't require a project team for software upgrades, and it doesn't require database administrators or IT support staff. If a change in business logic is required, like an update to the allocation rules or a change in validation logic, it doesn't require programmers or consultants to do it. Changes are quicker and easier to make, and that means that the business is more agile as a result and can respond more effectively to change.

The benefits for this approach are striking for a small asset producing, say, 5000 boed. In this situation, a traditional solution would be prohibitively expensive, but a cloud solution is available for less than \$1500 per month, with upfront configuration costs that might be between ten and twenty thousand dollars.

8 Hidden Costs of Spreadsheets

In the midst of this is the elephant in the room. The fact that much of this valuable data in many companies is stored and manipulated in spreadsheets. These corporate assets have limited controls, minimal audit trails, and are often of dubious provenance. This holds true even in companies that have invested heavily in major systems, for reasons we will explain.

For one of our customers with a large number of non-operated assets, the task of collating data received daily from multiple different operators in multiple different spreadsheet formats was formidable. It required a week's work every month for the hydrocarbon accountant to collate and validate the data.

After the implementation of EnergySys, with data uploaded and imported automatically to the server, the monthly task was reduced to two hours.

What is interesting is not the immediate cash saving in man-time for a highly paid professional, but the consequential benefits. The opportunity to invest that individual's time in more productive pursuits, for a start. The benefits, if problems arise, of having an audit trail and a version history. The fact that it is straightforward to train a new individual in the use of the system, including apparently sophisticated tasks like modifying the configuration of the import if file formats change.

9 A Straightforward Choice

We believe that EnergySys is the most flexible, configurable and powerful system on the market today. Its unique architecture allows us to keep every customers data separate and secure, while running on a common software platform. We can focus all of our support and development on a single product, and each new update is released to all customers at the same time with no hassle, and no significant downtime. The pricing model is clear and unambiguous, providing certainty and a direct link with unit lifting costs over the life of field. It avoids the hidden costs of traditional systems, and of spreadsheets, and renders transparent the link between investment and return. It is the only choice for the agile business.