Overcoming the top challenges in production operations & reporting

IFS

Contents

Introduction

The team of people who support field operations and production data management have unique challenges. Part of their job involves managing data from multiple sources, ensuring it's validated, processed, and distributed to the right people in the right format at the right time. They are also verifying that wells and equipment are operating efficiently and in a cost-effective and safe manner.

The following 11 examples are common production challenges faced by people working in the field and back office. The accompanying solutions can help production personnel more easily manage their assets and capitalize on efficiencies with the right processes and systems in place.

Thousands of wells & associated equipment

Challenge

Producing in shale operations means higher well and equipment counts associated with pad drilling. The production accountants and engineers who manage these assets are challenged to configure and maintain the new wells and equipment regularly coming on-line and keep up with performance improvement opportunities.

Solution

An end-to-end production data management and operational intelligence solution provides production accountants with templates that allow them to quickly setup new well pads and provides engineers with the surveillance tools to surface the wells needing attention and the ability to perform diagnostics across all available data.

Accurate measurement & surveillance

Challenge

If field operations and engineers don't have direct access to current, validated data, they may miss out on the opportunity to make critical decisions impacting which wells and equipment require additional attention today.

Solution

A configurable solution for data capture and operations should include features that enable automatic and manual validation of measurement data. It should provide flexible, self-serve reporting dashboards that provide metrics surrounding production in a format that can be consumed by the end user to make necessary decisions.

Leveraging SCADA

Challenge

In many organizations, SCADA is siloed in a group that focuses on monitoring the wells and equipment for short-term performance and safety considerations. There may be a reluctance to enable access to other departments for fear of impacting their control operations. This may mean that field operations and production must rekey available volumes and pressure, and miss key long-term indicators pointing to intervention opportunities.

Solution

Leverage systems that can read SCADA, transform it into 24-hour rates, and distribute to your field and production departments so that they can validate it, as opposed to rekey. Use systems that show field operators surface graphs and alerts so that they don't have to use a separate SCADA system to address performance issues.

Multiple systems in the field

Challenge

A field operator's focus should be on their well and equipment maintenance, with an overriding focus on safety. Also, part of their job is to capture measurements, arrange service crews, dispatch haulers, monitor SCADA, and fill out safety and inspection forms. This can be very time-consuming when they're required to use multiple systems to perform these tasks.

Solution

A mobile field operations tool that can integrate all volumetric capture, periodic maintenance and inspection, work orders, dispatch, and provide exception-based alerts that provide a wholistic view into their wells and equipment and saves time.

Communications

Challenge

Valuable communication is stranded in multiple places. Standard data capture tools only enable a one-line, text-based entry per well or equipment per day as a means of communication from the field to the back office. Valuable information in more detailed communications between people regarding the assets, their performance, tasks, and activities are lost in email chains and texts. Additionally, a white board in the field office or spreadsheet on a shared drive creates gaps in shift handoff.

Solution

A collaboration feature that allows a conversation back and forth with a category and a trail that is searchable and retainable. This feature can be embedded in all the tools used by the departments supporting field operations, production data management, and reporting software for the entire organization to access.

Liquids management

Challenge

In almost all shale plays, managing liquids is a shared burden with multiple challenges. New wells come on-line so fast, with so much oil that field operators sometimes must produce into a frac tank before they get the permanent tanks and piping installed. Tank farms are located in areas that trucks cannot easily access, so pipe has to be laid to central sales batteries. This can create complicated allocation networks that make it hard to get the right numbers. The sheer volume of liquids means hundreds of oil and water hauls in a day, which means run tickets need to be captured (manually or electronically) and made available to the back office so that oil sales are processed correctly, and water haulers are not overpaid.

Solution

This requires a multi-prong solution that starts with the ability to collaborate between the field and back office on the timing of tank installations, flexible and accurate allocation capabilities, and options for integrating ticket records into the central production data management system – reducing time spent capturing tickets, reconciling with statements, and looking for missing records.

Accurate hydrocarbon allocations

Challenge

If you're responsible for building and maintaining allocations for your assigned wells, it's critical those production numbers are correct from the beginning because so many other departments rely on them. The challenge here is that allocation networks can vary in complexity based on available measurement, regulatory requirements, and commercial agreements. Sometimes the most complex scenarios end up requiring management in a spreadsheet. How can you manage them all in one place and keep up with the changes?

Solution

You need a production data management solution that includes date-effective, multi-tiered allocation networks with allocation templates that cover 90% of the scenarios in upstream oil and gas today. Additionally, having the flexibility in its allocation engine to build formulas to cover those unusual scenarios is crucial.

Allocation results are more than production

Challenge

As important as it is to calculate how much oil, gas, and water each well produced, as a production accountant, you must also calculate how each of those product streams were ultimately disposed. It can become very complicated to keep up with all flare, vent, fuel, skim oil, trucked oil, piped oil, water inject, gas lift, and more. It's very important to get the correct numbers because regulatory reporting, joint interest billing, and revenue all rely on this data.

Solution

A system with flexible allocations and the ability to support limitless classifications of disposition codes (sale to gas plant, sales to transmission, flare, etc.). Supported by reporting and integration tools that can translate those codes into the format required by each consumer, assures that you provide everyone with the results they need in the format needed.

Regulatory requirements

Challenge

Keeping up with state regulations and ensuring that you're filing correctly is critical to avoid penalties and fines. That can be even more cumbersome if your wells are on Federal or Indian lands, which require even more detailed reporting and can sometimes differ from the requirements of the State agency for where the wells are located.

Solution

Not only should your solution provider supply you with a comprehensive set of Regulatory Reports to cover common production, test, and injection filings, but they should also keep up with the frequent changes in the regulations so that your software is always current.

Production reporting challenges

Challenge

You may have the most accurate field measurements, sophisticated allocation engine, and SCADA coverage for all your wells, but every department and consumer needs information presented in a slightly different manner. For example, a revenue accountant wants to know how much product was sold while an asset manager needs to know gross and net production. If you're unable to get to all that information in a timely manner that helps them perform their job, the data is stranded.

Solution

A production volume reporting solution that is tightly integrated with your production data management solution – freeing production accountants and field operations from having to spend time providing data extracts and reports to other departments due to self-serve access to production data in the formats they need. The ability to interact with the data to build custom reports and extract data to spreadsheets is also vital.

Balancing costs with optimization

Challenge

The volatility of oil prices and recent busts are driving initiatives to operate more efficiently. All costs are being evaluated for opportunities to improve, including increasing the well-to-pumper ratio. The challenge is how to achieve this without compromising mandates to optimize production and reduce deferments.

Solution

Focusing on getting the right data to the right person at the right time. Using purpose-specific software solutions encourages collaboration and provides exception-based surveillance alerts that can be turned into actionable tasks along with all the underlying data so that diagnostics and analysis can be performed.

About IFS

IFS develops and delivers cloud enterprise software for companies around the world who manufacture and distribute goods, build and maintain assets, and manage service-focused operations.

Within our single platform, our industry specific products are innately connected to a single data model and use embedded digital innovation so that our customers can be their best when it really matters to their customers – at the Moment of Service™.

The industry expertise of our people and of our growing ecosystem, together with a commitment to deliver value at every single step, has made IFS a recognized leader and the most recommended supplier in our sector.

Our global team of over 5,500 employees every day live our values of agility, trustworthiness and collaboration in how we support thousands of customers. Learn more about how our enterprise software solutions can help your business today at **ifs.com**.

#MomentOfService

For more information about solving your toughest challenges in upstream oil and gas production, visit: **www.ifs.com/solutions/energy-and-resources-software/ production-solutions**.

IFS