Measurement Schematics Development

Corvelle recently completed a project with a mid-sized oil and gas company to develop measurement schematics for their entire portfolio of operated properties.

Benefits

Measurement schematics form the basis for accurately determining the flow of produced volumes from the wellhead to the disposition point.

Uses of Measurement Schematics

Schematics enable field operations, engineering and production accounting to achieve and maintain a shared understanding of property configurations. Schematics help these groups ensure that all fluid volumes are measured, recorded and reported accurately.

Field operations use schematics to ensure that measurement device information and property configuration information, contained in the field data capture system, is accurate and complete. This information ensures measured volumes can be recorded accurately.

Engineering groups use schematics to determine if the facility design is optimum, additional meters are required and if the flow shown on the schematics is indicative of good production practice.

The production accounting group uses schematics to confirm meter locations so that production is calculated and reported correctly.

Schematics also ensure that fuel, flare and vent (FFV) sources are identified accurately. Once identified, the FFV volumes can be accounted for comprehensively. Improved FFV reporting typically results in reduced metering differences and improved proration factors.

Background

As specified in a recent edition of the AER measurement directive 017, operators are required to develop measurement schematics for all company-operated properties.

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Prior to the AER schematics requirement, most companies did not have a comprehensive set of measurement schematics. Generally, if schematics existed, they were static hard copies generated by drafting software such as AutoCAD. Some companies produced field sketches or, more recently, Excel spreadsheet drawings. In any case, the drawings were usually out-of-date and of limited value.

With the introduction of AER requirement for schematics, some service vendors and software companies have developed real-time schematics generation programs. These software packages use data from PVR, Avocet, Metrix, PAS or competitive products. Their advantage is that schematics can be developed quickly, updated easily and accessed from any company desktop computer. This ease of development can also be a disadvantage, as users can be lulled into using these automated schematics without verifying the contents against the actual property configurations.

The Corvelle Advantage

Corvelle has developed a cost-effective process for managing schematics development projects. The Corvelle Advantage contains effort and therefore cost to maximize return in schematics development and maintenance.

Below are the phases of a typical measurement schematics project.

Schematics strategy

Our consultants first help you evaluate the best approach for your company. It may be manually drafted schematics, fully automated schematics or somewhere in between.

Software selection

Our consultants then assist you in the software or service vendor selection process.

Schematics development

Our consultants then work with field operations, engineering and production accounting to produce a comprehensive set of schematics for operated properties.

If a software vendor was selected, we manage their work in the installation of the software package. If a service vendor was selected, that organization will have a significant role in the development phase. Our role is to manage their involvement.

Schematics maintenance

Finally, our consultants define the schematics maintenance process and typically turn this work over to customer staff.

Recommended Action

To invite a Corvelle consultant to your office to describe the Corvelle approach to developing measurement schematics, please contact us.