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Operating Experience with Multiphase Meters at Who Dat and Delta House Fields
Xinglai Gong, LLOG Exploration; Richard Streeton and Rene Ferrer, FMC Technologies

Abstract

MPM meters have been in use for LLOG at the Who Dat and Delta House fields in the Gulf of Mexico since 2013. During this time a significant body of operational experience has been built up. The meters were originally intended for use in fiscal allocation, but over the years we have found important applications in other areas such as reservoir surveillance and production optimisation.

The paper will discuss best practices in installing multiphase meters for fiscal allocation with particular focus on fluids handling for multiphase meter configuration and conversion to reference conditions. In fiscal allocation, subsea multiphase meters must be regularly verified versus a topside reference. Comingled flow, variable water properties and complex process conversions can make this verification difficult unless the appropriate technology is applied and adequate focus is given to these issues. The Who Dat field has 10 penetrated reservoirs and include fluids range from black oil to wet gas, where most fluids are black oil . The Delta House facility has several fields connected to it, the fluid type ranges from black oil to volatile oil to wet gas, where most fluids are volatile oil.

Specific examples will be presented describing the challenges and solutions in operating the existing 18 meters in Who Dat and Delta House since 2013. We will also present examples on how we benefit from the subsea multiphase meters as a reservoir surveillance tool to optimize production and reserves.

Finally, technology advances in multiphase meters using an embedded PVT and physical properties package will be described with examples provided on how such an implementation can simplify verification in fiscal allocation.