Design of Service

The Design of Service (DOS) is a process where Halliburton Surface Well Testing (SWT) verifies client’s objectives, requirements, and feasibility of the proposed well test design. This standardized approach assesses proposed operational activities and equipment configuration based on the following stages:

» Data Collection: The DOS process starts with gathering the required data to design a well-test package that meets job requirements and achieves client expectations.
» Data Process: Job information is processed to design and verify a well-test package that meets job requirements in accordance with the latest industry standards and recommended practices.
» Data Evaluation: After all equipment has been selected, any system constraints, contingency plans, and required feedback are highlighted and summarized for the surface well-test operators.
» Data Verification: Prior to client submission, a report will be issued for review and approval by Halliburton Technical & Operations representative(s) or an external certification authority.

Halliburton’s Design of Service software program GamutSM provides a fully engineered, documented solution to support the Planning, Preparation, and Execution phases of the Well Test in concurrence with:

» Halliburton Management System (HMS) that encompasses all four of the major operational disciplines within Halliburton: quality, health, safety, and environmental
» Industry Standards (i.e., API RP 500, API RP 505, IP 15, API RP 14C, API RP 14E, and API 520)
» Client Standards, Practices, and Well Program

Additionally, the DOS provides detailed guidance to the well test operator on location, which highlights any system constraints and applicable contingency plans within the “Well Test Operators Summary” section.

APPLICATIONS

» Exploration and appraisal well testing
» Cleanup and flowback
» Production, inline testing (including multiphase flow metering)
» Extended well testing
» Early production facilities
FEATURES AND BENEFITS

» Easy-to-use interfaces, expedited data entry, and professional quality reports

» Global standardization of SWT design of service reports (uniformed format for operations and clients)

» Mitigates equipment integrity and health, safety, and environmental risks by process simulation and system analysis

» Lessons learned from previous operations, which can be referenced and easily incorporated

» Detailed drawings:
  – Process Flow Diagram (PFD)
  – Piping & Instrumentation Diagram (P&ID)
  – Well-test layout
  – Hazardous zone layout

» Detailed safety system analysis:
  – Safety analysis table
  – Safety analysis checklist
  – Safety analysis function evaluation chart

» Detailed relief system analysis:
  – Pressure relief diagram
  – Relief-valve(s) sizing calculation
  – Relief-line(s) sizing calculation

» Detailed process simulations:
  – Thermo-Hydraulic Analysis
  – Velocity analysis
  – Choke sizing
  – Separator sizing
  – Control valve sizing
  – Meter sizing
  – Hydrates prediction
  – Sand Management System sizing and efficiency analysis

» Radiation/noise models

» Flaring assessment of low heating value gases, based on US EPA 40 CFR 60.18

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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