Schlumberger

Well Test Emergency Shutdown System

Improves operational safety by stopping effluent flow in case of an emergency

Applications

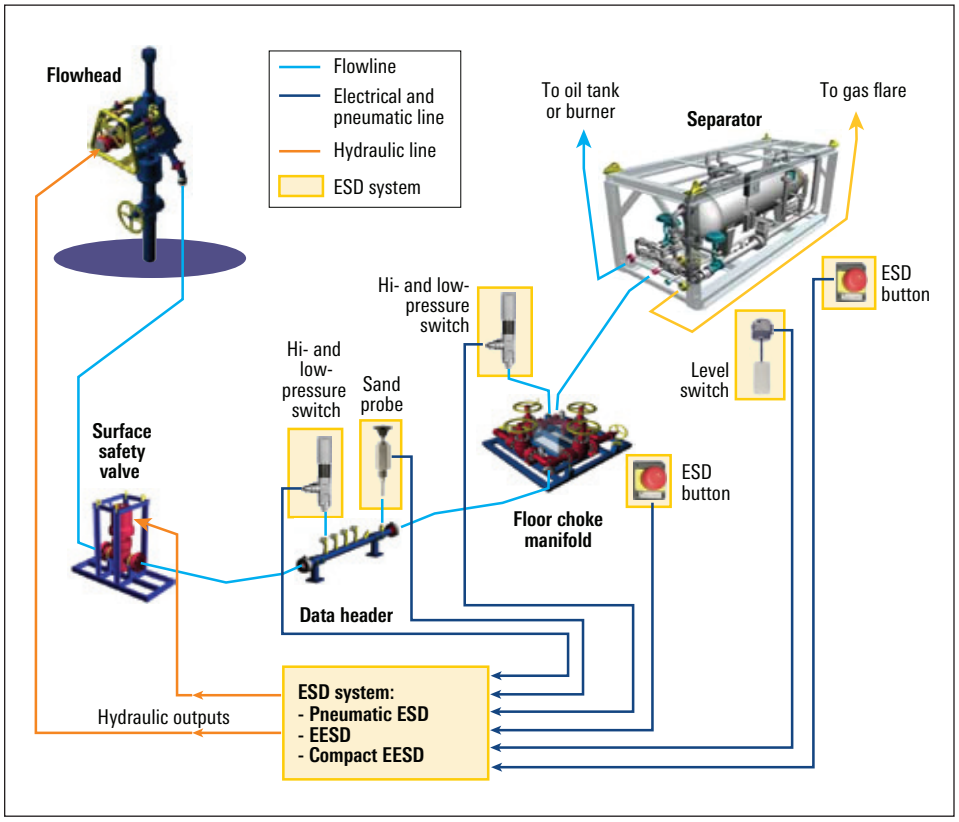
- Well test operations
- H_2S environments and wells where wellhead pressure is greater than 5,000 psi [34 MPa]

Features

- Skid-mounted control console
- Optional electrical emergency shutdown (EESD) system, pneumatic EESD, and compact EESD
- Combination of electrical and pneumatic ESD systems
- Preset pressure switch (pilot) values for well closure
- Remote push-button ESD stations
- Capability to interface well testing ESD with any rig ESD and production shutdown systems

How it improves well testing operations

Having emergency shutdown (ESD) system equipment in place is critical and mandatory during well testing. An ESD improves safety for personnel and equipment by closing safety valves to stop the effluent flow in case of an emergency—a fail-safe operation.



Emergency shutdown system.

During testing operations, the ESD controls the hydraulically operated flowline valve on the flowhead, enabling manual or remote closure in response to a pipe leak or break, equipment malfunction, fire, or other emergency. The ESD system is also used to reopen the valve and, if needed, control an additional surface safety valve upstream of the choke.

The shutdown can be triggered from emergency push and pull buttons or from other pressure or erosion safety detectors. The ESD system and a minimum of two remote-control stations are recommended for all well test operations. The remote stations are located at the separator in a reliable area along the escape route away from pressurized equipment. Other stations can be set up at the operator's discretion.

Backing up the remote stations are high- and low-pressure pilots installed on the flowline to automatically close the flowline valve in case of an emergency. The high-pressure pilots initiate well closure when the pressure in the flowline rises above a high-level threshold, which may happen when lines are plugged. The low-pressure pilots initiate well closure when pressure falls below a low-level threshold, such as a flowline rupture or leak.

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