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GP 10-10

Well Control

Group Practice

**BP GROUP
ENGINEERING TECHNICAL PRACTICES**

Foreword

This is the first issue of Engineering Technical Practice (ETP) BP GP 10-10. This Group Practice (GP) is based on parts of the BP Drilling and Well Operations Policy (BPA-D-001), and, for the subject matter covered herein, supersedes that document.

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Introduction

Priorities for safety when planning and undertaking drilling and well operations shall be, in order of importance:

- Personnel
- Environment
- The Installation
- Reservoir Integrity
- Well Delivery

This ETP shall form part of the contractual relationship between BP and its service providers.

Detailed statements are contained elsewhere within this document for specific activities.



1. Scope

This ETP covers the essential systems, practices and training requirements that comprise the BP well control standard. Methods and practices for detecting the flow of formation effluent into the well bore, shutting the well in, circulating out the unwanted formation effluent, diverting flow away from personnel and restoring the well to a stable operating condition are described. Industry and BP procedures that are considered to be best in class and essential practice for all personnel involved in drilling, completion and well work activities are presented in detail. In addition to basic well control techniques, specialized well control practices for wireline, coil tubing, snubbing, intervention operations and coring are included.

2. Normative references

The following normative documents contain requirements that through reference in this document constitute requirements of this GP. Requirements not referenced in this document are not requirements of this technical GP. Detailed guidance to practices for safe and effective well control is covered in the following BP Global documents:

BP

BPA-D-001	BP Drilling and Well Operations Policy
BPA-D-002	Well Control Manual
BPA-D-003	Casing Design Manual
GP 10-15	Pore Pressure Prediction
GP 10-16	Pore Pressure Monitoring
GP 10-20	Shallow Hazards
GP 10-35	Well Operations
GP 10-36	Breaking Containment
GP 10-40	Drilling Rig Audits and Rig Acceptance
GP 10-45	Working with Pressure
GP 10-60	Zonal Isolation Requirements during Drilling Operations and Well abandonment

API

API RP 53	Blowout Prevention Systems, 3rd Edition
API RP 59	Well Control Operations
API RP 64	Diverter Systems Equipment and Operations
API Spec 16C	Choke & Kill Systems
API Spec 16D	Control Systems for Drilling Well Control Equipment
API Spec 16R CD	Specification for Drill through Equipment – Rotating Control Devices

3. Terms and definitions

For the purposes of this GP, the following terms and definitions apply:

Safety Critical

Having the potential to cause personal injury, environmental damage, property damage or loss of reputation



Safety Critical Software

Software, the output of which is safety critical. For purposes of this document safety critical software is to include but not limited to all well control and well bore design software.

BOP

Blowout Preventer - a conditional surface / subsurface pressure barrier often consisting of a set of hydraulically operated rams containing equipment designed to grip pipe, seal around pipe, shear off pipe or seal an open hole during drilling or workover operations. The BOP components may include an annular preventer; ram type preventers, valves, spools and other specific pieces of equipment.

Tree

Christmas tree - the control sections that sit above the wellhead. It may contain hangers, master valves, annular valves, wing valves, and gauges or pressure, flow rate or monitoring equipment.

Wellhead

The part of the wellbore surface / subsurface equipment providing interface between the casing strings and annuli to the tree and casing/tubing outlets

Well Work

Well intervention operations performed after the initial completion, with a service, conventional or hydraulic workover rig and for the purpose of repairs, re-completions, workover, pulling rods for pumps, tubing change outs, etc., where hoisting and well control are essential.

Well Work Unit

Rigs with masts and hoisting capabilities for handling completion strings and jointed pipe

Coiled Tubing Unit

Coiled tubing is an upstream operations using specialized equipment, pipe and qualified personnel to control pressure and the movement a continuous string of pipe and tools in or out of the wellbore using a coiled tubing injector under or over balanced.

Snubbing Unit

Snubbing is an upstream operation using specialized equipment and qualified personnel to control pressure and the movement of jointed tubulars and tools in or out of wellbore using snubbing equipment while under-balanced.

Hydraulic Workover Unit (HWO)

HWO units shall be defined as specialized snubbing type units which are configured to perform the movement of tubulars and tools in or out of wellbore while employing conventional workover BOP configurations as the contingent barrier and a stable column of fluid to balance well pressures as the active barrier.

Contingent Barrier

During balanced drilling, conventional and hydraulic workover activities contingent barriers shall be defined as: blowout preventer equipment (BOPE). E.g. ram and annular / spherical type BOPE and down hole float equipment

During under-balanced drilling, wireline, snubbing and coiled tubing intervention activities contingent barriers shall be defined as: redundant blowout preventer equipment (BOPE) not required for stripping and tree. E.g. redundant ram and annular/spherical type BOPE configured to allow support primary means of pressure containment and conveyance of tools for required intervention.

