



Exploration & Production

GENERAL SPECIFICATION

INSTRUMENTATION

GS EP INS 147

Design and supply of wellhead control panels

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1. Scope

This document defines the minimum requirements for the design, supply and construction of wellhead valve control panels for TOTAL Exploration & Production facilities, onshore and offshore.

The WellHead Control Panel (WHCP) shall be used to operate and control the wells subsurface and surface safety valves.

This specification does not deal with small WHCP units for standalone wells. These will have to be treated by project documents.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

Standards

Reference	Title
IECEX	IEC System for Certification to Standards relating to Equipment for use in Explosive Atmospheres (IECEX System)
ISO 4406-1999	Hydraulic fluid power - Fluids - Method for coding the level of contamination by solid particles

Professional Documents

Reference	Title
Not applicable	

Regulations

Reference	Title
ATEX European Directive 94/9/EC	European Directive on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres

Codes

Reference	Title
Not applicable	

**Other documents**

Reference	Title
Not applicable	

Total General Specifications

Reference	Title
GS EP ELE 031	Design of earthing and bonding systems
GS EP ELE 079	Electrical apparatus for potentially explosive gas atmospheres
GS EP INS 101	Instrumentation engineering, supply and construction general requirements
GS EP INS 102	Instrumentation identification
GS EP INS 104	Design of generation and distribution of instrument air or gas
GS EP INS 107	Design and installation of instrumentation links
GS EP INS 146	Design of generation and distribution of hydraulic energy
GS EP INS 900	Instrument hook-up diagrams
GS EP PVV 112	Piping material classes
GS EP SAF 226	Completed wells safety systems and safety rules
GS EP SAF 261	Emergency Shutdown and Emergency De-Pressurisation (ESD & EDP)

3. Definitions**3.1 DHSV**

Down Hole Safety Valve: sub-surface safety valve, Fail to Close, controlled by the ESD System.

3.2 SSV

Surface Safety Valve: master valve, Fail to Close, and controlled by the Process Safety System (PSS).

3.3 Wing valve

Fail to Close, and controlled by the Process Safety System (PSS). For some specific applications (e.g. remote Full Control of Wells FCW), wing valves could also be controlled by the Process Control System (PCS).