



TOTAL

**Instrument & automation workshop
OGP, London 21-22 November 2006**

- **DGEP/TDO – Daniel RIOCHE / Serge MACREZ**

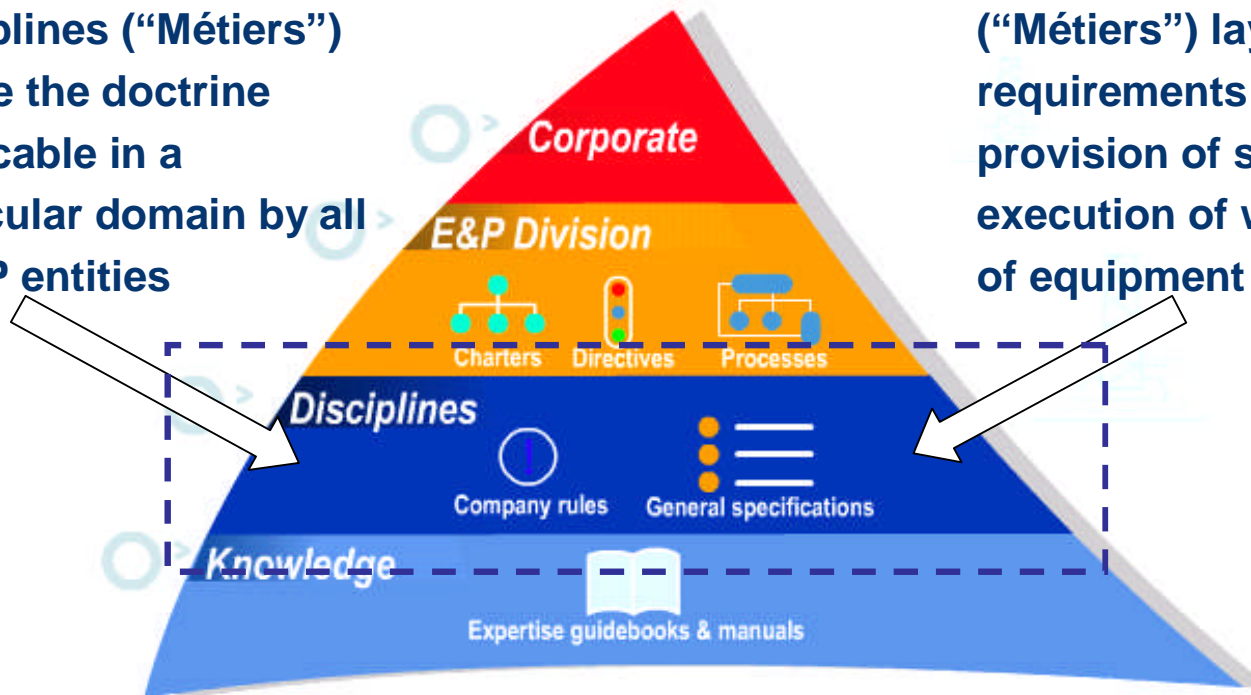
Introduction (Daniel RIOCHE)

- **Technical References = how TOTAL E&P is organized**
 - **The E&P and Standardization**

Company Rules and General Specifications of the professional disciplines (“Métiers”)

Company Rules of the DGEF professional disciplines (“Métiers”) define the doctrine applicable in a particular domain by all DGEF entities

General Specifications of the DGEF professional disciplines (“Métiers”) lay down DGEF requirements with respect to provision of services, execution of work and supply of equipment and material



For operated activities, **their non-application, whether total or partial, requires formal authorisation granted in advance** according to the procedure in force by the technical or support division concerned.

GS

- **Extracts from our internal procedures for writing reference documents:**
- **“....The GS is based as much as possible on international standards and recognized professional documents. When a published standard covers the domain of a GS, this one has to contain only comments and precision for the application of this standard...”;**
- **“All the quoted reference documents are identified by a title and a reference code (example ISO 3163 or API 2B) with the following remark.**
 - **The reference documents listed below form an integral part of this GS. Unless otherwise specified, the applicable version of these documents, including relevant appendices and supplements, is the latest version published at the effective date of the contract**

Interactions between GS and Standards

- **The involvement of our Specialists / Experts in the work of standardization allows us to get a part of our requirements included in the revisions of international standards, and as a consequence, to reduce the number of our general requirements (and the corresponding additional costs)**
- **Via the Web all Total's people have direct access to the international standards (worldwide Group contract).**

SAGAWEB : Liste de résultats - Microsoft Internet Explorer

Echier Edition Affichage Favoris Outils ?

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Adresse http://sagaweb.afnor.fr/Liste.asp?lang=French

Saga WEB AFNOR Liste de résultats Aide Déconnexion

Vos Critères : REF.: ISO TS 29001 et Documents en vigueur

NORM PLUS

Résultat de votre recherche : 2 réponse(s)

10 Réponses par page

Page 1

1 Normes NF ISO 1 Normes ISO

Normes NF ISO

FD ISO/TS 29001 (février 2005)  
Indice de classement : M87-200
Rubrique(s) ICS : 03.120.10,75.020
Statut : Fascicule de documentation
Titre : Industries du pétrole, de la pétrochimie et du gaz naturel - Systèmes de mangement de la qualité spécifiques au secteur - Exigences pour les organismes de fourniture de produits et services
Nombre de pages : 40

Normes ISO

ISO/TS 29001:2003 (septembre 2003)  
Rubrique(s) ICS : 03.120.10,75.020
Titre : Industries du pétrole, de la pétrochimie et du gaz naturel - Systèmes de mangement de la qualité spécifiques au secteur - Exigences pour les organismes de fourniture de produits et services
Nombre de pages : 27

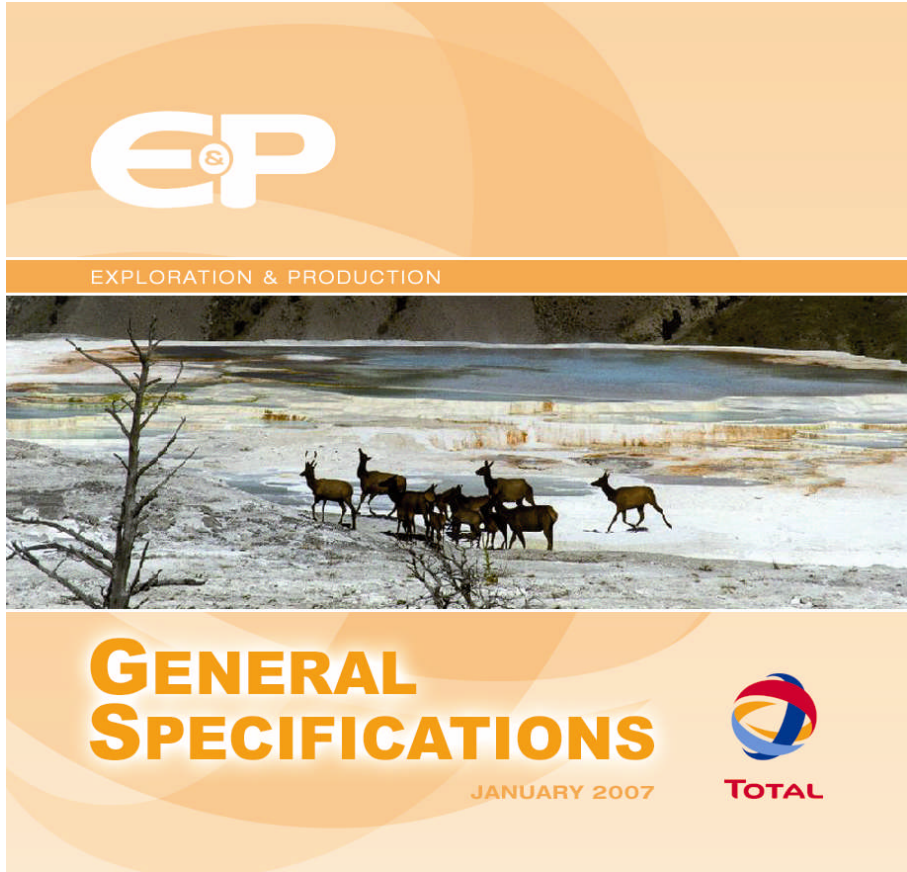
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CD of GS 2007 Version



Instrumentation and Control GS (GS EP INS xxx)

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GS EP INS xxx Relationships

- Those 18 specifications are related to E&P instrumentation and control activities only.
- Downstream and Midstream activities have their own specifications.
- **GS EP INS xxx**
 - Refer to Standards and Practices
 - Do not repeat Standards requirements
 - Address departures from the reference documents
 - Identified additional requirements not included in Standards

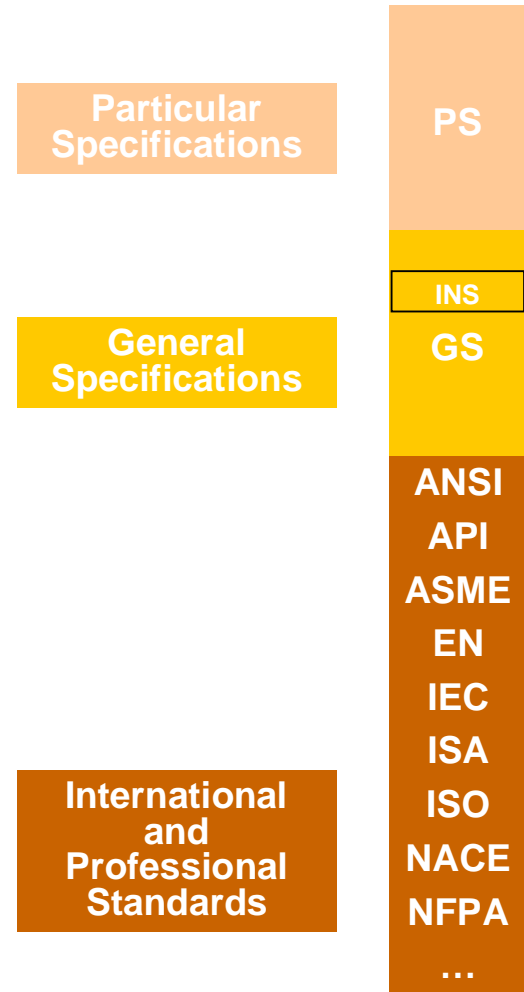


GS EP INS xxx Relationships

- **Those GS EP INS specifications cross refers to others specifications not related to I & A subjects.**
- **Sub-sea I & A requirements are identified in dedicated sub-sea instrumentation specifications**

GS EP INS xxx Relationships with Particular Specifications

- In addition to those GS EP INS specifications, Project specific documents are used and:
 - Refer to GS EP INS xxx
 - Do not repeat GS EP INS xxx requirements
 - Address departures from GS
 - Add project specific requirements (e.g. local regulations, specific environmental conditions...)



Subjects not treated by GS INS xxx

- **Cables**
- **Control Valves / choke Valves**
- **Pressure Safety Valves**
- **Analysers / Analyser Shelters**

List of Standards referenced in GS EP INS xxx (1 / 4)

AGA Report No 3	Orifice calculations
AGA Report No 8	Compressibility Factor of Natural Gas and Related Hydrocarbon Gas
AGA Report No 9	Measurement of gas by Multipath Ultrasonic Meters
ANSI B16.36	Steel orifice flanges
ANSI PTC 19.3	Thermowell calculation
API MPMS	Manual of Petroleum Measurement Standards
API 6A	Specification for Wellhead and Christmas Tree Equipment
API RP 14B	Recommended Practice for Design, Installation, Repair and Operation of Subsurface Safety Valves Systems
API RP 14C	Analysis, Design, Installation and Testing of Basic Surface Safety Systems on Offshore Production Platforms
API RP 520	Sizing, Selection, and Installation Of Pressure-Relieving Devices in Refineries.
API RP 521	Guide for Pressure-Relieving and Depressuring.
API RP 526	Flanged steel safety relief valves.
API RP 527	Seat Tightness of Pressure Relief Valves.
API RP 551	Process Measurement Instrumentation
API RP 552	Transmission Systems
API RP 554	Process Instrumentation and Control
API Std 2000	Venting Atmospheric and Low-pressure Storage Tanks: Non refrigerated and Refrigerated

List of Standards referenced in GS EP INS xxx (2 / 4)

ASME VIII, Div 1	Boiler and pressure vessel codes
IEC 17799	Information Technology- Security techniques- Code of practice for information security management
IEC 60079	Electrical apparatus for explosive gas atmospheres
IEC 60331	Tests for electrical cables under fire conditions – Circuit integrity
IEC 60332 – part 3	Tests on electrical cables under fire conditions – Part 3 : tests on bunched wires and cables
IEC 60364	Electrical installations of buildings
IEC 60446	Identification of cables
IEC 60529	Degrees of protection provided by enclosures (IP code)
IEC 61000	Electromagnetic compatibility (EMC)
IEC 61131-3	Programmable controllers - Part 3: PLC programming languages
IEC 61508	Functional safety of electrical/electronic/programmable electronic safety related systems.
IEC 61511	Functional safety - Safety instrumented systems for the process industry sector
IEC 62061	Safety of machinery – Functional safety of safety-related electrical, electronic and programmable electronic control systems

List of Standards referenced in GS EP INS xxx (3 / 4)

ISA 75.01	Flow equations for sizing control valves.
ANSI/ISA-7.0.01	Quality Standard for Instrument Air
ISA-20	Specification Forms for Process Measurement and Control Instruments, Primary Elements, and Control Valves
ISA-5.1	Instrumentation Symbols and Identification
ISA-5.2	Binary Logic Diagrams for Process Operations
ISA-5.3	Graphic Symbols for Distributed Control/Shares Display Instrumentation, Computer Systems
ISA-5.4	Instrument Loop Diagrams
ISA-5.5	Graphic Symbols for Process Display
ANSI/ISA-75.01.01	Flow Equation for Sizing Control Valves
ANSI/ISA-75.19.01	Hydrostatic Testing of Control Valves
ISA Guide	Control Valves : Practical Guides for Measurement and Control
ISA SP99-dTR99.00.01	Security Technologies for Manufacturing and Control System
ISA SP99-dTR99.00.0	Integrating Electronic Security into the Manufacturing and Control System Environment

List of Standards referenced in GS EP INS xxx (4 / 4)

ISO 12213	Compressibility factor calculation
ISO/TR 3313	Measurement of fluid flow in close conduits – Guidelines on the effects of flow pulsations on flow-measurements instruments
ISO 4124	Liquid hydrocarbons -- Dynamic measurement -- Statistical control of volumetric metering systems
ISO 5167	Measurement of fluid flow by means of pressure differential devices
ISO 5168	Measurement of fluid flow – Evaluation of uncertainties
ISO 6712	Sampling
ISO 6976	Calculation of calorific values, density, relative density and Wobbe index from composition.
ISO 9001 ISO/TS 29001	Quality Management System Requirements Petroleum, Petrochemical and natural gas industries – Sector-specific quality management systems – Requirements for product and service supply organizations
ISO 17089	Measurement of fluid flow in closed conduits – ultrasonic meters
NAS 1638	Cleanliness Requirements of Parts used in Hydraulic Systems
Directive 94/9/EC - ATEX	European Directive 94/9/EC (23/03/94) on the approximation of the laws of the Member States concerning equipment and protective systems intended for use in potentially explosive atmospheres
SIREP-WIB-EXERA report No. M 2656 X 98 part 2	“Ergonomics in process control rooms”: Design guideline

Standards referenced in GS EP INS xxx

- **55 references to Standards, Recommended Practices, Design guide lines are used.**
- **Others standards applicable to other O&G equipment, not strictly relevant to I & A are / may be referenced in other GS E&P specifications (e.g. ANSI B16.5 - Pipe flanges and flanged fittings)**
- **Some similar / equivalent standards are used (e.g. NAS 1638 Cleanliness requirements of parts used in hydraulic systems i/o ISO 4406)**

Missing Standards or Recommended Practices

- **Cyber security of networks and systems**
- **Safety systems: implementation guidelines**
- **Control and safety systems : design documents requirements**
- **Control and safety system HMI : focus on fundamental basic requirements and avoid / eliminate all non required / unnecessary functions embedded in standard software operating systems**
- **Control and safety system testing requirements**
- **On/Off actuated valve controls**
- **Analysers**
- **Wet Gas Metering : flowing modelling**
- **Sub-sea instrumentation**

DGEP/TDO – D.RIOCHE/S.MACREZ

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