

## GENERAL SPECIFICATION

### INSTRUMENTATION

#### GS EP INS 150

**Design method for system configuration -  
Standard functions**

|      |         |                                    |
|------|---------|------------------------------------|
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| General Specification                                          |                         | GS EP INS 150 |
|----------------------------------------------------------------|-------------------------|---------------|
| Design method for system configuration -<br>Standard functions |                         |               |
| Rev.: 10                                                       | Effective date: 05/2015 | Page: 2 of 13 |

## Contents

|                                             |           |
|---------------------------------------------|-----------|
| <b>1. Scope .....</b>                       | <b>3</b>  |
| <b>2. Reference documents .....</b>         | <b>3</b>  |
| <b>3. Terminology and Definitions .....</b> | <b>4</b>  |
| 3.1 Abbreviations .....                     | 5         |
| <b>4. Definitions .....</b>                 | <b>5</b>  |
| 4.1 Standard Function .....                 | 5         |
| 4.2 Modes and Controls .....                | 7         |
| <b>5. HMI and Interfaces .....</b>          | <b>8</b>  |
| 5.1 Valve Commands .....                    | 8         |
| 5.2 Motor Interfaces .....                  | 8         |
| 5.3 Package control .....                   | 8         |
| <b>6. Access Levels .....</b>               | <b>9</b>  |
| <b>7. Alarm and Event Management .....</b>  | <b>9</b>  |
| <b>8. General Principles .....</b>          | <b>9</b>  |
| 8.1 Discrepancy .....                       | 9         |
| 8.2 Fault Detection .....                   | 9         |
| 8.3 Maintenance Mode .....                  | 10        |
| 8.4 Maintenance Inhibit .....               | 10        |
| 8.5 Start-Up Inhibit .....                  | 11        |
| 8.6 First-Up Initiator .....                | 12        |
| <b>9. List of Standard Functions .....</b>  | <b>12</b> |

| General Specification                                          |                         | GS EP INS 150 |
|----------------------------------------------------------------|-------------------------|---------------|
| Design method for system configuration -<br>Standard functions |                         |               |
| Rev.: 10                                                       | Effective date: 05/2015 | Page: 3 of 13 |

## 1. Scope

The purpose of this document is to define the Design Methodology for Control and Safety System Configuration Standard Functions. The principle of this methodology is the development of Standard Functions which are re-usable within a hierarchical structure.

These Standard Functions are key requirements for the development of the Functional Analysis as defined in [GS EP INS 131](#).

These Standard Functions shall define the operating and control requirements of equipment in both normal and degraded conditions, along with its operator interface definition.

A set of Standard Functions Specifications, listed in § 9, has been prepared and detailed within the [GS EP INS 196](#), [GS EP INS 197](#) and [GS EP INS 198](#), based on the general principles defined in this document. It is believed that these Standard Functions cover the majority of cases. However, each project shall review its specific requirements and prepare supplementary Standard Functions as necessary. Company subsidiaries may use their own library of Standard Functions when available.

Standard Functions shall always be used as the basis of control and safety system configuration. The Standard Functions DVT, as specified in [GS EP INS 134](#), shall be performed early in the software lifecycle in order to validate the standard function for a specific project.

All Standard Functions shall be fully documented.

## 2. Reference documents

The reference documents listed below form an integral part of this General Specification.

The equipment shall satisfy the requirements and regulations of the country of installation and specific standards referred to in this specification.

Where national regulations exist, their provisions and those of the standards and codes to which they refer shall apply, supplementing or amending the provisions of this document.

### External Documents

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the effective date of this document.

| Reference      | Title |
|----------------|-------|
| Not applicable |       |

| General Specification                                          |                         | GS EP INS 150 |
|----------------------------------------------------------------|-------------------------|---------------|
| Design method for system configuration -<br>Standard functions |                         |               |
| Rev.: 10                                                       | Effective date: 05/2015 | Page: 4 of 13 |

## Total General Specifications

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published in the applicable yearly collection.

| Reference     | Title                                                                         |
|---------------|-------------------------------------------------------------------------------|
| GS EP INS 131 | Standard Functions and Functional Analysis Development Requirements           |
| GS EP INS 134 | Design and supply of integrated control and safety system                     |
| GS EP EXP 139 | Alarm Management                                                              |
| GS EP INS 135 | Cyber Security requirements for design and supply of ICSS and Package Systems |
| GS EP INS 137 | On/Off Valve Control Panels and Actuators                                     |
| GS EP INS 156 | Human Machine Interfaces (HMI)                                                |
| GS EP INS 196 | Input and Output Standard Functions                                           |
| GS EP INS 197 | Process Standard Functions                                                    |
| GS EP INS 198 | Safety and Fire & Gas Standard Functions                                      |

## 3. Terminology and Definitions

There are five types of statements in this specification, the “shall”, “should”, “may”, “can” and “must” statements. They are to be understood as follows:

|                   |                                                                                                                                                                                          |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Shall</b>      | Is to be understood as mandatory. Deviating from a “shall” statement requires derogation approved by Company.                                                                            |
| <b>Should</b>     | Is to be understood as strongly recommended to comply with the requirements of the specification. Alternatives shall provide a similar level of protection and this shall be documented. |
| <b>May</b>        | Is to be understood as permission.                                                                                                                                                       |
| <b>Can</b>        | Is to be understood as a physical possibility.                                                                                                                                           |
| <b>Must</b>       | Expresses a regulatory obligation.                                                                                                                                                       |
| <b>Company</b>    | TOTAL E&P or any TOTAL E&P subsidiary.                                                                                                                                                   |
| <b>Contractor</b> | Any Party that has signed a Contract with Company for the Engineering, Procurement, Construction, and Installation in part(s) or in full of a project.                                   |
| <b>Vendor</b>     | The package Vendor sub-contracted by the Contractor or by Company.                                                                                                                       |
| <b>Supplier</b>   | The Party that manufactures or supplies equipment, either individually or as a Packaged unit for the project.                                                                            |