



Exploration & Production

GENERAL SPECIFICATION

ELECTRICAL

GS EP ELE 011

Electrical requirements for packaged units

04	10/2009	Modifications as marked
03	10/2005	Addition of "EP" root to GS identification
02	10/2004	Complete review
01	09/2003	Change of Group name and logo
00	03/2001	First issue
Rev.	Date	Notes

Contents

1. Scope	4
2. Reference documents.....	4
3. Service conditions	6
3.1 Environmental conditions.....	6
3.2 Area classification.....	6
3.3 Offshore service conditions	6
4. System voltage.....	6
4.1 Voltages and neutral earthing.....	6
4.2 Electrical System Variations	7
5. General requirements	7
6. Equipment and materials.....	7
6.1 Materials, workmanship and suitability	7
6.2 Motors.....	8
6.3 Motor starters and LV feeders switchboard	8
6.4 Electrical Unit Control Panels (UCP)	8
6.5 DC Battery chargers and batteries	8
6.6 Cables.....	9
6.7 Cable terminations.....	9
6.8 Cable laying	10
6.9 Lighting	11
6.10 Control stations and emergency stop push buttons.....	12
6.11 Heat tracing	12
6.12 Junction boxes.....	12
7. Earthing and bonding	12
8. Equipment identification	13
9. Factory Acceptance Tests (FAT)	13
10. Documentation	13
10.1 With the bid.....	13



10.2	For approval.....	13
10.3	Final documentation	14
10.4	Certification documents (as per directive ATEX 94/9/EC)	14

1. Scope

This specification defines the minimum requirements for the design, manufacture, inspection and testing of electrical equipment provided with packaged units.

This specification is to be read in conjunction with the corresponding packaged unit Project specification, drawings and data sheets, if any.

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.

Design and engineering shall conform as a minimum requirement to the current edition of the following in order of precedence:

- Applicable laws and regulations of the country in which the system will be operated. In cases where no "local" regulations exist, the French laws and regulations shall be used
- COMPANY Particular Specifications and data sheet (if any)
- COMPANY General Specifications
- Applicable International Electro technical Commission (IEC) Publications
- Applicable CENELEC Standards
- Applicable recognized standards and codes (UTE, BS, VDE, etc.) where IEC Publications have not yet been issued.

Any conflict or inconsistency between the above set of documents (standards, specification, codes and local regulation or laws) shall be raised to COMPANY attention for resolution at tender stage.

Standards

Reference	Title
IEC 60038	IEC Standard Voltages
IEC 60050	International Electrotechnical Vocabulary
IEC 60059	IEC Standards current ratings
IEC 60529	Degrees of protection provided by enclosures (IP code)
IEC 60617	Graphical symbols for diagrams
IEC 60706	Maintainability of equipment
IEC 61000	Electro Magnetic Compatibility (EMC)
IEC 61293	Marking of electrical equipment with ratings related to electrical supply - Safety requirements
IEC 62262	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code)

Professional Documents

Reference	Title
Not applicable	

Regulations

Reference	Title
94/9/EC (ATEX 100 ¹ /ATEX 95 ²)	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

Codes

Reference	Title
Not applicable	

Other documents

Reference	Title
IECEX 01	IEC Scheme for Certification to standards relating to Equipment for use in Explosive Atmospheres (IECEX Scheme) - Basic Rules
IECEX 02	IEC Scheme for Certification to standards relating to Equipment for use in Explosive Atmospheres (IECEX Scheme) - Equipment Certification Program covering equipment for use in explosive atmospheres - Rules of Procedure

Total General Specifications

Reference	Title
GS EP ELE 031	Design of earthing and bonding system
GS EP ELE 061	Minimum requirements for HV and LV cable sizing
GS EP ELE 079	Electrical apparatus for potentially explosive gas atmospheres
GS EP ELE 111	Induction motors
GS EP ELE 135	Low voltage switchgear assembly
GS EP ELE 137	Distribution boards
GS EP ELE 151	DC uninterruptible power systems (UPS)

¹ Reference to Articles 100/118 of the Treaty of Rome

² Reference to Articles 95/137 of the Treaty of Amsterdam