



Document No.	GIS 60-201
Applicability	Group
Date	22 December 2005

Guidance on Industry Standard for Nitrogen Generator Package

GIS 60-201

BP GROUP
ENGINEERING TECHNICAL PRACTICES

Foreword

This is the first issue of Engineering Technical Practice (ETP) BP GIS 60-201. This Guidance on Industry Standard (GIS) is based on parts of heritage documents from the merged BP companies as follows:

British Petroleum

RP 60-6 Inert Gas Systems.

Amoco

A PE-SMU-00-P Packaged Equipment Skid Mounted Units
A PN-PLT-UTIL-E Piping Plant Utility

Uncontrolled Copy

Copyright © 2005, BP Group. All rights reserved. The information contained in this document is subject to the terms and conditions of the agreement or contract under which the document was supplied to the recipient's organization. None of the information contained in this document shall be disclosed outside the recipient's own organization without the prior written permission of Director of Engineering, BP Group, unless the terms of such agreement or contract expressly allow.



Table of Contents

	Page
Foreword	2
1. Scope	4
2. Normative references.....	4
3. Symbols and abbreviations	5
4. General considerations	5
4.1. Operability.....	5
4.2. Classification.....	6
4.3. Environmental	6
4.4. HSE	6
4.5. Scope of Supply.....	6
5. Mechanical design	7
5.1. General.....	7
5.2. Nitrogen generator air compressors.....	7
5.3. Membranes.....	8
5.4. Air Receiver	8
5.5. Nitrogen Receiver	8
5.6. Air Drier and Filters.....	8
5.7. Piping.....	9
5.8. Electrical	9
5.9. Instruments and controls.....	10
5.10. Structural	11
5.11. Painting.....	11
5.12. Inspection and Testing.....	11
6. Preparation for Shipment	12
7. Vendor data requirements.....	13
8. Warranty	14
9. General requirements for utility packages	14

List of Figures



1. Error! No table of contents entries found.Scope

This GIS gives guidance for the selection, design and construction of nitrogen generator packages. This document takes into account health, safety and environmental legislation, good design practice, and technical and economic considerations for selecting a nitrogen generator package and is applicable to both onshore and offshore installations.

2. Normative references

The following normative documents contain requirements that, through reference in this text, constitute requirements of this technical practice. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this technical practice are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies.

American Petroleum Institute

API 2 FPS Practice for Design of Floating Production Facilities

BP Group

GP 6-40	External Coating of Pipelines Selection Guide
GP 6-60	Onshore and Offshore Paints and Coatings
GP 12-15	Wire and Cable
GP 12-20	Motors
GP 12-25	Earthing/Grounding
GP 12-30	Lighting and Small Power
GP 12-45	Electrical for Packaged Systems
GIS 12-201	IEC Low Voltage Induction Motors
GP 12-202	NEMA Low Voltage Induction Motors
GIS 12-205	IEC Synchronous Motors
GIS 12-206	ANSI/NEMA Synchronous Motors
GP 18-01	Guidance on Practice for General Requirements for Welded Fabrication
GP 30-25	Field Instruments General
GP 30-35	Control Valves and Pressure Regulators
GP 30-70	I&C in Vendor Packaged Equipment
GIS 30-402	Guidance on Industry Standard for Programmable Logic Controllers (PLC) Procurement
GP 32-10	I&T of New Equipment in Manufacture
GP 32-20	Site Inspection, Testing, Pre-commissioning
GP 32-50	Inspection and Testing of Electrical (IEC)
GP 32-51	Inspection and Testing Electrical (ANSI)
GP 34-00	Machinery
GP 36-10	Guidance on Practice for Engineering Guidance on Materials Selection
GP 40-10	Structural Skids and Skid Mounted Units Guide
GP 42-10	Metallic Piping Systems
GP 46-01	New Pressure Vessels
GP 52-10	Guidance on Practice for Thermal Insulation



GP 60-20	Inert Gas Systems
GP 60-50	General Issues - Equipment Packages

Minerals Management Service (MMS)

30 CFR, 250	Subpart A, Oil & Gas Offshore Operations
-------------	--

National Fire Protection Association (NFPA)

NFPA 70	National Electrical Codes NEC
NFPA 493	Standard for Intrinsically Safe Apparatus for use in Class 1,2 & 3 Division I Hazardous Locations.
NFPA-496	Purged and Pressurized Enclosures for Electrical Equipment

National Electrical Manufacturers Association (NEMA)

Enclosures for electrical equipment

3. Symbols and abbreviations

For the purpose of this GIS, the following symbols and abbreviations apply:

ABS	American Bureau of Shipping
ANSI	American National Standards Institute
CFR	Code of Federal Regulations
FOI	Floating Offshore Installation
MCC	Motor Control Centre
QA	Quality Assurance
SP	Swing Pressure
SS	Stainless Steel
VAC	Volts Alternating Current
VDC	Volts Direct Current

4. General considerations**4.1. Operability**

- a. Equipment design and component selection should be consistent with a philosophy of minimum staffing and intervention over the life of the installation.
- b. Equipment shall be capable of operating unattended.

Circumstances for attended operation shall be specified such as start-up, shutdown, or abnormal conditions.

- c. Selection of simple and robust designs, proven equipment and high quality materials having technical integrity and demonstrated safe performance shall be required.

