



Exploration & Production

GENERAL SPECIFICATION

Telecommunications

GS EP TEL 140

Public Address and General Alarm Systems

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1. Scope

The present general specification deals with systems designed to broadcast voice messages and audio alarm signals via an electro-acoustic system, in an offshore installation or an onshore plant.

The specification does not cover:

- Design of the offshore installation or plant alarm system,
- Visual or audio alarms specific to other safety systems.

The verbal forms used to indicate levels of requirement are specified in [ISO/IEC Directives, Part 2](#) and [Characteristics of good requirements](#), INCOSE Symposium 1996.

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
IEC 60050	International Electrotechnical Vocabulary
IEC 60268	Equipment for electro-acoustic systems
IEC 61672	Electro acoustics - Sound level meters
ISO/IEC Directives, Part 2	Rules for the structure and drafting of International Standards

Professional Documents

Reference	Title
IMO SOLAS	Convention on Human Life and Safety at Sea (SOLAS), 1986, published by the International Maritime Consultative Organisation (IMCO)

Regulations

Reference	Title
ATEX directive 94/9/EC	Equipment and protective systems intended for use in potentially explosive atmospheres

**Codes**

Reference	Title
Not applicable	

Other documents

Reference	Title
Characteristics of good requirements UKOOA	Requirements Working Group of the International Council on Systems Engineering (INCOSE symposium 1996) Safety related telecommunications systems on Normally Attended and Unattended Fixed Offshore Installations - issue 2 - December 1996

Total General Specifications

Reference	Title
GS EP TEL 002	Telecom systems shutdown philosophy
GS EP TEL 410	Installation rules
GS EP TEL 414	Telecommunication cables
GS EP TEL 700	Telecommunications Engineering services
GS EP TEL 710	Telecom equipment numbering
GS EP ELE 151	DC uninterruptible power systems (UPS)
GS EP SAF 371	Emergency control facilities

3. General rules applicable to Public Address and General Alarm systems

3.1 Hazardous areas

The hazardous area classification for the site is done by the safety. All Telecom equipment installed (amplifiers, access units, loudspeakers, cables, flashing beacons,...) shall use a protection suitable for the relevant zones, certified **ATEX directive 94/9/EC**.

3.2 General principles

The General Alarm system shall be used to broadcast audible Alarm tones to all parts of the installation or plant. The Public Address system shall be used to broadcast Emergency Verbal Announcements which shall be intelligible in all parts of the installation or plant where personnel may be present during normal operation and ambient noise levels permit. These areas shall include muster stations and survival craft areas.



The Public Address system shall also allow broadcasting of routine messages over the platform or plant on a per zone basis

Emergency and routine messages may be pre-recorded.

All the sound equipments performance, characteristics shall comply with [IEC 60268](#).

The facility to record the messages shall be provided **with the ability to set and change priority hierarchy**

Depending upon safety requirement, safety philosophy and installation layouts, alarm tones broadcasting should be general or on per zone basis.

This present document is based upon the standard [SOLAS](#) and [UKOOA](#)

3.3 Sites description and equipment

Functionalities and broadcasting of alarms tones are different depending on the type and size of installation. The following types are defined with expected facilities associated to.

On **normally manned offshore installations**, the Public Address system and the General Alarm system shall be combined into a fully duplicated PA/GA system.

On **normally unmanned offshore installations** with enclosed areas and temporary accommodation facilities, a combined unduplicated PA/GA system shall be installed.

On **small unmanned installations** with no temporary accommodation facilities, a permanent General Alarm system shall be provided. PA facilities is not required

In **onshore plants**, a permanent General Alarm system covering all plant areas shall be provided. A Public Address system shall be installed as a mean of broadcasting emergency and routine messages.

3.4 Emergency signals

The emergency signals to be broadcasted include alarm tones and messages (emergency verbal announcements). The emergency verbal announcements shall be broadcasted in general basis. On plants and in compliance with safety rules and philosophy alarm, tones shall be broadcasted in areas under alarm only. In any time messages shall be preceded by a pre-announcement chime to attract the attention of personnel. During the messages, the alarm tone sound level shall be attenuated by at least 15 dB.

On mustering points and manned areas in emergency situation (Control Rooms, Emergency Crisis Room, etc...), alarm tones shall not be broadcasted.

Where an entertainment system exists in the platform living quarters area or in the plant accommodation camp, this entertainment system shall be muted automatically and immediately during an alarm or messages dispatching time in these areas.

Alarms and emergency verbal announcements shall be supplemented by visual alarm signals in noisy areas. These visual alarm signals shall be initiated only during alarms and the emergency verbal announcement broadcast.

The system shall be capable of sounding a limited number of alarm signals which can be easily identified by all personnel on the production installation or in the plant. The alarm signals shall include the following:

- General Alarm (offshore - General Platform Alarm GPA),