

GENERAL SPECIFICATION

SAFETY

GS EP SAF 311

Rules for the selection of active fire protection systems
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04	10/2015	General revision (including document title modification)
03	10/2009	General revision
02	10/2005	Addition of EP root to document identification
01	10/2003	Change of Group name and logo
00	04/2001	Old TotalFina SP SEC 311
Rev.	Date	Purpose of the revision

Owning entity: HSEQ/SIRM	Managing entity: HSEQ/SIRM
Other approving entity:	

General Specification		GS EP SAF 311
Rules for the selection of active fire protection systems		
Rev.: 04	Effective date: 10/2015	Page: 2 of 19

Contents

1. Scope	3
1.1 Purpose	3
1.2 Applicability	3
2. Reference documents	3
3. Terms and definitions	5
3.1 Definitions	5
3.2 Abbreviations	7
4. Fire Control Principles	7
4.1 General rules for active fire protection systems selection	7
4.2 Fire Classes	8
4.3 Fire Extinguishing Agents selection	9
5. Active fire protection systems selection for typical areas	10
5.1 Fire water systems	10
5.2 Production and processing installations	11
5.3 Oil and LPG storage (onshore)	14
5.4 Loading installations (onshore)	14
5.5 Escape routes	15
5.6 Heliport and helideck (ISO 13702)	15
5.7 Permanently manned and not permanently manned rooms	16
5.8 Unmanned enclosures	18
5.9 Isolated rooms	18
5.10 Portable Fire Extinguishers	18
5.11 Hydrants, monitors, hose reels (ISO 13702, API RP 14G, API RP 2001)	18
6. Fire Brigade	19

General Specification		GS EP SAF 311
Rules for the selection of active fire protection systems		
Rev.: 04	Effective date: 10/2015	Page: 3 of 19

1. Scope

1.1 Purpose

The purpose of the present General Specification is to present Company's requirements for the selection of the active fire protection system(s) type(s) to be installed, in function of the environment type (onshore or offshore) and of the installation/equipment type to be protected.

The design of these active protection systems is detailed in other specifications (refer to [GS EP SAF 050](#), [GS EP SAF 221](#), [GS EP SAF 222](#), [GS EP SAF 226](#), [GS EP SAF 227](#), [GS EP SAF 321](#), [GS EP SAF 322](#), [GS EP SAF 331](#), [GS EP SAF 332](#), [GS EP SAF 334](#), [GS EP SAF 341](#) and [GS EP SAF 351](#)).

Sometimes, the present specification refers also to passive fire protection systems; however, for passive fire protection systems design details refer to [GS EP SAF 337](#).

1.2 Applicability

This specification is not retroactive. It applies to new permanent Company facilities and major modifications or extensions of the existing installations.

It does not apply to:

1. Class D fires (except aluminium helideck fires, refer to § 5.6),
2. LNG installations (refer to [GS EP SAF 521](#)),
3. F(P)SO installations (refer to [GS EP SAF 380](#)),
4. Boats.

2. Reference documents

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

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
API RP 14G	Recommended Practice for Fire Prevention and Control on Fixed Open-type Offshore Production Platforms
API RP 2001	Fire Protection in Refineries
IMO SOLAS	International Convention for the Safety Of Life At Sea (SOLAS)
IP 15	Area Classification Code for Installations Handling Flammable Fluids: Part 15 of the IP Model Code of Safe Practice in the Petroleum Industry
ISGOTT	International Safety Guide for Oil Tankers and Terminals

Reference	Title
ISO 13702	Petroleum and Natural Gas Industries - Control and Mitigation of Fires and Explosion on Offshore Production Installations – Requirements and Guidelines
NFPA 10	Standard for Portable Fire Extinguishers
NFPA 15	Standard for Water Spray Fixed Systems for Fire Protection
NFPA 30	Flammable and Combustible Liquids Code

Total General Specifications

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

Reference	Title
GS EP LSO 115	Helideck specifications for Operations
GS EP SAF 050	Fire and Gas System and Fire Suppression System for Packaged Rotating Machinery Enclosures
GS EP SAF 221	Safety rules for buildings
GS EP SAF 222	Safety rules for turbines, Diesel engines, gas engines and process units in sheltered or enclosed areas
GS EP SAF 226	Completed wells safety systems and safety rules
GS EP SAF 227	Safety rules for fired heaters
GS EP SAF 321	Fire pump stations and fire water mains
GS EP SAF 322	Fixed fire water systems
GS EP SAF 331	Carbon dioxide fixed fire extinguishing systems
GS EP SAF 332	Water mist and gaseous fixed fire extinguishing systems
GS EP SAF 334	Foam fire extinguishing systems
GS EP SAF 337	Passive fire protection: Basis of design
GS EP SAF 341	Location and protection of onshore hydrocarbon storage
GS EP SAF 351	Escape, evacuation and rescue from fixed installations
GS EP SAF 380	Safety engineering requirements for an F(P)SO
GS EP SAF 521	Safety specific requirements for LNG onshore liquefaction plants and export

General Specification		GS EP SAF 311
Rules for the selection of active fire protection systems		
Rev.: 04	Effective date: 10/2015	Page: 5 of 19

3. Terms and definitions

There are three types of statements in this General Specification: “shall”, “should” and “may”. They shall be understood as follows:

Shall	Is to be understood as mandatory. Any deviation from a “shall” statement requires a derogation approved by the Company.
Should	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.
May	Is used where alternatives are equally acceptable.

3.1 Definitions

For the purpose of this document only, the following terms and definitions apply.

Active Fire Protection (AFP)	Any fire protection system or component which requires the manual or automatic detection of a fire and which initiates a consequential response (API RP 14G).
Enclosed area	Any building room or enclosed space within which, in the absence or failure of artificial ventilation, the ventilation is not sufficient to avoid persistence of flammable atmosphere within the area (IP 15).
Fixed fire water system	Fixed system (by opposition to "mobile" or "portable") such as deluge, water curtain, monitor, hydrant, etc. installed for active protection in case of fire and supplied by a specific fire water network, with pumping set and sufficient quantity of water (water storage or inexhaustible supply) (Company).
Flammable liquid	Is considered as flammable liquid, a liquid handled above its flash point or a liquid with a flash point lower than 60°C (NFPA 30).
Isolated (remote) room	Room where personnel are not normally present and where access time for intervention would take more than 5 minutes (Company).

These definitions for rooms can be summarized as follows:

Personnel presence	Time to access	
	≤ 5 minutes	> 5 minutes
No routine requirement	Unmanned	Isolated
Routine checks - once per day, or - once per shift	Not permanently Manned	Isolated
Permanent occupancy 12 hours per day, or 42 hours per week	Permanently Manned	NA

General Specification		GS EP SAF 311
Rules for the selection of active fire protection systems		
Rev.: 04	Effective date: 10/2015	Page: 6 of 19

Permanently Manned Installation (or platform)

Installation on which people are routinely accommodated or which is occupied continuously during normal operations (Company from [ISO 13702](#)).

Not Permanently Manned Installation (or platform)

Installation that is not manned all the time, but that is frequently visited during normal operations. As a guideline, personnel work routinely for less than 12 hours per day, or less than 42 hours per week (Company).

For this type of installations, no planned overnight stays of personnel shall be carried-out (Company).

For offshore, two types of not permanently manned installations are considered:

- Harsh environment: typically installed in North Sea, Argentina, or in areas where there is a security/political instability. Helicopter is the primary means of transport;
- Mild environment (previously known as “unmanned installations”): for which boat landings are the primary means of access.

Not permanently manned room

Room which does not require the presence of personnel for normal operations, but where entrance for maintenance or control activities is frequent (e.g. switch-room, instrument room). The access is limited to qualified personnel and it is recognized that the intervention is quick (less than 5 minutes) in case of fire alarm (Company).

Open area

An area in an open air situation where vapours are readily dispersed by wind or convection effects ([IP 15](#)).

Permanently manned room

Room which is continuously manned or where personnel are present most of the time, e.g. control room, radio room (Company).

Passive Fire Protection (PFP)

Any fire protection system or component, which, by its inherent nature, plays an inactive role in the protection of personnel and property from damage by fire. Passive fire protection functions independently of a requirement for human, mechanical, or other intervention to initiate a consequential response ([API RP 14G](#)).

Sheltered or obstructed area

An area within or adjoining an open area (which may include a partially open building or structure) where, owing to obstruction, natural ventilation is restricted and less than in a true opened area ([IP 15](#)).

Unmanned room (or enclosure)

Room (or enclosure) where personnel are not normally present and could not enter (except with difficulty) in case of fire, e.g. diesel engine or turbine enclosure (Company).