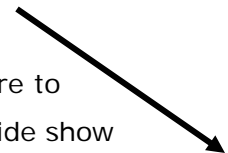




Gulf of Mexico Fire Prevention, Control and Egress Safe Work Practice

**KnowledgePlanet
Awareness & Quiz**

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(Fire Prevention, Control and Egress)

Purpose & Objectives

- The Fire Prevention, Control and Egress Guidelines were designed to protect employees and facilities from the exposure of fires and to help ensure compliance with regulatory requirements, relevant industry codes, previous successful operations and sound engineering practices.
- The intent of this guidance document is to help the readers (users) exercise good judgment in determining effective and feasible solutions for fire prevention, protection, control and egress.

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Important Note:

- In order to successfully complete the Fire Prevention, Control and Egress awareness training module and assessment quiz, you must refer to the Fire Prevention, Control and Egress Guidelines located on-line in the GOM OE Operations Manual.

Link to GOM OE Operations Manual

http://laf-ctnau.chevron.com/manuals_gom/facilities/fps/

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■ Primary objectives are:

- Prevention of injury to personnel, loss of life, and environmental damage through the design of fire protection systems for offshore facilities.
- Property protection is considered a secondary objective.



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Scope

- These guidelines apply to both fixed and floating platforms, new major facilities and existing facilities where new or different equipment of a significant nature, (i.e. subsea tie-backs) are installed. **These guidelines also apply to shorebase facilities, the Picayune aviation facility and land based production facilities.**
- These guidelines do not apply to non-company operated facilities (i.e. Mobile Offshore Drilling Units (MODU's), laybarges, etc.) working on Chevron prospects.

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Firefighting Philosophy

Chevron's firefighting philosophy provides for **three** approaches:

- Prevent the occurrence of fires through proper house keeping and best engineering practices;
- To fight incipient stage fires only, OR;
- To "manage and control" fires beyond the incipient stage by employing the use of the Incident Command System (Incident Chain of Command) as found in the Emergency Evacuation Procedures (EEP's) specific to each platform.

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Firefighting Philosophy (continued)

- The decision to abandon the structure should be made when it is evident that an emergency situation is either out of control or will become unmanageable and threaten the life or safety of the crew.

NOTE: Only Chevron's Floating and Deepwater platforms "manage and control" fires beyond the incipient stage as mandated by the U.S. Coast Guard.



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Incipient Stage Fires

- A fire which is in the initial or beginning stage which can be controlled or extinguished by portable fire extinguishers, Class II standpipe, or hose systems without the need for protective clothing or breathing apparatus. If the fire is beyond the incipient stage, personnel should shut-in the structure, if possible, and evacuate.



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MMS Requirements for Fire Prevention and Control Systems:

- The Minerals Management Service (MMS) regulation, 30 CFR Part 250.803(b)(8)(i) requires that each OCS platform be equipped with a firewater system that provides needed protection in all areas where production handling equipment is located.
- 30 CFR Part 250.803(b)(8)(iii) provides that a fire prevention and control system that uses dry chemicals in lieu of a water system may be used if the chemical system provides equivalent protection for control and personnel egress. (Does not apply to floating facilities).

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MMS requirements continued:

■ Notice to Lessees (NTL 2006-G04)

- Provides for automatic approval for the use of a U.S. Coast Guard type and size rating “B-II” portable dry chemical unit (with a minimum UL rating (US) of 60-B:C) or 30-pound dry chemical unit in lieu of a water system, on all platforms that are both minor and unmanned (small, caisson-type platforms), as long it is ensured that the unit will be available on the platform when personnel are on board.

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MMS Requirements continued:

- MMS may require completion of a Firefighting Risk Assessment to determine if the dry-chemical-only firefighting system provides the equivalent protection as firewater systems for the egress of personnel, should a fire occur.
- The MMS is required to be notified when any major component of a primary firefighting system becomes inoperable.



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Reporting of inoperable fire suppression equipment

- Shut in production operations while making the necessary repairs, or contact the appropriate Chevron MMS Point of Contact **immediately** ;
- The Chevron MMS Point of Contact will make the notifications to MMS and USCG as required;
- A field representative shall contact the appropriate Operations Manager before the end of the business day or within 12 hours if after business hours;
- If repairs cannot be completed within the approved period because of circumstances beyond your control, the appropriate MMS GOMR District Supervisor may be contacted for an extension to the departure.

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If a chemical-only fire suppressant system becomes does not operate inoperable:

- When a major component becomes inoperable, **immediately** contact the appropriate Chevron MMS Point of Contact. (A major component is defined as any system or unit larger than a hand held extinguisher.)
- The Chevron MMS Point of Contact will notify the appropriate MMS District.
- As per instructions in the equipment inspection process, Chevron personnel must notify the Operations Supervisor and Chevron MMS Point of Contact for “red tagged fire fighting equipment”.
- If a hand held unit becomes inoperable and a replacement unit can not be installed within 24 hours, notify the Chevron MMS Point of Contact.

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■ Fire Prevention in facility design:

- First – Utilize inherently safe systems and design processes to minimize the likelihood of hydrocarbon releases and ignition sources.
- Second – Utilize engineering controls to minimize the likelihood of systems, structures and components becoming ignition sources in and around potential hydrocarbon releases. This includes equipment selection and layout, separation of the facility into hazardous and nonhazardous areas, appropriate use of firewalls, good ventilation and provision of adequate escape and evacuation routes.

(Fire Prevention, Control and Egress)

- Third – Utilize automatically actuated fire detection and suppression systems to mitigate the consequences of hydrocarbon releases and potential fires.
- Fourth – Utilize manual actions (Fire Teams) to manage and control fires that are not prevented or mitigated by the above-described layers of protection.

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Fire prevention in Facility Design continued.

- Facility design considerations should include:
 - Layout Philosophy – fire safety based on equipment location
 - Barrier walls and firewalls
 - Prevailing wind criteria
 - Area classifications
 - Compressor and generator design and placement
 - Electrical equipment buildings
 - Temporary buildings
 - Welding areas

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Fire prevention in facility design continued.

- Flammable/Dangerous Equipment Storage
- Hot surface protection
- Pipelines and risers
- Bleed rings
- Valves



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Escape and Evacuation Provisions (Egress)

- Common sense must prevail in all decisions to evacuate should a fire increase beyond the incipient stage or can no longer be “managed and controlled”; therefore, adequate means to egress must be provided for personnel safety and by regulation.
- Some typical primary means of escape are:
 - Catwalks (bridge connections)
 - Fixed stairways
 - Fixed metal ladders

(Fire Prevention, Control and Egress)

Escape and Evacuation Provisions

- One form of “escape” is water emersion from the platform. In the unlikely event that personnel have to utilize this type of evacuation, several lifesaving equipment types are authorized and available to include:
 - Life floats
 - Inflatable life rafts
 - Survival craft (escape capsules)

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Escape and Evacuation Provisions

- Other water lifesaving equipment include:
 - Life preservers – Personal Floatation Devices (PFD's)
 - Work vests
 - Ring buoys

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Fire Prevention, Control and Egress Guidelines (FPCE) Document

- The FPCE Document is the resource tool (located in the Operations Manual) which provides production operators and engineers with comprehensive information as to the selection, design, placement, installation, maintenance, testing, and compliance requirements for fire prevention, control and egress systems to include:
 - Fusible Loop System (TSE/ESD);
 - Electronic Fire Detection (thermal, smoke and flame – Ultraviolet (UV) and Infrared (IR));

(Fire Prevention, Control and Egress)

Continued from previous slide

- Fire Protection and Firefighting Equipment;
- Portable Fire Extinguishers;
- Firewater Systems;
 - ▶ Firewater Pumps
 - ▶ Firewater Hoses and fixed monitors
- Fixed gaseous suppression systems;
- Fixed AFFF (Foam) Systems;
- Wellbay Deluge Systems;
- Vent and Relief Systems;
- General Alarm and Paging Systems;

(Fire Prevention, Control and Egress)

Continued from previous slide

- Station Bill purpose and function;
- Training and Drill information, and;
- Specifications, Codes and Standards.

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Quiz Questions

(Fire Prevention, Control and Egress) Quiz Questions

Prevention of injury to personnel, loss of life, and environmental damage through the design of fire protection systems for offshore facilities is the Primary Objective of the Fire Prevention, Control and Egress (FPCE) guidelines.

True

False

(Fire Prevention, Control and Egress) Quiz Questions

The MMS must be notified when a component of the primary firefighting system (the firewater pump) is down for preventive maintenance less than 2 hours.

True

False

The MMS must be notified if a primary component of your firefighting system is down for maintenance in **excess** of 2 hours or more.



(Fire Prevention, Control and Egress)

Quiz Questions

Fire extinguishers should be visually inspected; the inspection should confirm:

- A. They are in their designated places.
- B. They have not been activated or tampered with.
- C. Any obvious physical damage, corrosion or other impairment is detected.
- D. All of the above.

(Fire Prevention, Control and Egress) Quiz Questions

Protection of property is a primary objective of the Fire Prevention, Control and Egress Guidelines.

True

False

Prevention of injury to personnel, loss of life and environmental damage shall be the primary objectives in the design of fire protection systems for offshore facilities.

(Fire Prevention, Control and Egress) Quiz Questions

What is the testing frequency of a firewater system?

- A. Annually
- B. Semi-annually
- C. Weekly
- D. Monthly

(Fire Prevention, Control and Egress) Quiz Questions

If a fire extinguisher is “Red Tagged” who must be notified?

- A. The HES Specialist for your area and the area Operations Manager
- B. Operations Supervisor and Chevron MMS Point of Contact
- C. The OE process Advisor and Sponsor for fire and Egress
- D. Reporting of Red Tagged” fire extinguishers is not required.

(Fire Prevention, Control and Egress) Quiz Questions

Life floats should be mounted on the outboard sides of the working platform in such a manner as to be readily launched.

True

False

(Fire Prevention, Control and Egress)

Quiz Questions

What color tag indicates that a fire extinguisher is fully functional but needs service/repairs?

- A. Green
- B. Yellow
- C. Red
- D. A and B

(Fire Prevention, Control and Egress) Quiz Questions

For fix island facilities survival craft should be launched annually.

True

False



(Fire Prevention, Control and Egress) Quiz Questions

Extinguishers for new facilities or those purchased as replacement equipment on existing facilities shall be of the stored pressure type and possess the UL/FM listing and meet all applicable regulatory requirements.

- A. True
- B. False



(Fire Prevention, Control and Egress) Quiz Questions

Egress paths should have adequate headroom and ample width. For new facilities and modifications, walkways in equipment areas shall be no less than ____ in. wide and have head clearance of ____ ft minimum.

- A. 36 inches, 7 feet
- B. 30 inches, 7 feet
- C. 36 inches, 8 feet
- D. 30 inches, 8 feet



(Fire Prevention, Control and Egress) Quiz Questions

At a minimum, the firewater pump should be sized to deliver a pressure recommended by the nozzle manufacturer, or at least ____ psi when two fire stright streams are flowing.

- A. 65
- B. 70
- C. 75
- D. 80

Quiz Questions

All fire hose installed or replaced shall be approved for use by the agency having jurisdiction as to it being suitable for fire fighting or documentation from the hose manufacturer stating the hose may be used for fire fighting.

True

False

(Fire Prevention, Control and Egress) Quiz Questions

For floating and deepwater facilities; Each survival craft crew shall launch their assigned survival craft each monthly (weather permitting).

True

False



(Fire Prevention, Control and Egress) Quiz Questions

Concerning a firewater system that does not operate as required by 30 CFR 250.803(b)(8), Which of the following is **FALSE**.

1. For deepwater installations, contact the USCG.
2. Contact the appropriate operations manager before the end of the business day or within 12 hours if after business hours.
3. If repairs cannot be completed within the approved period because of circumstances beyond your control, the appropriate MMS GOMR district supervisor may grant extensions to your initial request for periods up to seven days.
4. If the event is documented in SMART plus no other action is required.



(Fire Prevention, Control and Egress)

Quiz Questions

When the fire water does not operate you should shut in production operations while making the necessary repairs, or contact the _____ within what time frame?

- A. MMS GOMR district supervisor, within 12 hours if after business hours.
- B. Chevron MMS Point of Contact, immediately.
- C. Chevron MMS Point of Contact, before the end of the business day.
- D. Chevron MMS Point of Contact, after all production operations have been shut in.