

**ENGINEERING STANDARDA**

**FOR**

**FIRE FIGHTING HOSE BOX AND SHELTER**

**FIRST EDITION**

**APRIL 2015**

**FOREWORD**

The Iranian Petroleum Standards (IPS) reflect the views of the Iranian Ministry of Petroleum and are intended for use in the oil and gas production facilities, oil refineries, chemical and petrochemical plants, gas handling and processing installations and other such facilities.

IPS are based on internationally acceptable standards and include selections from the items stipulated in the referenced standards. They are also supplemented by additional requirements and/or modifications based on the experience acquired by the Iranian Petroleum Industry and the local market availability. The options which are not specified in the text of the standards are itemized in data sheet/s, so that, the user can select his appropriate preferences therein.

The IPS standards are therefore expected to be sufficiently flexible so that the users can adapt these standards to their requirements. However, they may not cover every requirement of each project. For such cases, an addendum to IPS Standard shall be prepared by the user which elaborates the particular requirements of the user. This addendum together with the relevant IPS shall form the job specification for the specific project or work.

The IPS is reviewed and up-dated approximately every five years. Each standards are subject to amendment or withdrawal, if required, thus the latest edition of IPS shall be applicable

The users of IPS are therefore requested to send their views and comments, including any addendum prepared for particular cases to the following address. These comments and recommendations will be reviewed by the relevant technical committee and in case of approval will be incorporated in the next revision of the standard.

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**GENERAL DEFINITIONS**

Throughout this Standard the following definitions shall apply.

**COMPANY :**

Refers to one of the related and/or affiliated companies of the Iranian Ministry of Petroleum such as National Iranian Oil Company, National Iranian Gas Company, National Petrochemical Company and National Iranian Oil Refinery And Distribution Company.

**PURCHASER :**

Means the "Company" where this standard is a part of direct purchaser order by the "Company", and the "Contractor" where this Standard is a part of contract document.

**VENDOR AND SUPPLIER:**

Refers to firm or person who will supply and/or fabricate the equipment or material.

**CONTRACTOR:**

Refers to the persons, firm or company whose tender has been accepted by the company.

**EXECUTOR :**

Executor is the party which carries out all or part of construction and/or commissioning for the project.

**INSPECTOR :**

The Inspector referred to in this Standard is a person/persons or a body appointed in writing by the company for the inspection of fabrication and installation work.

**SHALL:**

Is used where a provision is mandatory.

**SHOULD:**

Is used where a provision is advisory only.

**WILL:**

Is normally used in connection with the action by the "Company" rather than by a contractor, supplier or vendor.

**MAY:**

Is used where a provision is completely discretionary.

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## 0. INTRODUCTION

"Fire Fighting and Fire Protection Systems" are broad and contain variable subjects of paramount importance therefore a group of engineering standards are prepared to cover the subject.

This group includes the following standards:

<b>STANDARD CODE</b>	<b>STANDARD TITLE</b>
<a href="#">IPS-E-SF-120</a>	"Engineering Standard for Off-Shore Installation Fire Fighting & Fire Protection"
<a href="#">IPS-E-SF-140</a>	"Engineering Standard for Foam Generating and Proportioning Systems"
<a href="#">IPS-E-SF-160</a>	"Engineering Standard for CO <sub>2</sub> Gas Fire Extinguishing Systems"
<a href="#">IPS-E-SF-180</a>	"Engineering Standard for Dry Chemical Fire Extinguishing Systems"
<a href="#">IPS-E-SF-200</a>	"Engineering Standard for Fire Fighting Sprinkler Systems"
<a href="#">IPS-E-SF-220</a>	"Engineering Standard for Fire Water Distribution and Storage Facilities"
<a href="#">IPS-G-SF-240</a>	"General Standard for Fire Fighting Pump Systems & Trailers"
<a href="#">IPS-E-SF-260</a>	"Engineering Standard for Automatic Detectors and Fire Alarm Systems"
<a href="#">IPS-E-SF-300</a>	"Engineering Standard for Application of Breathing Apparatus in Safety and Fire Fighting"
<a href="#">IPS-E-SF-340</a>	"Engineering Standard for Fire Fighting Hose Box and Shelter"
<a href="#">IPS-E-GN-100</a>	"Engineering Standard for Units"

This Standard covers:

**"Engineering Standard for Fire Fighting Hose Box and Shelter"**

## 1. SCOPE

This Standard is prepared to cover minimum requirement of an enclosure to accommodate fire hoses, water and foam branch pipes, containers of foam compound, coupling spanners, collecting/dividing breechings with adaptors and other ancillary piece of equipment.

### Note:

**This standard specification is reviewed and updated by the relevant technical committee on May. 2000. The approved modifications by T.C. were sent to IPS users as amendment No. 1 by circular No 107 on May. 2000. These modifications are included in the present issue of IPS.**

### Note 2:

**This is a revised version of this standard, which is issued as revision (1)-2015. Revision (0)-1993 of the said standard specification is withdrawn.**

## 2. REFERENCES

Throughout this Standard the following dated and undated standards/codes are referred to. These referenced documents shall, to the extent specified herein, form a part of this standard. For dated references, the edition cited applies. The applicability of changes in dated references that occur after the cited date shall be mutually agreed upon by the Company and the Vendor. For undated references, the latest edition of the referenced documents (including any supplements and amendments) applies.

### NFPA (NATIONAL FIRE CODES)

NFPA-24	"Standard for the Installation of Private Fire Service Mains and Their Appurtenances"
NFPA-14	"Standard for Installation Stand Pipe and Hose System"

### IPS (IRANIAN PETROLEUM STANDARDS)

<a href="#">IPS-M-SF-105</a>	"Material and Equipment Standard for Valves, Reels, Hoses, Nozzles and Monitors for Fire Fighting"
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## 3. DEFINITION AND TERMINOLOGY

### 3.1 Hose Box

An enclosure located over or adjacent to a hydrant or other water supply designed to contain the necessary hose nozzles, hose wrenches, gaskets, and spanners to be used in fire fighting in conjunction with and to provide aid to the local fire department.

### 3.2 Shelter

A shed for keeping fire hoses and other fire fighting equipment. They shall be equipped with lighting and wooden shelves.

#### 4. UNITS

This standard is based on international system of units (SI), as per [IPS-E-GN-100](#) except where otherwise specified.

#### 5. GENERAL REQUIREMENTS

**5.1** To protect fire hoses and miscellaneous tools and devices from direct sun, dust, rain, hot and cold weather, etc. an enclosure should be designed to accommodate the equipment.

Fire hoses should be coupled together and installed in such a manner as they could be pulled out immediately by fire fighters to the scene of fire without lapse of time.

**5.2** A supply of hose and equipment shall be provided where hydrants are intended for use by plant personnel or a fire brigade.

**5.2.1** The quantity and type of hose and equipment shall depend on the following:

- 1) Number and location of hydrants relative to the protected property.
- 2) Extent of the hazard
- 3) Fire-fighting capabilities of potential users.

**5.2.2** The authority having jurisdiction shall be consulted regarding quantity and type of hose.

**5.3** Hose shall be stored so it is accessible and is protected from the weather by storing in hose houses or by placing hose reels or hose carriers in weatherproof enclosures.

Hoses and hose connections shall conform to [IPS-M-SF-105](#).

#### 6. LOCATION

**6.1** Outdoor hose boxes will be located in plant process area, utility areas and offsite areas, so that at least one unit, shall be available for every 2 hydrants.

**6.2** When hose carriers are used, they shall be located so that the hose shall be brought quickly into use at a hydrant.

**6.3** When hose boxes or shelters are located over hydrants, it is good practice to have two or three lengths of hoses connected together and attached to the hydrant ready for use.

#### 7. CONSTRUCTION

Hose boxes or shelters shall be of substantial construction on adequate foundations. The construction shall be such as to protect the hose from weather and vermin and designed so that hose lines can be quickly brought into use. Clearance shall be provided for proper operation of the hydrant wrench. Proper ventilation shall be provided. The exterior shall be painted or otherwise suitably protected against deterioration.

##### 7.1 Size and Arrangement

Hose box or shelter shall be of adequate size and arrangement to provide shelves or racks for the hose and equipment. For equipment details of hose boxes or shelters, see Clause 7.3.

##### 7.2 Marking

Hose boxes and shelters shall be plainly identified.

### 7.3 Equipment-General

#### 7.3.1 Hose box

When hose box are used, each shall be equipped as a minimum with the following equipment:

- a) 4 branches fire hoses;
- b) 2 water nozzles, (jet/fog/stop);
- c) 1 foam branch pipe;
- d) 1 in line inductor plus pick-up tube;
- e) 1 collecting and 1 dividing breeching;
- f) 2 hose coupling gaskets for each size hose;
- g) 1 Hydrant wrench;
- h) Optional equipment to be included in an enclosure are as follow:
  - 1) Fire axe with brackets;
  - 2) Crow bar with brackets;
  - 3) Hose and ladder straps.

Typical fire hose box and included accessories indicated at Appendix A.

#### 7.3.2 Shelter

When shelter are used, each shall be equipped as a minimum with the following equipment:

- a) 10 branches fire hoses;
- b) 2 pieces water nozzles, ( jet/fog/stop);
- c) 2 pieces foam branch pipe;
- d) 2 in line inductor plus pick-up tube;
- e) 5 PVC barrel containers each with 100 liters of foam compound. Type of foam compound will depend on the equipment and area to be protected;
- f) 1 pieces collecting and 1 dividing breechings;
- g) 4 hose coupling gaskets for each size hose;
- h) 2 Hydrant wrench
- i) 2 wheeled dry power fire extinguisher (50/75 kg);
- j) 4 portable dry powder fire extinguisher (30 kg);
- k) 2 barrel wrench;
- l) Optional equipment to be included in an enclosure are as follow:
  - 1) Fire axe with brackets;
  - 2) Crow bar with brackets;
  - 3) Hose and ladder straps.

**7.3.3** All of the above mentioned equipment and accessories shall confirm to with IPS-M-SF-105.

### 8. NUMBER OF HOSE BOXES /SHELTERS

The number of hose boxes /shelters and their contents, shall be indicated on the list prepared for each project and they shall be shown on an appropriate layout drawing.



**9. DOMESTIC SERVICE USE PROHIBITED**

The use of hydrants and hoses for purposes other than fire-related services shall be prohibited.

**10. FIRE POINTS**

Fire points, containing portable and wheeled type extinguishers, shall be provided in and around processing areas, either separately or in combination with hose boxes or shelters.

**APPENDICES**  
**APPENDIX A**  
**TYPICAL FIRE HOSE BOX AND INCLUDED ACCESSORIES**

