



PROJACS ACADEMY  
by @egis



# Fire Protection Systems - Commissioning, Servicing & Maintenance

انظمة الحماية من الحرائق - التشغيل والخدمة والصيانة

30 July – 03 August 2023

Cairo / Egypt

## Introduction

This course will focus on the commissioning, servicing and maintenance for fire detection systems and also provide an overview of different components of fire alarm technology and their principles of operation.

Upon completion of this course, participants will have a thorough understanding of the installation, operation, and maintenance of all proposed fire protection and life safety systems, as well as the ability to read and interpret drawings and specifications, and analyze and facilitate resolution of issues related to failures in fire protection and life safety systems. Also they will understand the firefighting and detection system.

## Objectives

Participants will have in-depth knowledge of network design, hydraulic calculations by using NFPA programs, equipment selection, proper operation, troubleshooting through presentation of actual case studies.

## Who Should Attend?

The course should benefit engineering personnel working with or in fire protection systems.

## Course Outline

### Day One

- Theory of combustion
- What is the fire
- What is the firefighting system
- Introduction to fire protection
- Classification of occupancies
- Identify the conditions able to cause fire outbreak
- Identify and know how to use a fire extinguisher
- Recognize signals used in case of fire
- Sequence of operations for firefighting and detection system equipped with suppression system.
- Signal Interconnection Philosophy Diagram.

### Day Two

- Extinguishing Agents and Portable Fire Extinguishers
- Foam Extinguishing System
- Halogenated Extinguishing System
- Types of sprinklers
- Dry pipe sprinkler system
- Deluge & Pre-action system
- Refrigerated spaces
- Commercial type cooking equipment
- Wet-pipe sprinkler system
- Single Line Diagram & Grounding Scheme
- Detail Drawings for FSC & Fire Protection Panel.

### Day Three

- Basic Design of Sprinkler systems
- How to design a project
- Sprinkler distribution inside the places
- Water network distribution & sizing
- Power Distribution Details for FSC & Fire Protection Panel.
- Termination Details for Fire Alarm Control Panel.
- Hydraulic calculation procedures and fire fighting program
- Training on how to use hydraulic calculation program

## Day Four

- Functional Logic Diagram-FSC.
- Pumps room
- Control Stations
- Miscellaneous details
- Installation
- Testing and Commissioning
- Fire Alarm Systems
- Automatic fire alarm system (Smoke, heat, flame and gass detectors)
- Inspection, maintenance and detection of faults in panels and alarm systems

## Day Five

- Control and Maintenance of Sprinkler system
- Checklist on inspection on sprinkler system
- Fire hydrant system—flow test: internal or external (onsite) system
- Fire hydrant system—hydrostatic test
- Fire hydrant system—pump appliance test
- Case studies

## Training Method

- Pre-assessment
- Live group instruction
- Use of real-world examples, case studies and exercises
- Interactive participation and discussion
- Power point presentation, LCD and flip chart
- Group activities and tests
- Each participant receives a 7” Tablet containing a copy of the presentation, slides and handouts
- Post-assessment

## Program Support

This program is supported by interactive discussions, role-play, case studies and highlight the techniques available to the participants.

## Schedule

The course agenda will be as follows:

- |                     |                  |
|---------------------|------------------|
| • Technical Session | 08.30-10.00 am   |
| • Coffee Break      | 10.00-10.15 am   |
| • Technical Session | 10.15-12.15 noon |
| • Coffee Break      | 12.15-12.45 pm   |
| • Technical Session | 12.45-02.30 pm   |
| • Course Ends       | 02.30 pm         |

## Course Fees\*

- **3,200 USD**  
*\*VAT is Excluded If Applicable*

## المقدمة

سوف تركز هذه الدورة على كيفية الصيانة لأنظمة الكشف عن الحريق وستوفر أيضا لمحة عامة عن مختلف مكونات تكنولوجيا إنذار الحريق ومبادئ عملها.

وعند الانتهاء من هذه الدورة، سيتمكن المشاركون من فهم عميق لتثبيت وتشغيل وصيانة جميع أنظمة الحماية من الحرائق والسلامة، فضلا عن القدرة على قراءة وتفسير الرسومات والمواصفات، وتحليل وتسهيل حل القضايا المتعلقة فشل في أنظمة الحماية من الحرائق والسلامة الحياتية. كما أنها سوف توضح كيفية عمل نظام مكافحة الحرائق والكشف عنها.

## الاهداف

سيتمكن المشاركون من معرفة متعمقة عن تصميم شبكة الحسابات الهيدروليكية باستخدام برامج NFPA، واختيار المعدات والتشغيل المناسبة، استكشاف الأخطاء وإصلاحها من خلال عرض دراسات الحالة الفعلية.

## الحضور

المهندسين المتعاملين في أنظمة الحماية من الحرائق.