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بروجاكس للتدريب والتطوير
Projacs Training and Development

Active and Passive Fire Protection Systems in Power Plant and Facility – NFPA Standards

أنظمة الحماية من الحرائق في محطات التوليد والمرافق –
مواصفات NFPA العالمية

24 – 28 February 2020

Kuala Lumpur / Malaysia

A Member of:



PROJACS ACADEMY



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Introduction

Active fire protection systems such as water sprinkler and spray systems are widely used in the process industries for protection of storage vessels, process plant, loading installations and warehouses. The duty of the fire protection system may be to extinguish the fire, control the fire, or provide exposure protection to prevent domino effects. For some applications foam pourers or fixed water monitors may be a more appropriate method of delivery than sprays or sprinklers. Passive fire protection can provide an effective alternative to active systems for protecting against vessel failure. This generally consists of a coating of fire resistant insulating media applied to a vessel or steel surface. It is often used where water or other active protection media supplies are inadequate, such as in remote locations, or where there are difficulties with handling fire water run-off.

This course is to run for five days, and will look at the Evaluation, Reform, Inspection and Strengthening of Active and Passive Fire Protection Systems in Power Plant and Facility.

Objectives

Candidates who achieve this qualification should be able to:

- Demonstrate understanding of fire science
- Demonstrate understanding of methods of active protection
- Demonstrate understanding of the following passive fire protection measures:
- Fire protection to the structural frame of the building and fire retardant coatings
- Fire resisting walls, floors and ceiling and fire resistant glazing
- Fire stopping, penetration seals, cavity barriers, ductwork and dampers and the building envelope
- Fire resisting doors, industrial shutters and hardware

Who Should Attend?

Plant operation and maintenance engineers, Head of safety section, coordinators, safety engineers, HSE Specialist, safety auditors.

Course Outline

- 1- Basics of fire science
 - What is Fire
 - Fire triangle
 - Fire Classifications
 - Fire Investigation
 - Introduction to terminologies applicable for firefighting
 - Introduction to terminologies applicable for risk assessment
 - Need for fire Risk Assessment
 - Types of fire Risk Assessment
- 2- Introduction to NFPA code
- 3- Active Fire Protection
- 4- Passive Fire Protection
- 5- NFPA 3, 4 and 407
- 6- Difference between active and passive firefighting system
- 7- General principles
 - fire hazard posed by substance;
 - toxicity of substances and the smoke produced;
 - inventory size;
 - frequency of hazardous operations;
 - distance to other hazardous installations;
 - available access to fight fire;
 - firefighting capability of onsite emergency response team;
 - response time of nearest fire brigade;
 - resources available to fire brigade.
- 8- Design of system
- 9- Choice of firefighting media
 - Water;
 - Foams;
 - Inert gases;
 - Chemical powders;
 - Halons.
- 10- Choice of passive fire protection
 - mortar based coating
 - intumescent coating
 - sublimation coating
 - mineral fibre matting
 - earth mounds
- 11- Performance of the protective system
- 12- Maintenance requirements
- 13- Containment of firewater
 - Codes of Practice relating to active and passive fire protection

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 binder 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*

- **2,950USD**
**VAT is Excluded If Applicable*

مقدمة

ان أنظمة الحماية من الحرائق النشطة مثل أنظمة رش المياه والرش يتم تستخدم على نطاق واسع في عمله حماية اوعيه التخزين والمصانع والمنشآت والمستودعات. ومن مهام نظام الوقاية من الحريق هي اخماد الحريق، والسيطرة على الحريق، وبالنسبة لبعض التطبيقات قد تكون الرغوة أو شاشات المياه الثابتة وسيلة أكثر ملاءمة من الرش أو الرشاشات.

وسوف يتم التعرف من خلال هذه الدورة على كيفية تقييم والإصلاح والتفتيش وتعزيز الايجابي والسلبي لأنظمة الحماية من الحريق في محطة توليد الكهرباء ومرفق.

الاهداف

المرشحون الذين ينتهون من هذه الدورة يجب أن يكونوا قادرين على:

- إظهار فهم علم النار
- إظهار فهم أساليب الحماية النشطة
- إظهار فهم التدابير التالية للحماية السلبي من الحريق:
- الحماية من الحريق للإطار الهيكلي للمبنى ولطلاءات الحرائق
- مقاومة للحريق الجدران والأرضيات والسقف والزجاج المقاوم للحريق
- قف الحريق ، واختام الاختراق ، وحواجز التجاوي ، مجاري الهواء والمخمدات وتغليف البناء
- فهم أبواب مقاومة للحريق، مصاريع ومعدات صناعية

الحضور

- مهندسي تشغيل المحطة وصيانتها
- رئيس قسم السلامة والمنسقين
- مهندسي السلامة