



## Session 13

# FIRE LOSS CONTROL



A special aspect of  
damage control

PROTECTS

LIVES

MACHINERY

MATERIAL  
ASSETS



# Fire



oxidation process that  
emits light, heat, and other  
products of combustion



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*"perhaps the oldest topic in occupational safety and health"*



# Common Causes of FIRE

Machines not properly maintained leading to overloading

Smoking or use of naked flame

Excessive storage of waste and scrap materials

Improper use or storage of flammable liquid e.g. thinner and paint

Short-circuiting, overloading or poor joints in electrical cables

Defective electrical equipment and wiring



Prevention techniques

Fire control methods

Fire fighting & extinguishing

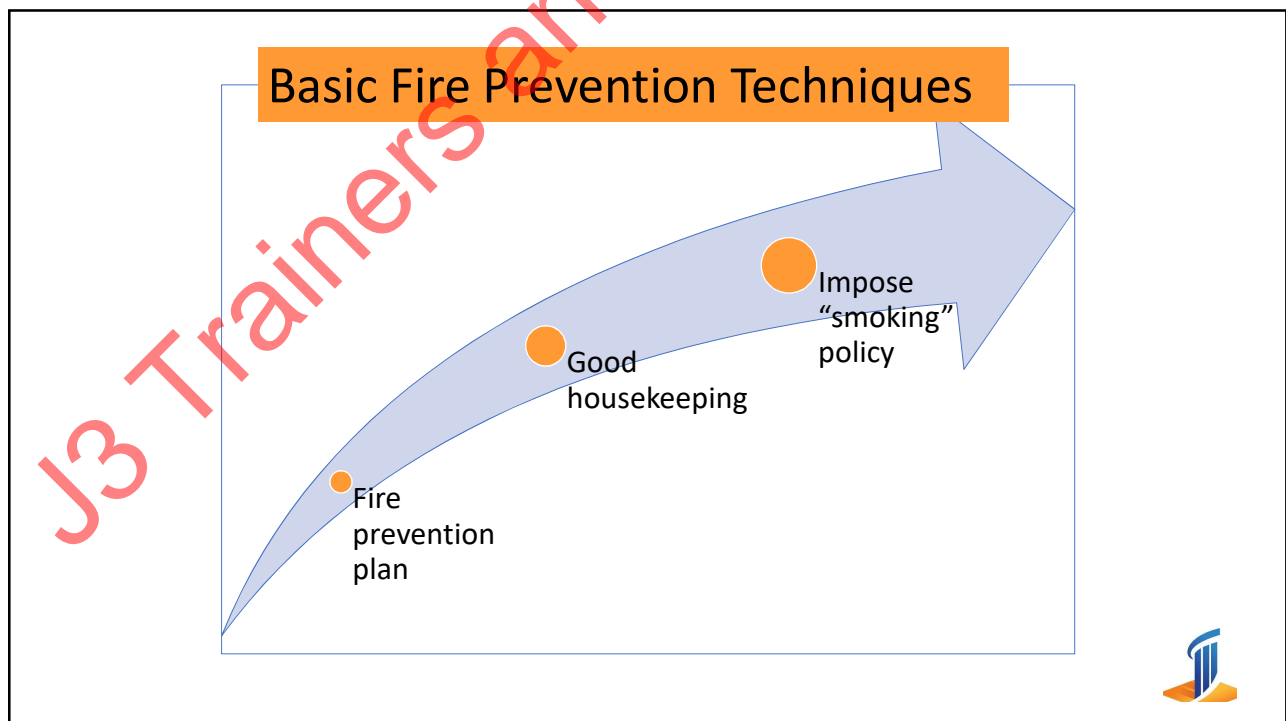
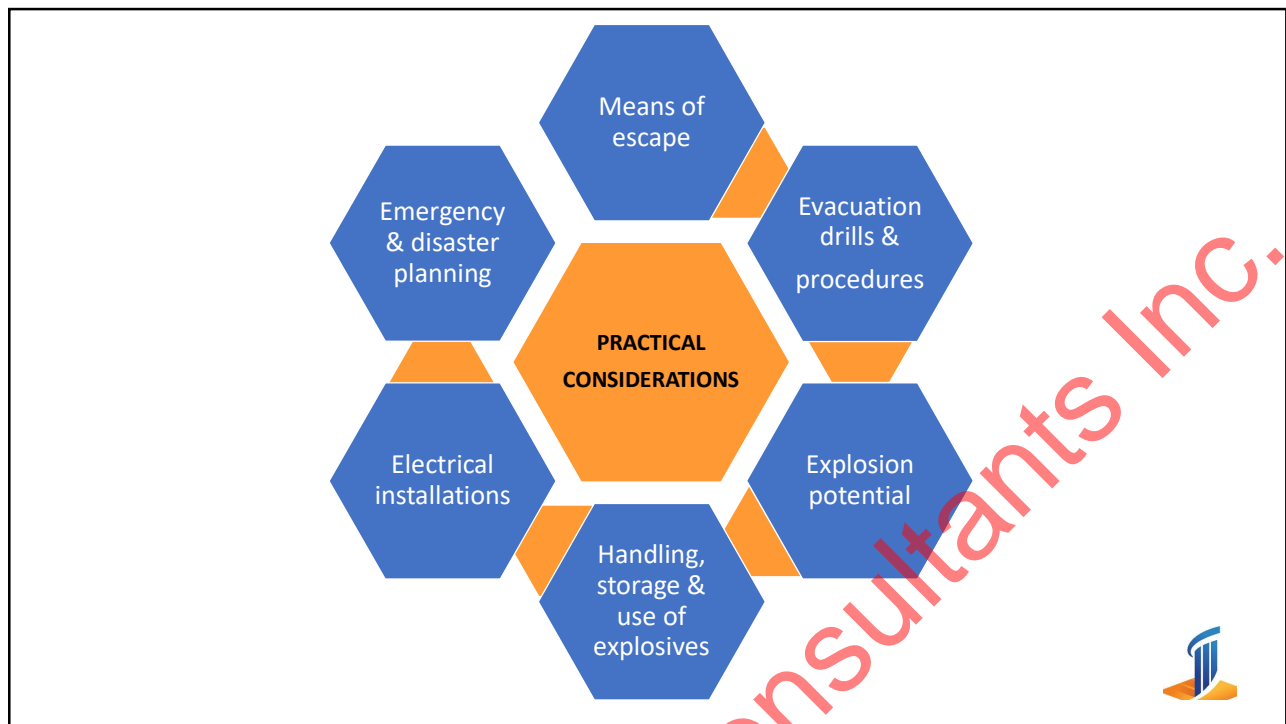
Fire protection

Storage of flammables

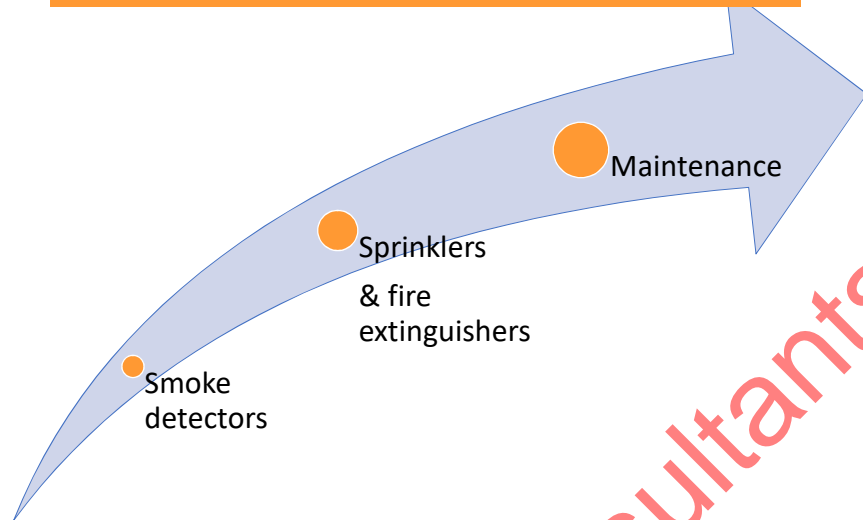
Safety of employees

**PRACTICAL  
CONSIDERATIONS**





## Basic Fire Prevention Techniques



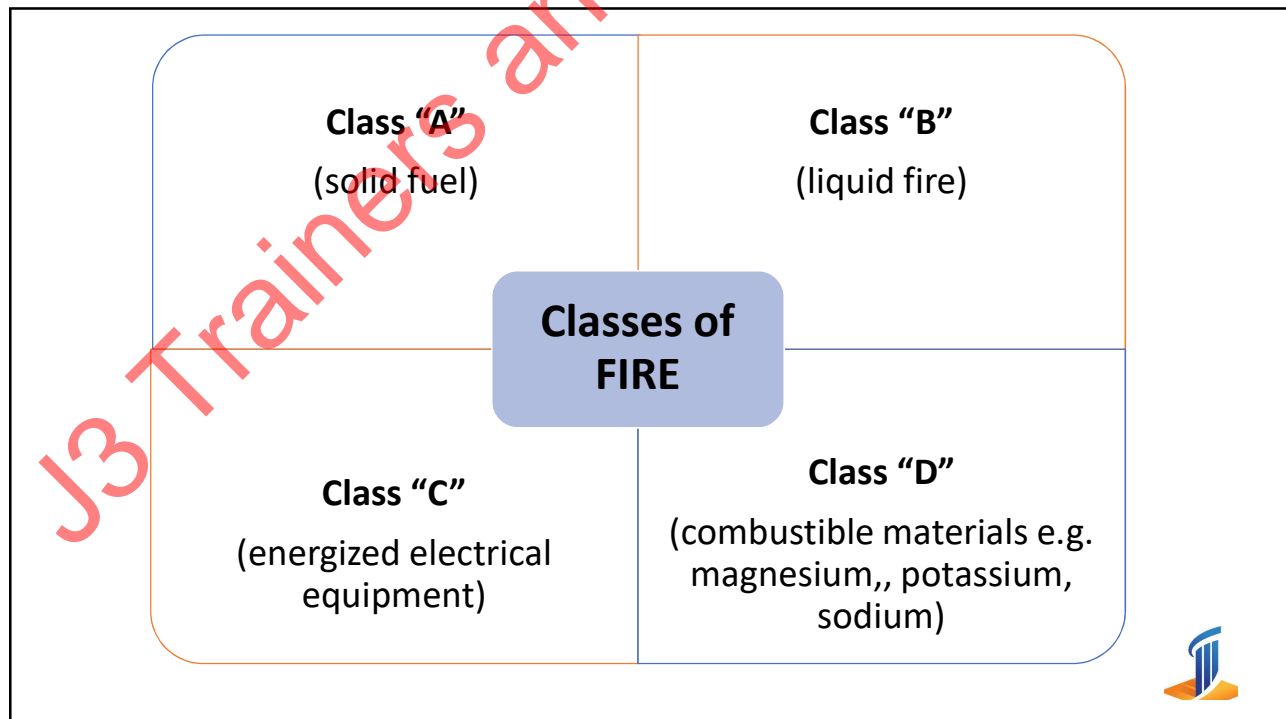
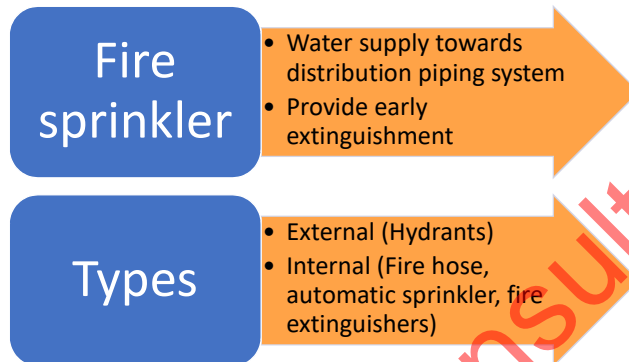
## Fire Control Methods

- limit the size of the fire within the compartment where it started to decrease the heat release
- limit the ceiling gas temperatures by pre-wetting adjacent combustibles
- with a system that has fire control there should be some manual firefighting that needs to occur to completely extinguish fire.



## Fire Fighting & Extinguishing

- When there is sharp reduction of the heat release rate, lowered to glowing combustion, suppression follows towards extinguishment.
- Systems for Fire Extinguishing



## Fire Suppression



- ❑ People are reluctant to sound fire alarms
- ❑ Always rational to consider the hazards of panic when a fire alarm sounds

Recommended steps to take:

- ❑ Fire Brigades
- ❑ Firefighter Training
- ❑ Emergency Plans



## Storage of Flammables

To reduce the risk of fire, the following storage considerations for combustible or flammable liquids or gases should be followed:

Store liquids & gases in compliant containers (NFPA approved)

Eliminate ignition sources and excessive heat

Properly segregate incompatible materials

Putting warning signage in doors where flammables are stored

Limit amount of flammables (OSHA Standard)



## Safety of Employees



**Education**  
is at the heart of keeping employees  
safe against fire in the workplace.



## Safety of Employees

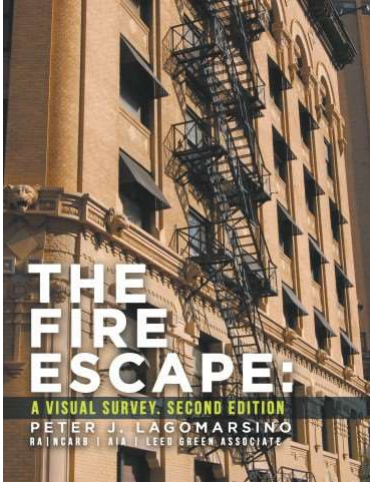
Some key components:

1	Articulate major fire hazards	5	Communicate evacuation protocol
2	Instruct proper handling and storage of hazardous materials	6	Write procedures to control accumulation of flammable and combustible waste materials
3	Educate on potential ignition sources and their control	7	Communicate safeguards to prevent accidental ignition of combustible materials
4	Communicate what fire protection equipment is in place	8	Develop a list of names/job titles of internal fire safety wardens





# Means of Escape



- ❑ clear any obstruction
- ❑ provide at least 2 escape routes
- ❑ travel distances to safety are reduced to minimum
- ❑ escape routes and emergency exits are clearly signed and never locked while working
- ❑ provide emergency lighting
- ❑ identify assembly point

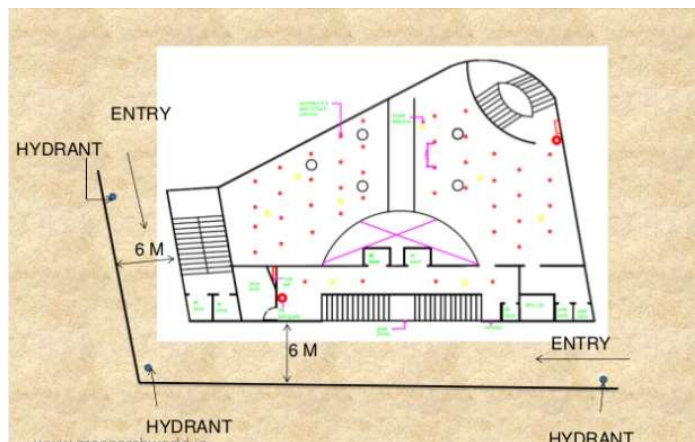


## Evacuation Drills & Procedures

Mandatory

Evacuation Area

Written procedure



## Explosion Potential

### Handling, Storage & Use of Explosives

- Inventory of hazardous materials
- Follow guidelines & standards
- Training



## Electrical Installations

- Electrical safety audits
- Maintenance
- Follow standard
- Correct practices around electricity



## Causes of industrial fires

<b>Electrical equipment</b>	<b>19%</b>	<b>Hot Surfaces</b>	<b>7%</b>
<b>Friction</b>	<b>14%</b>	<b>Combustion Sparks</b>	<b>6%</b>
<b>Foreign Substances</b>	<b>12%</b>	<b>Overheated Materials</b>	<b>3%</b>
<b>Open Flame</b>	<b>9%</b>	<b>Static Electricity</b>	<b>2%</b>
<b>Smoking Matches</b>	<b>8%</b>	<b>Miscellaneous</b>	<b>5%</b>
<b>Spontaneous Ignition</b>	<b>8%</b>	<b>Not Determinable</b>	<b>7%</b>

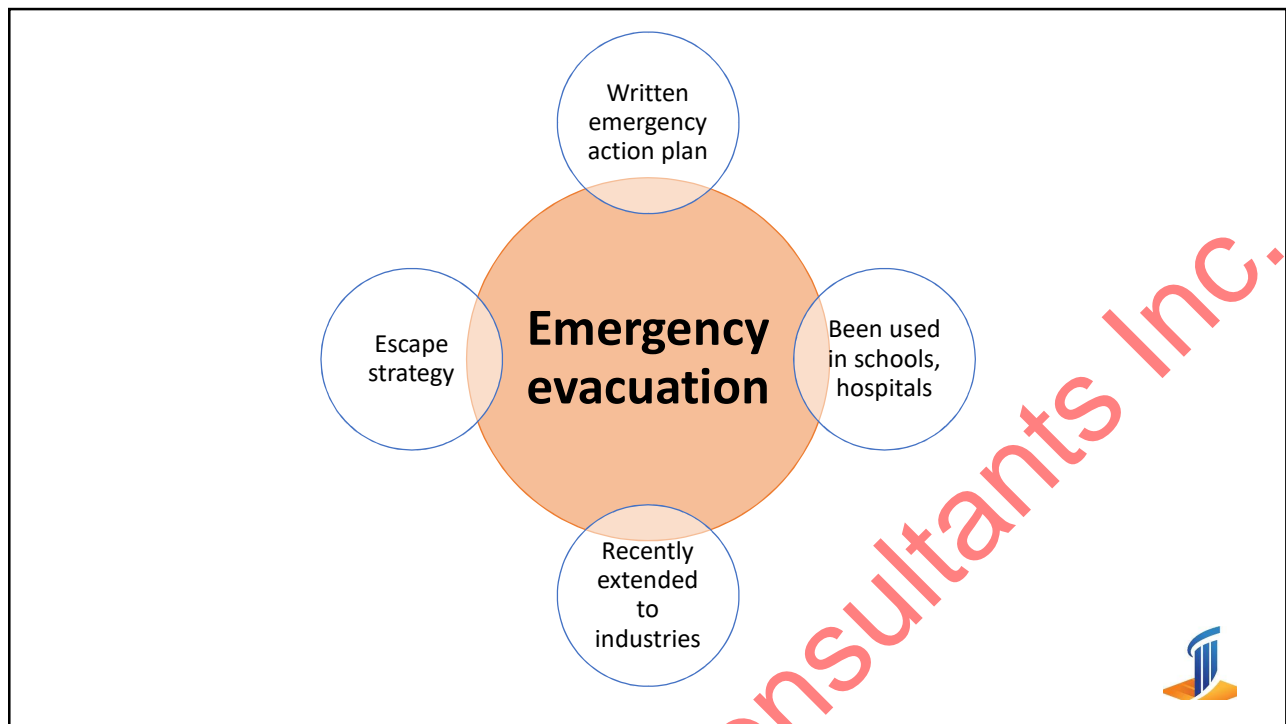
*\*\*Based on a 7-year study of the Association of Fire Insurance Companies*



## Emergency & Disaster Planning

Hope for  
the best  
and prepare for  
the worst.





**RA 9514-RIRR**

**DID YOU KNOW?**

Rule No. 09 Enforcement and Administration of Fire Safety Measures

**Section 9.0.3.5**

**Fire Safety Practitioners-** any qualified person, recognized by the BFP, engaged in, but not limited to, the design, construction, installation, repair and maintenance, assessment, and rehabilitation of fire safety construction, suppression and control systems, protective and warning systems and life safety related services, or employed as a safety officer of public and private establishments/companies.

Only FSP issued with Certificate of Competency (COC) shall be allowed to prepare, sign and certify the FSCR, FSCCR and FSMR.



**RA 9514-RIRR**

**DID YOU KNOW?**

**Rule No. 09 Enforcement and Administration of Fire Safety Measures**

**Section 9.0.3.1 Applicability**

Under the RIRR, Submission of FSCR, FSCCR and FSMR are now required for

A. All private and public buildings, facilities and structures to be constructed, altered or modified, which by reason of their use, size and height are required to install any or combination of the following:

- (1) wet standpipe system,
- (2) automatic fire suppression system and
- (3) automatic fire detection and alarm system.

B. Those covered by para "A" is also required to submit FSMR annually when securing FSIC for business permit, certificate of annual inspection, DOH license to operate and other permits or licenses.

- The Fire Safety Compliance Report (FSCR)
- The FSCCR is required prior to the issuance of FSIC for Occupancy Permit.
- The FSMR is required for renewal of FSIC for business permit and other permits.





**RA 9514-RIRR**



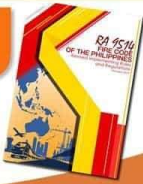
**DID YOU KNOW?**

**Rule No. 09 Enforcement and Administration of Fire Safety Measures**

**Section 9.0.3.2**

**What is Fire Safety Compliance Report (FSCR) ?**

- A written report composed of plans, specifications and design analysis for building prepared by its Engineer Architect-of-Record and Fire Safety Practitioner.
- The Fire Safety Compliance Report is a pre-requisite in granting Fire Safety Evaluation Clearance and FSEC is a pre-requisite for the issuance of Building Permit



**RA 9514-RIRR**

**DID YOU KNOW?**

**BUREAU OF FIRE PROTECTION**  
SAFETY, LIVES AND PROPERTIES



**Rule No. 09 Enforcement and Administration of Fire Safety Measures**

**Section 9.0.3.3**

**What is Fire Safety Compliance and Commissioning Report (FSCCR)?**

A compilation report of all approved submittals, test and acceptance forms of all fire protection and life safety features, which shall form part of the "as-built" documents turned over by the contractor to the building owner.

FSCCR is a prerequisite for granting of FSIC for occupancy.



**RA 9514-RIRR**

**DID YOU KNOW?**

**BUREAU OF FIRE PROTECTION**  
SAFETY, LIVES AND PROPERTIES

**Rule No. 09 Enforcement and Administration of Fire Safety Measures**

**Section 9.0.3.4**

**What is Fire Safety Maintenance Report (FSMR)?**

A written report prepared by the building owner, his/her fire safety practitioner or authorized representative. This is a compilation of the maintenance and testing records kept by the building's engineering and maintenance department, as a pre-requisite for the issuance of FSIC for Business or Mayor's Permit renewal, Certificate of Annual Inspection for Hospitals, DOH License to operate and other permits or licenses being issued by other government agencies.



## KEY POINTS



1. Fire is one of the most frightening scenario in the workplace.
2. Protecting against fire begins with prevention.
3. Most workplace fires can be avoided.
4. A careful risk assessment is the first step in understanding how to avoid fire and mitigate the impact, if it happens.



**Q & A**

