Fire Safety During Construction and Renovation

Manitoba Building Expo - Winnipeg, MB
October 6, 2015
Items to be Covered:

- Statistics and Losses
- Code Requirements
- Insurance Requirements
- Why is it Important?
- How is it Achieved?
- Key Issues
- HSC Construction Site Fire
STATISTICS AND EXAMPLES OF LOSSES
Fire Losses in Buildings Under Construction (Alberta)

2000 - 2009

Fires - 310
Deaths - 0
Injuries - 29
Losses - $70,373,350
Fires in Buildings Under Construction - Key Findings

All Reported Fires

310 out of 31,432 (1%)

70 million in property loses
Fires in Buildings Under Construction - Key Findings

- 65% of the fires
- 55% of the injuries
- 90% of the property loss
Fires in Buildings Under Construction - Key Findings

- Arson
  - Leading cause (35%)
  - 32 million in property loses
Fires in Buildings Under Construction - Key Findings

Causes of Fire

- Arson: 35%
- Other: 35%
- Combustibles Too Close: 11%
- Mechanical Failure: 7%
- Hot Works: 7%
- Vandalism: 5%

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Building Code

APPLICABLE CODE REQUIREMENTS
NBC – Part 8

- Assess Risks
- Directs Users to NFC
Fire Code

APPLICABLE CODE REQUIREMENTS
Exposure Protection
Exposure Protection

Protection for Adjacent Buildings
Exposure Protection - Types

Water Curtains
Exposure Protection - Types

Construction Methods
Exposure Protection - Types

Fire Tarpaulin
Fire Safety Planning

Fire Safety Plan

EMERGENCY PROCEDURES

FIRST PERSON NOTICING

IN CASE OF FIRE

WARDEN

REMOVE PEOPLE FROM DANGER

ASSEMBLY AREA

LEGEND

FIRST AID KIT

EXIT

FIRE EXTINGUISHERS

HAZCON Pty Ltd – Ph. 1800 429 286

**CLIENT NAME**

**CLIENT ADDRESS**

LEVEL 1

BUILDING

Company Name

Construction Fire Safety Plan

Project Name: The Project Name
Site Address: The Project Address
Project Description: The Project Details

Muster Point: Assembly point on site
Site Manager: Name of the site manager
Fire Marshal(s): Name(s) of appointed fire marshals
Fire Safety Planning

Designate Personnel
Fire Safety Planning

Controlling Hazards

CAUTION

Fire Lane. Keep Clear.
Fire Safety Planning

Emergency Procedures

Fire Emergency Response

- Rescue
- Alarm
- Contain
- Extinguish

Operating Your Fire Extinguisher

- Pull the pin
- Aim at the base
- Squeeze trigger
- Sweep

Remember:
- Test extinguisher before approaching the fire
- Keep low & approach with the wind at your back
- Back away, watching for rekindle

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Fire Department Access

Unobstructed Access
Fire Department Access

To All Floor Levels
Fire Department Access

Utilization of elevators, lifts and/or hoists
Fire Department Access

Access to be provided to fenced off site
Access to Extinguishers

Unobstructed Areas

- Where hot works operations are carried out
- Where combustibles are stored
- Near or on any internal combustion engines
- Where flammable and combustibles liquids or gases are stored or handled
- Where temporary fuel fired equipment is used
Standpipe
Ignition Sources

Adequate Clearance

DANGER
Flammable area.
Risk of fire or explosion.
No hot work permitted.

DANGER
No smoking, matches or open flames.
Partly Occupied Buildings

Fire Separation
Protection During Shutdown

Systems to Remain Operational

Alternative Measures
Fire Watch

When Occupied
Egress
Available at All Times
Egress
Fire Warning

Means of Notification
Proposed Changes

APPLICABLE CODE REQUIREMENTS
Groups C and D
6 Storey, Combustible Buildings
Smoking Restrictions

Requirements

Designated Areas

3 m Clearance

Safe Receptacles
Site Security

Fencing
- 1.8 m High
- Entire Perimeter
- Smooth Surface
- Fire Department Access
Site Identification

Where

Every Floor

Site Entrance
Construction Access - Stairwayway

Treads and Risers
Construction Access - Stairway

Handrails and Guards
Construction Access - Stairway

Width ≥ 900 mm
Disposal of Combustible Refuse

3 m From Exit
Disposal of Combustible Refuse

2 m from bin or noncombustible
Water Supply

Prior to Combustible Construction Materials On Site
Hydrant Access

Signage and Clear Path

APPLICABLE CODE REQUIREMENTS
INSURANCE REQUIREMENTS
Insurance

• Pay Your Premium

• Expectation of meeting minimum standard of care as outlined in the Manitoba Fire Code

• Many insures offer additional information to assist in risk management
Protection Provided ASAP
WHY IS IT IMPORTANT?
Life Safety
Property Protection
Business Continuity
HOW IS IT ACHIEVED?
Included in Tender
Construction Fire Safety Plan

Development

Approval

Implement

Maintain
Who Is Responsible?
KEY ISSUES
Impairment of Systems
Breaching of Fire Separations
Impairment of Exits
Hazardous Activities
Fire Department Access
Site Security
HSC CONSTRUCTION SITE FIRE