

# **FIRE PROTECTION INSPECTION, TESTING AND MAINTENANCE PROGRAMS, AUDITS AND OPEX**

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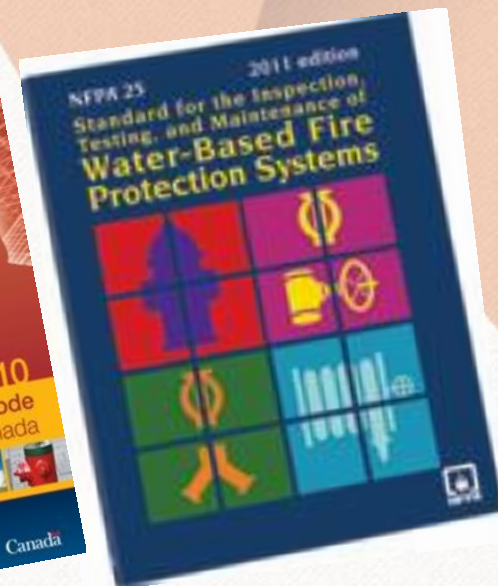
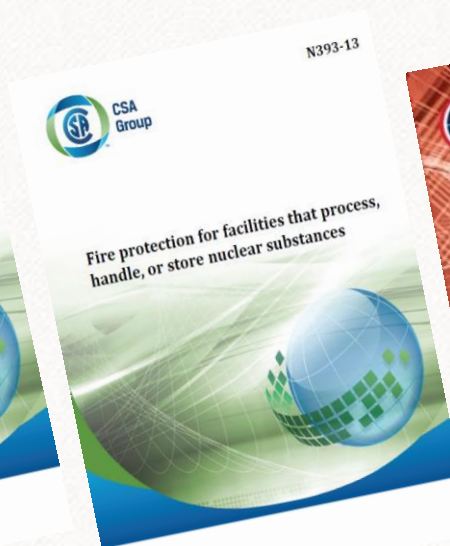
Fire Safety and Emergency Preparedness  
for the Nuclear Industry  
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# WHAT WILL I DISCUSS?

- Why Fire Protection **I**nspection, **T**esting and **M**aintenance?
- ITM Program
- Audits/Reviews
- OPEX

# WHY FIRE PROTECTION ITM?

- Required by licence/codes
  - CSA N293-12 – Section 8.3.1
  - CSA N393-13 – Section 10.11
    - National Fire Code of Canada – Part 6
      - NFPA 25 – Water Based systems
      - ULC-S537 – Fire Alarms





# WHY FIRE PROTECTION ITM?

- Static systems/equipment
  - Fire suppression & alarm
  - Emergency lighting
  - Fire extinguishers
  - Fire separations
  - Exceptions – fire & exit doors



# **FIRE PROTECTION ITM PROGRAM**

- Part of Fire Protection Program
  - Systems or equipment
  - Code Requirements
  - ITM procedures
    - Frequency
    - Activities
    - Checklists
  - ITM Records
  - Review
  - Retention – typically 2 years

# ITM AUDIT/REVIEW

- Required by Codes/Standards
  - CSA N293-12, Section 8.3.4
  - CSA N393-13, Section 10.15
- Procedures Review
  - Code Requirements
  - Content
  - Frequency

JOE'S URANIUM PROCESSING

PROCEDURE NAME: INSPECT, FIRE EXT, BP PLANT

FIRE EXTINGUISHER INSPECTION PROCEDURE

REFERENCE: NFC 2005 - Section 2.1.5.1  
NFPA 10 2010 Section 7.2

FREQUENCY: MONTHLY

Section 7.2.2

1. Inspect all portable extinguishers to ensure that the extinguisher:

- a) Is not obstructed to access or visibility and is in its designated place & ensure that the operating label is facing outward
- b) Safety seals and tamper indicators are not broken or missing
- c) Has no physical damage (corrosion, leakage, or clogged nozzle)
- d) Is not overcharged or undercharged
- e) WHMIS label is in place
- f) Is full by weighing or hefting
- g) Monthly inspection tag is Present & Punched
- h) Inspect condition of tires, wheels, carriage, hose, and nozzle for wheeled extinguishers

Extinguisher Location	OK?	Comment
BP-1 Inside MCC RM		
BP-2 South Door		
BP-3 Outside Control Room		
BP-4 West Door		
BP-5 East Door		
BP-6 North Door		



# ITM AUDIT/REVIEW

- ITM activities follow procedures
  - Documented ITM activities (Records)
  - Trends
  - Sample only
- Field checks
  - Completed
  - On schedule
  - Problems



# OPEX

- Checklists
  - Use them
  - Use them properly
  - Review
    - Deficiencies
    - Notifications
    - Required Changes
    - Completion

## INSPECT FIRE SYSTEM VALVES & GAUGES CHECK LIST

BP Building

System Pressure #1 → 140-150psi → \_\_\_\_\_  
System Pressure #2 → 140-150psi → \_\_\_\_\_  
System Pressure #3 → 140-150psi → \_\_\_\_\_  
Line Pressure → 90-100psi → \_\_\_\_\_  
3 Alarm Line Valves → Open & Sealed → \_\_\_\_\_  
LE FSV-1 (Main shutoff) → Open & Locked → \_\_\_\_\_  
LE FSV-2 (Hose Station) → Open & Locked → \_\_\_\_\_  
LE FSV-3 (Shutoff) → Open & Locked → \_\_\_\_\_  
LE FSV-4 (Shutoff) → Open & Locked → \_\_\_\_\_  
LE FSV-5 (Shutoff) → Open & Locked → \_\_\_\_\_  
LE FSV-6 (MCC Shutoff) → Open & Locked → \_\_\_\_\_  
LE FSV-7 (Pre-Action System) → \_\_\_\_\_  
\_\_\_\_\_



# OPEX

System Pressure (range 120 - 150 psi) \_\_\_\_\_

System Pressure (range 120 - 150 psi) ✓

System Pressure (range 120 - 150 psi) 187

All good.

Knowledge of intent helpful

# OPEX

## Daily Emergency/Exit Lighting

- Week 1 – Insp. 1 - numerous deficiencies
- Week 2 – Insp. 2 – all good
- Week 3 – Insp. 1 - numerous deficiencies – most same
- Week 4 – Insp. 2 – all good
- Pattern repeated for over 1 year

# OPEX

- Background
  - Week in/week out shifts
- Possible issues:
  1. Notifications not being issued
  2. Is Inspector 2 doing field work?
  3. Repairs not being performed
  4. Records not checked against previous
  5. Length of time to correct deficiencies



# OPEX

- Codes and Standards Editions
  - Updates required
  - Procedures need to match referenced codes
  - May have 3 or more tiers
  - Importance to identify references on procedure



# WHAT HAVE I DISCUSSED?

- Why Fire Protection **I**nspection, **T**esting and **M**aintenance?
- ITM Program
- Audits/Reviews
- OPEX

# QUESTIONS

## Fire Protection Inspection, Testing and Maintenance Programs, Audits and Opex

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