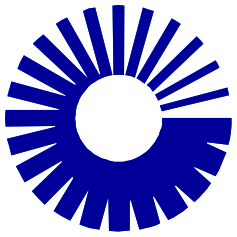

UTC Fire & Security

A United Technologies Company

Computer Room Fire Protection

December 2011

COMPUTER ROOM FIRE PROTECTION

Presenting a review of the options available.

Presenter Iain Boyd

Kidde Canada Inc.

Kidde
A UTC Fire & Security Company

United Technologies

220,000 employees, 43$ billon in Sales
10,000 employees & 100 locations across Canada

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Otis
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Pratt & Whitney
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Sikorsky
A United Technologies Company

Chubb
A United Technologies Company

Carrier
A United Technologies Company

Hamilton Sundstrand
A United Technologies Company

UTC Power
A United Technologies Company

COMPUTER ROOM FIRE PROTECTION

Do Computer rooms burn?

Yes of course they do, but it’s hard to get statistics.

Reputation.

Insurance.

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Where do fires start?

Electrical connections.

Circuit boards.

UPS equipment.

Electrical/mechanical components.

Not in continuous cables (except under floor).

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What a room should look like!

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What a room should not look like!

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What a room should not look like!

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The options offered by the Fire Protection Industry.

Aerosols

Water

Gases

Fire Extinguishers

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Aerosols

Inexpensive.

Quick to install.

Relies on particulate material.

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Water

Sprinkler systems- Intended for life safety and building protection. – Not protection of contents.

Water mist- Originally developed for heavy duty applications such as power plants and marine engine rooms. Requires large fire to function best

Hybrid Water Mist with Inert Gas- Similar to Water Mist with less water but more gas.

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Gases

Carbon Dioxide- Probably the original extinguishing gas, around since early 1900s.

Very effective.

Relatively inexpensive.

Readily available.

No decomposition,

Environmentally neutral (almost).

Severe safety restrictions - suffocates fire and people.

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Gases

Inert Gases- Developed to be greener alternative to Halocarbons of the 80's and 90's.

Displace Oxygen

Relatively safe for people.

Will stay in room regardless of integrity.

No decomposition.

Massive hardware. Large storage area.

Limited filling facilities.

Agent inexpensive, labour and transport costly.

Room pressurization, disruption in room.

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Gases

Halocarbons/ Clean Agents- developed specifically for electronic facilities, as a replacement for Halon 1301.

Cools the flame.

Safe for people.

Compact hardware. Small storage area.

Rapid deployment -10 Second discharge.

Decomposition.

Limited filling facilities.

Agent relatively expensive, labour and transport inexpensive.

Minimal room disruption on discharge.

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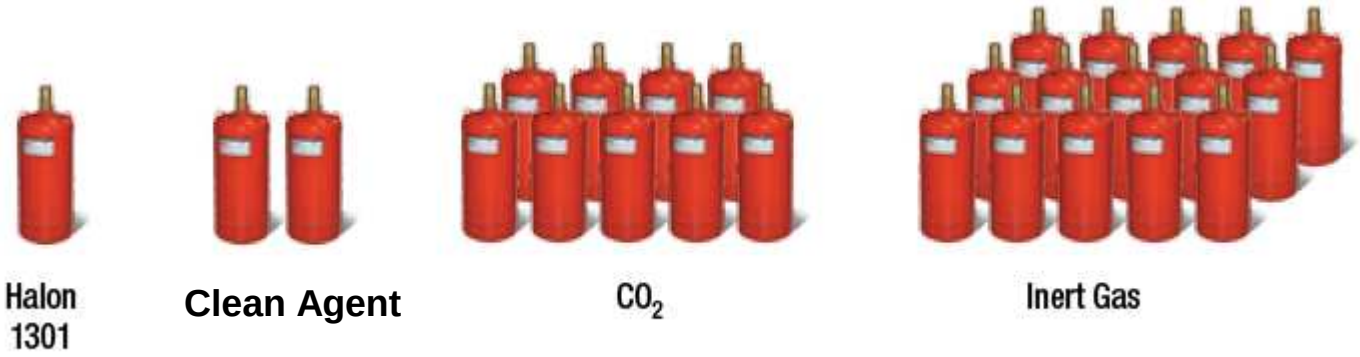
Gases



Storage Required

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Gases

The Front Runners

DuPont FM200 and 3M Novec 1230.

Both extinguish fire by cooling, not Oxygen depletion.

Both from reputable companies.

Environmental differences.

Cost differences.

Potential for future use restrictions.

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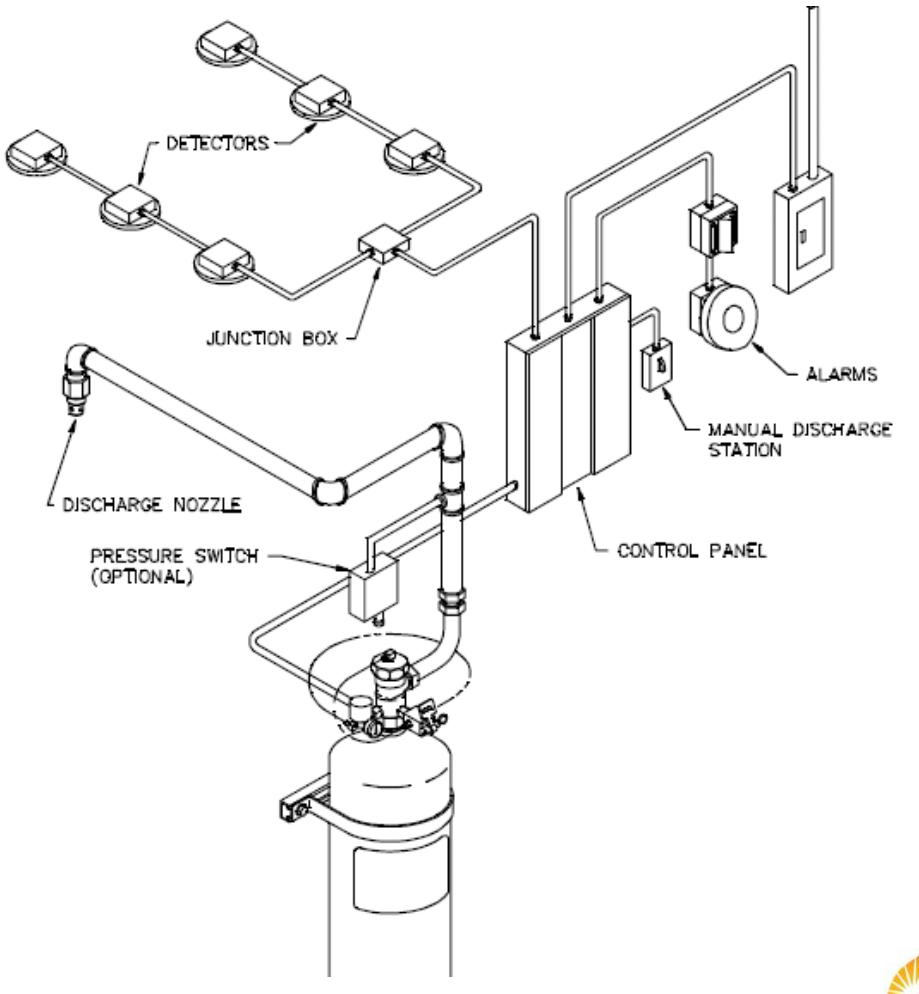
Gases



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COMPUTER ROOM FIRE PROTECTION

How to optimize the Clean Agent fire suppression system;- **PLAN AHEAD!!!**

Appropriate Fire Detection and Control.

HVAC and Power on or off.

Proper room construction.

Room dimensions.

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COMPUTER ROOM FIRE PROTECTION

How to optimize the Clean Agent fire suppression system

Room and void protection.

Room integrity.

Maintenance.

Visit from the fire department.

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