Water Mist Systems as part of a fire strategy

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The London Underground experience
We do have a choice ....
Each system has its merits ....
So how do we choose?
It’s all about determining the objectives for fire safety...

It’s all about strategic thinking.
The fire strategy applies to all buildings – it determines the requirements for systems amongst much else.
Do not think of *water mist* as an alternative to other forms of fire suppression ...

Think of it as part of the armoury of wider fire safety measures for any and every fire strategy.
The design basis

Management and system audit
Mandatory framework
Objectives setting
Risk and hazard assessment
Building characteristics
Occasional characteristics
Practical issues

The fire strategy

- Fire strategy statement
- Management of fire strategy
- Evacuation strategy
- Fire and smoke control strategy
- Fire fighting strategy
- Fire protection strategy

Specification, arrangement and design of:
- Building layout and construction
- Internal sub-divisions and compartments
- Internal linings, fixtures and fittings
- Fire exit routes and designation of places of safety and relative safety
- Vertical escape arrangements
- Smoke reservoir and containment systems
- Fire/smoke doors and shutters
- Fire/smoke dampers
- Smoke control, pressurization and ventilation systems
- Fire detection systems
- Fire warning and alerting systems
- Fire suppression systems
- Fire inerting systems
- First aid Fire Fighting systems
- Fire service intervention facilities
- Emergency lighting systems
- Fire signage

Policies and procedures for:
- Managing fire safety
- Responsibilities and authorities
- Liaising with external parties
- Maintaining compliance
- Fire risk assessments
- Maintenance of fire systems
- Audits of active and passive fire systems
- Controlling works (e.g. hot works)
- Smoking
- Procuring materials
- Linings, fixtures and fittings
- Training
- Fire drills
- Monitoring of fire system performance

NOTE: The above lists are not exhaustive and each item may not be relevant to every specific case.
How can water mist assist with any and every of these objectives?
Identification of fire risk
How can water mist assist with these risks?
We need to “picture” what the needs for a fire strategy are.

The fire strategy spider diagram ...
How can water mist assist with other strategic elements?
Objective comparison of systems ...

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Wired point type smoke detection</th>
<th>Wireless point type smoke detection</th>
<th>CCTV based point smoke detection</th>
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Replace the types of detection with types of fire suppression.
And of course ... we need to avoid over-engineering the strategy.
How can water mist optimise value?

[Diagram showing marginal value and cost with segments labeled A, B, C, D]
It’s not just about meeting codes and regulations. It is about thinking strategically.
Thank You

Dankjewel