To Leave or Not to Leave – That is the Question!
Notification and Information Technology

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Its interesting that there are 3 separate presentations here in Denver addressing this same subject.

SFPE Research Agenda

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**Notification & Information
Codes & Technology**

- *What do we have - and why?*
- *Recent advances and changes.*
- *What do we need to fulfill new
  missions?*

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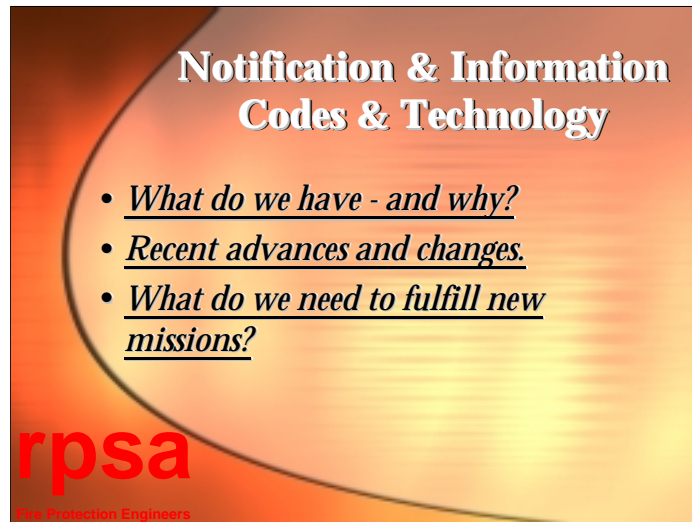
My contribution to this panel is small.

Available tools and technology   How and why they
evolved

What's new

What we must develop to keep up with the needs

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Audible

Ring the town bell. Yell fire!

All we did was to yell – make noise – no information

Old alarm systems made noise with mechanical devices

Evolution resulted in more reliable electronic devices – but at a higher frequency

Building construction for privacy combined with new appliances reduced audibility

We responded by putting in more appliances

Are we making some system too loud? Probably not

Visible notification

Strobes and flashing lights added information – that noise is a fire alarm

Strobes are now used to alert the hearing impaired and others where audible signaling is impractical or impossible

But, they work for hearing/sight abled as well.

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Common Cause

we have always intended these signals to cause complete evacuation.

So, we give them one bit only – no information, just some noise

Rely on training to know it's the fire alarm and what to do

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Our Changing Ways – Where are we going?

Our training is insufficient for several reasons

Real emergency training and preparedness requires more than a fire drill every now and then

False and nuisance alarms cried wolf – but we have solved those problems, or at least know how

Fire alarm testing causes desensitizing unless done properly

PICTURES 1 AND 2 BUILDINGS

Buildings are more complex and so too are egress strategies.

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**Our Changing Ways
Where are we going?**

- *Training is insufficient*
- *Complex buildings and egress strategies*
- *Occupant variability*

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PICTURE 3 FENWAY FANS

Occupant capabilities vary greatly,   Human beings – extremely diverse – no average behavior for individuals – except linked to group or crowd behavior

But even then we always have a few that don't follow the crowd rooting for the Red Sox.

Our Changing Ways
Where are we going?

- _Training is insufficient_
- _Complex buildings and egress strategies_
- _Occupant variability_

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PICTURE 4: They're called Yankees Fans

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To Leave or Not to Leave - That is the Question!

Our Changing Technology
What can you use tomorrow?
- *Audible*
  - Get attention
  - Give information
  - Issue commands
- *Visible*

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Tools and technology you can put to use right away to improve occupant notification and behavior:

Audible

Speakers

Multichannel systems – we can give target specific information to different paging zones

Provide specific information – more than one bit

Single prerecorded messages may be too generic

Tools to specify and measure intelligibility

Visible

Not just for the hearing impaired

Not just strobes – BLS, beacons, pathway directivity lighting

Not just one bit – use the "Bat Signal" or an annunciator, cable TV

Floor level annunciators and directories

Hospital and office information system "break" messages

Tactile

Olfactory

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1.1.   The problem has been and continues to be identified in research done by others – including those on this panel as well as John Hall, Guylene Proulx and others.

1.2.   Potential solutions have been hypothesized and some tested and shown viable.

This panel and other speakers are here to discuss potential solutions

The fire alarm industry must recognize how they can contribute and they must also recognize how they have contributed to the problem

Inaudible systems   Un-intelligible system

Failure to embrace new concepts and solutions for information dissemination such as the use of building lighting systems and other common infrastructures.

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To Leave or Not to Leave - That is the Question!

Move Forward! The fire alarm industry must be part of the solution.

The researchers can find and test the best ways to alert and motivate people

The educators can convey and train

But it is the fire alarm industry that must provide the tools and technology to bridge the gap.

They must either lead, respond, react or *get out of the way* and for the coming of other existing industries and technologies with viable solutions

PICTURE: Its time to think outside of the box!

Do it yourself   or   Partner with others or permit people who know how to communicate (sound and communications industry, telecommunications industry) to show or provide solutions

The fire alarm industry is not a detection and signaling industry. They provide sensing and occupant notification systems,   or better yet, occupant relocation strategies and systems.

We don't need to reinvent the industry. That brings the legacy stalemates and stale approaches that have brought us to the impasse manifested by the constant chanting: "That's the way we've always done it!", "But that's not in the code!", or "UL won't allow that."

You can't lead when you stand behind the status quo!

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A World of Opportunity

- *Fire alarm system*
- *Occupant relocation or SIP & DIP system*
- *Occupant-fire separation system*

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We must invent a new strategy, permitting a global engineering paradigm shift to ENABLE your ENTERPRIZE to EMBRACE a MULTITUDE of PRODUCTIVITY ENHANCEMENT TOOLS so that your TEAM will be EMPOWERED to ENHANCE your ORGANIZATION'S GLOBAL MARKET POSITION by DEVELOPING STATEGIC PARTNERSHIPS thus lowering your TOTAL COST OF OWNERSHIP and PRODUCT STEWARDSHIP while ELEVATING your corporate QUALITY OF LIFE and achieving system performance goals WHICH WE ALL WISH TO ACHIEVE.

Well, when you put it that way its clear that there are people who want to make and sell alarms and then there are there are those that want to be an integral part of a fire protection system

1.	That opens a whole new world of opportunity.

1.1. A fire alarm system does not necessarily provide relevant information = not provide fire protection.

1.2. A system that provides a complete occupant relocation strategy does provide protection.

1.3. A system that separates occupants from fire and its products provides fire protection.

1.4. The mission is not to provide a bunch of reliable noise makers connected with wires that are monitored to know if they break. The goal is to provide reliable occupant notification, relocation, and separation from a fire.

SIP – Stay in Place   DIP – Defend in Place

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1.	The whole fire prevention and protection community must work together to achieve new meaningful results.

1.1.	The researchers need to better define what works and does not work

1.2.	Engineers must learn, apply new strategies, coordinate all fire protection and fire prevention

1.3.	The fire service must recognize that times and strategies change.

1.3.1.	It might be best not to evacuate.

1.3.2.	It might be best to use the elevator.

Most of these strategies will rely upon the fire detection and alarm system – one that is designed and integrated by fire protection engineers not fire alarm technicians. Yes, there is a difference!

1.1. Code authorities must look for performance not compliance to prescriptive requirements.

They must be flexible in recognizing and trying new strategies where success is proven to be likely

1.2. The fire alarm industry has to be willing to try new strategies and to look outside their clubhouse for solutions.

1.3. When it all comes together, the educators will have an easier job.

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1.1. Fire prevention and protection will be holistic

1.2. Fire prevention and protection will be engineered for high availability and thus high reliability

1.3. Total fire safety will be engineered to work for a wide range of occupancies and occupant behavior.

And our new *fire information management systems* can be the key to make it all work

THE END

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