EMERGENCY EVACUATION

WHAT IS EVACUATION?

The process by which people are moved away from a place where there is immediate or anticipated danger to a place of relative safety.

Once there, the provision of temporary shelter, warmth, drink, food, transport and communication to sustain them in such a way they are able to function reasonably given all the circumstances.

DEFINITIONS

Egress Time – The time taken under normal circumstances to leave a viewing area to enter into a safe and free flowing exit system.

Emergency Evacuation – The process of undertaking complete evacuation of a place, building or complex during a crisis or emergency so that everyone within that location can be brought to a place of safety within a given time.

Place of relative safety – A place within the site either away from the source of the immediate and other dangers, or, where the risks are considerably less than previously likely to occur. May be limited by time.

Place of total safety – A place away from the immediate or secondary effects of the danger (smoke, water etc.) and where a return to normality can be begin.

BRITISH MINISTRY OF WORKS (1952)

FIRE GRADING OF BUILDINGS

In theatres, if the auditorium is cleared within two and a half minutes, there will be no serious risk of panic in the event of fire.
EVACUATION PROCESSES

Assimilation – Gathering the information available and assessing its value, accuracy and relevance.

LEADERSHIP

- We need leaders in groups
- We do not cope well in groups without leadership
- But who will the leader be?
- We need leaders in Emergencies
- But will they be the right leader?
EVACUATION PROCESSES

- **Assimilation** – Gathering the information available and assessing its value, accuracy and relevance.
- **Preparation** – The process of making the decisions as to how you are about to react.
- **Execution** – Doing it!
PANIC

Defined as an inappropriate or excessive response to an instance of danger or perceived danger.

- Loss of control
- Terrifying fear, distress, alarm
- Irrational/inexplicable behaviour
- Freezing
- Headless chicken

PANIC IS MORE LIKELY WHEN PEOPLE ARE:

- **trapped**
  - exit blocked
  - late evacuation
- **disoriented**
  - building collapse/ capsise
  - dark/smoke filled environment
- **isolated from others**
  - family/friends

PANIC IS NOT...

- inevitable
- an individual response
- can and should be mitigated
- rare in emergencies
- can be confused with a productive (stress) response
PANIC - DOES IT REALLY HAPPEN?

Professor Lee Clarke - Panic: Myth or Reality (2002)

‘After five decades of studying scores of disasters such as floods, earthquakes and tornadoes, one of the strongest findings is that people rarely lose control’.

Please leave the room immediately

SIME - MONUMENT STATION EXPERIMENTS (TYNE AND WEAR METRO 1990)

<table>
<thead>
<tr>
<th>Evacuation Time</th>
<th>Alarm Bell Only</th>
<th>Alarm Bell and 2 staff (ticket)</th>
<th>Alarm Bell, no staff, 30 second ‘Please evacuate’</th>
<th>Alarm Bell, 2 staff, control issuing directive messages</th>
<th>Alarm bell, no staff but comprehensive messages, “There is a fire at …… evacuate via”</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:47 (A)</td>
<td>8:00</td>
<td>10:30</td>
<td>6:45</td>
<td>5:45</td>
<td>5:45</td>
</tr>
</tbody>
</table>
**SIMES’ CONCLUSIONS**

- Early warning/timely information essential
- Persuasion time must be added to movement time
- Live, directive messages (arising from trained operator interpretation of CCTV monitoring) very effective
- Multi-channel broadcasting:
  - Live messages reinforced by visual display/monitor text messages

**FLOW RATES**

82 PEOPLE PER METRE PER MINUTE (82PPMPM) BUT IMPACTED BY:

- Strollers
- Bags
- Shopping
- Children
- Elderly
- Disabled
- Walking sticks/wheelchairs, zimmer frames
- Stairs
- Escalators
- Using “return routes”

- Distance
- Time
- Previous experience
- Persuasion time
- Opposing flows (staff, 911s)
- Doors and frames
- Escalators
- Uneven ground
- Stairs (up and down)
- Show stop

**Further reading**

- Understanding Crowd Behaviour
- A Guide for Readers
- Understanding Crowd Behaviours
- Supporting Evidence
- Simulation Tools
- Supporting Documentation
CONCLUSION

- Complacency is your biggest enemy
- Consider partial or phased evacuations to reduce dangers
- Keep exits clear
- Keep people moving beyond exits
- Start thinking about "what next"
- Pulling works better than pushing
- Start early, make a decision and go with it
- Signs, posters, announcements, guide, support, help, encourage, pull, sheen, nag, PA, loudhailers and COMMUNICATE.

BUT

- Why are we evacuating?
- Is it the right thing to do?
- What is the threat?
- Where is the threat?

OPTIONS

- Invacuation
- Revacuation
- Shelter Indoors

EVACUATE OR INVACUATE?

Oval Cricket Ground, London
September 2017

Mid match
IF YOU HAVE AN EVACUATION PLAN

Make sure there is a clear plan

Invacuation
Re-vacuation
Partial Evacuation
Dynamic Lockdown
Shelter Within

IF YOU HAVE A PLAN

1. Make sure there is a clear plan
2. Make sure everyone understands it
3. Test it
4. Make sure the language in it is absolutely clear
ANY QUESTIONS?

SESSION 9
OTHER PSYCHOLOGICAL FACTORS
PANIC!

Westminster Bridge Attacks: 22nd March 2017

UNDERSTANDING NORMALCY BIAS (VERSUS DREAD THEORY)

Dread Theory – I’m never leaving the house again.
- 9/11 effect in the US (2996 vs 2170 [est])

Normalcy Bias – It can’t possibly be happening to me!
- Tunisia, Sousse attacks
- Boston Marathon
- Just about every disaster, everywhere!

PANIC: MYTH OR REALITY?
PLACE SCRIPTS

Emergencies are rare
Individuals are unfamiliar with appropriate action in such situations
People believe the situation is normal for as long as possible
They behave as usual for as long as possible, thereby delaying evacuation.
This is place scripts theory
This suggests that individuals develop and follow scripts or schema – i.e., sequences of behavioural patterns in which they automatically engage when in a familiar environment – which become ingrained and remarkably resistant to change, even in emergency situations.
(Donald & Canter, 1992).

RETICULAR ACTIVATION SYSTEM (RAS)

A filter near the base of the brain
A door
Billions of bits of data
Overload prevention
Autistic Spectrum Disorder (ASD)

RICK RESCORLA

B: 1939 Hayle, Cornwall
US Army: Vietnam
Employed by Morgan Stanley
Rigid Fire Drills
50,000: 2753 = 6%
2687: 6 died = 0.22%
Died South Tower, WTC, 11th Sept 2011

Questions
WHY DO WE DO THIS?

Manchester 22 May 2017

Event Safety and Security Summit 10th October 2017
Present: Home Office Minister of State for Security - Rt Hon Ben Wallace MP

This is not a blip: this is a 10 year war
By this time next year do not be surprised if there is an attack a week
Only intelligence and arrests are preventing that: for now
The top three targets in the West are
US
Canada
UK
Learning from Manchester

Be Prepared

Do not underestimate the impact on everything.

Think of the incident almost as an infectious disease or artificial intelligence automatically transferring data.

The radius impact of the incident is overwhelming.

- Set up auditable central control and coordination.

- Time line the incident and fit every member of personnel into a location and action prior to and post incident.
The Importance of current and previous documentation:

- Contracts
- Policies
- Agreed roles
- Formalised processes
- Training records
- Work records
- Next of kin data
- Personal data

Set up a Priority Assessment Process

- Each individual needs support from the time of impact.
- Professional external expertise invaluable. Individual and group sessions. Set for immediate and longer term support.
- Trauma transferred from those impacted to: callers verifying welfare status, colleagues, interviewers, statement takers, admin support, management, family and HR.
- Incredibly those staff who only managed to contribute a little also had welfare issues... feelings of inadequate contributions and the inability to support others.

Welfare

- Protect clients, company and staff from press intrusion.
- Acquire high level press and legal services that can protect the company and individuals.
- Advise staff not to react to inaccurate news it can be a ‘fishing expedition’ by the press. Using provocation to source information.
- Empower staff to talk with official line.

- Explain welfare coverage, financial impact, personal impact and offer full HR accessibility.
- Simple processes like those attending interviews/making statements...pay travel and parking up front.
- Find solutions
- Anticipate problems.
Risk is Relative
Perception is Critical

Risk is All Relative
Any Questions?