



Association
of Irish
Stage
Technicians

Newsletter of the Association of Irish Stage Technicians
Volume 2 Issue 3 Summer 2009

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In 1877 Herr August Foelsch, a German civil engineer, published a study reporting that a total of 460 large theatres in major cities around the world had been totally destroyed by fire in the previous 100 years. If this rate of destruction continued today there wouldn't be an entertainment industry to work in. However serious fires do still happen despite the huge improvement in fire safety.

Minya, Egypt September 5, 2005

Thirty people were killed and 37 injured today when a candle fell over during a play in a provincial Egyptian theatre, setting fire to curtains and the wooden stage, the state news agency MENA said.

The fire broke out during the evening performance at an experimental theatre festival in the Nile Valley town of Beni Suef, 100km south of Cairo, it said.

The injured included 14 members of the theatrical troupe and some of the 37 injured had 80 per cent burns, it said.

Seventy people escaped unhurt from the single-storey theatre, which was part of the town's cultural centre.

"The fire broke out because a candle being used in the performance fell on the wooden stage and set fire to it and to props made of paper," the agency said.

Further investigation found that the number of people in the theatre was nearly double it's

capacity. The fire in the State owned cultural centre resulted in eight people being jailed for ten years, and the resignation of the Minister of Culture, Farouk Hosni (later revoked by President Mubarak). The fire caused a storm in the Egyptian cultural community, September 5th is now the "National Day of Theatre" in remembrance of the incident.

The emphasis of fire safety has changed a lot over the last century. Large fire curtains made from iron and asbestos come from a time in theatre when gas lighting was used, when there was a very real and present danger of substantial fire and even explosion on stage. Since the advent of electric lighting, and fire retarding treatments on sets, the chances of substantial fire on stage have been greatly reduced.

In December of 1903 the fire in the Iroquois Theatre in New York killed 571 people within 20 minutes, with a further 31 dying in hospital shortly after. The iron fire curtain in this case was stopped half way down by a "trolley-wire" which was to be used for flying a performer from on stage to FOH. The fire was started by an arcing lamp setting fire to set cloths. Gates were locked against the audience trying to leave the balconies in order to stop them moving to the more expensive stalls once the show had started, and the inward opening exit doors were equipped with a European style handle which was not familiar to the American audiences, who couldn't operate them. Also, similarly to the Egyptian fire there was over crowding in the theatre with a capacity

Our website address... www.aist.ie

of 1700, there were just over 2000 patrons in the auditorium, and a cast of some 500 on stage. The back stage crew opened the dock door to try and aid the evacuation of the huge cast, unfortunately this fed the fire with much needed oxygen and resulted in a fire ball which reached the balconies. Ironically, on its opening the theatre had been advertised as “absolutely fireproof”.

There was a major movement for fire safety in theatres around 1880 in London led by the then head of the fire services Massey Shaw. At that time the Lord Chamberlain introduced a rule that at least once during the course of a performance the safety curtain must be lowered to ensure it's good operation. Still today this practice lives on in many theatres, although there are huge variations on the rule from house to house. At this point the lowering of the fire curtain in some houses is more to do with showing advertisements to the assembling audience, than anything to do with safety.

Some other old theatre rules, still impact on the design of buildings today. In 1911 when a fire broke out on stage in the Empire Palace Theatre in Edinburgh, ten performers and stage crew were killed, however an audience of approximately 3000 people were evacuated in about two and a half minutes. Even to the present day, a time of three minutes is used to design the system of exits from a building in order to evacuate all people to safety (1).

So given that some thought goes into how many people can be evacuated from an auditorium in a given period of time, one very simple method of keeping an audience safe is to respect the capacity of a venue. Having extra people standing in the aisles or at the back of the theatre is going to change how quickly the audience can leave the building.

Most evacuation procedures assume that public will behave in a rational manor in the event of an evacuation, deciding which exit is closest and using it in a calm way. Of course this is not the case. The Royal Statistical Society in the UK (2) reported on several real world cases and studies, which showed that the majority of people will attempt to exit a building via the route they entered, even if they are presented with alternatives of less risk.

In a Rhode Island night club in 2003, a fire started, the evacuees were unfamiliar with the

many exits available to them and too many people moved to the main doors through which they had entered, this exit was overloaded and resulted in a severe crush, killing over 100 people.

Also they point out that people evacuate in a “social” way, taking care of family and social groups and making seemingly irrational decisions based on social ties. In a fire on the Isle of Man in 1973, parents were in one part of a building, while their children were in a crèche in another part. Parents re-entering the building to get to the crèche met others coming out of the building, causing a jam, 51 people died in the fire.

Similarities could be drawn between this incident and what might happen in a children's performance, should an audience containing mostly parents and relations be asked to leave a building that they know contains their children.

Having plenty of exits is not necessarily enough to ensure the safety of the audience. Systems have to be put in place to ensure that the staff direct the public to safety. It should be assumed that the public attending a performance are not familiar with the layout of the venue. And likewise a company visiting a venue should be shown the exits and be made familiar with the procedures by the venue staff in coordination with the visiting production staff.

Most fire officers now advise not to perform “full population” fire drills, because of the risk to the people involved. They would rather see the staff carrying out the fire drill and being trained in fire prevention. Putting systems in place, with adequate radio communication between staff to assess risk and proceed or not with evacuation in a proportional response to the risk is the sensible response.

It makes sense to reduce the risk when evacuating an audience; and by extension, it makes sense not to evacuate a large amount of people unless there is a genuine risk. Evacuating an audience because someone was over doing it with the hair spray or deodorant in a dressing room, is likely to cause injuries in the process and hence fails in the duty of care to the public.

Of course preventing the need for an evacuation in the first place is the most efficient way of ensuring the safety of all involved. As we enter the autumn, one of the busiest periods in theatre, with many fringe and experimental shows being planned, we should keep an eye on fire safety. When carrying out performances in unorthodox venues, and with experimental production elements, often we find ourselves in uncharted waters which need to be examined carefully.

As any fire officer will explain smoke is the real killer in a building fire. Good ventilation, in the right direction, is essential. Vents or an air handling system over the stage, which should open upon activation of the fire alarm, should draw the

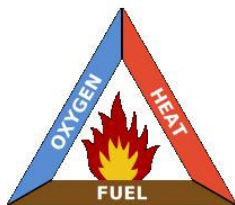
Print Me!

Should you be in a position to do so, please print some copies of this newsletter and make them available to crew from or visiting your venue.

smoke out of the auditorium. Depending on the design of FOH, and if the venue has a proscenium arch or open stage a smoke curtain can help the ventilation system keep the smoke out of the auditorium. The current advice (3) when building a theatre is not to attempt to use a safety curtain for compartmentation. However a curtain lowered in the event of a fire on stage serves several uses, smoke separation, limited protection of the audience from the effects of the fire and helping to prevent panic by taking the sight of flame and smoke out of view of the audience.

Generally speaking the fit-out of the front of house area is strictly controlled by building regulations, ensuring that the carpets, seats, wall coverings, false ceilings and even the wiring are all low producers of smoke. Reducing heavy producers of smoke from sets is a good way of preventing large amounts of smoke being produced in the first place. Some foams and plastics - in particular polystyrene - produce toxic smoke, and should always have a suitable treatment used if their use can not be avoided altogether.

The Code of practice for Fire Safety of Furniture and Fittings in Places of Assembly, states the standards to which all sets and properties on open and separated stages must comply. All treatments for sets are fire retarding, not fire eliminating, there is no such thing as fire proof. The generally used standard (4) is that a material should not support the spread of flame and be self extinguishing in less than 10 seconds. So after reducing the amount of fuel available to fire, and given that there will always be oxygen, in a practical sense, the easiest side to remove from the fire triangle is the source of heat.



The use of naked flame, proximity to lanterns, use of pyrotechnics, heating appliances, hot works such as welding and grinding, electrical faults and electrical overloading, are some of the most common potential sources of heat in a performance environment.

Simple good housekeeping goes a long way in fire prevention, old unused sets, waste materials and rubbish building up back stage; along with paperwork and programmes being stored, all make for excellent fuel in the event of fire, and should be dealt with sensibly.

Like a lot of the safety legislation in Ireland, the fire safety regulations are quite short and simple, they put the onus of day to day prevention on the people in control of a building, and makes it an offence to hinder those people in their efforts. Most of what is asked of us to maintain the safety of ourselves and those in our care is very simple and common sense. Below is listed some further reading.

Available from the Dept. of Environment (available for download from their website www.environ.ie):

Code of Practice for the Management of Fire Safety in Places of Assembly.

Code of Practice for Fire Safety for Indoor Concerts.

Code of Practice for Fire Safety of Furniture and Fittings in Places of Assembly.

Available from the Irish Statute Book Website www.irishstatutebook.ie:

Fire services Act 1981 & 2003

Fire Safety in Places of Assembly (Ease of Escape) Act 1985.

Building Control Act 1990 & 2007

Licensing of Indoor Events Act 2003

Available from the Dublin Fire Brigade section of the Dublin City Council website www.dublincity.ie

Technical Guidance Documents 1997 to 2004

Event Licensing explanatory notes

1 - The time of 3 minutes originated from the fire in the theatre, however modern study also supports this figure, as being a safe time to get people away from the effects of fire.

2 - "Safety in Numbers- How human beings react to fire" by Steve Gwynne, Significance Volume 6 Issue 1

3 - Section E4 of the "Technical standards for places of entertainment" produced by the ABTT and the District Surveyors Association of the UK.

4 - Detailed tests for different materials and situations can be found in standards such as BS476.

By Liam FitzGerald

Codes of Practice

During the last two years preparatory work has been carried out on drafting a set of codes of practice for our industry. This is being carried out as a pre-emptive course of action, in order to maintain, to a degree, the level of self regulation which we enjoy at the moment.

At this stage there is a list of topics for which COPs will be written, this list will be available shortly. The next stage will be to invite various people who have expertise in the fields of the individual topics to write draft codes. Once the initial drafts are put together, they will be available for peer review amongst the membership.

Eventually the codes will be published on the AIST website and be available for download to the membership.

If you are interested in writing an initial draft on a topic dear to your heart, then please contact info@aist.ie.

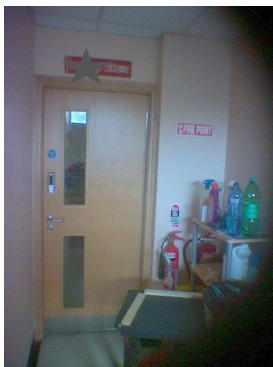
Calling all Writers

If you would like to write an article for the AIST Newsletter, long or short, please send it to info@aist.ie; or if there is a topic which you would like to see looked at in a future Newsletter then please let us know. Also we are always looking for pictures for publication.

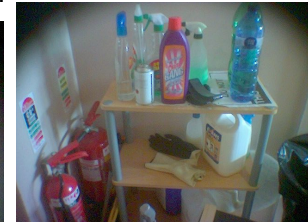
Scream!



As this season we were looking at fire. I thought that this picture was apt for mention. It's a school hall, with a performance about to begin. The chairs were laid out a bit roughly but they had left a good aisle up the centre of the hall. However a few minutes before the performance started, the "video man" arrived, and decided that as the audience was already taking up all of the seats the only space left for him was right in the middle of the aisle. The main exits in this hall are at the back. The school let the show start and luckily there were no incidents.



This is in an arts centre, which also contains a crèche. There are a few interesting things here, the fire extinguishers and exit route being blocked, the cleaning chemicals and the bottles of water and minerals being stored on the same low shelves as some toys, directly outside the door of the crèche, hmmm tasty bleach!



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The AIST AGM

The AGM of the AIST will take place on the 26th of August in the Project Arts Centre at 14.00. The agenda will be emailed to all members in advance, in an effort to reduce costs and be a touch greener, the board have decided not to send out paper copies of AGM information in advance to the membership. Notification of the AGM and other correspondence will be via email. Please make sure that your contact information is up to date on the AIST website membership section, or contact a member of the board.

Your attendance will ensure that your opinion counts and that the board represents the membership's needs.

The AIST Board

The board of the AIST is made up of volunteer members. Should you have any queries or suggestions regarding the running of the organisation, membership, or concerns about safety where you work; please contact a member of the board. The board currently consists of:

Chairperson: Nick Anton
Treasurer: Mark Galione
Board Members: Mick Doyle,
Liam FitzGerald,
Des Kenny,
Danny Persse,
David Quinlan,
Marie Tierney,
Conleth White.



The AIST are once again going to be taking part in the Eventech Ireland trade show in the RDS, Dublin, which caters for many facets of the entertainment industry.

As well as hosting our stand again this year the AIST will once again be hosting a seminar during the course of the show also. Do drop by to chat with some of the board members, and see the rest of the show.

We want you!

Should you be interested in joining the Association of Irish Stage Technicians, or have any queries please contact us at info@aist.ie, or by post at AIST, c/o Dunamais Arts Centre, Church Street, Portlaoise, Co. Laois.

The Aims of the association:

- Set and promote the standards of practice within the industry.
- Facilitate further training for its members.
- Be a resource of information for the industry.
- Promote standard wages, hours and working conditions.
- Provide members with information on Professional Insurance and Pensions.

Note that the AIST is not a union nor does it wish to provide that role.