

## ■ Managing health and safety risks at mass events in the UK

### Dr Steve Frostdick examines how expertise has developed in the management of health and safety risks at mass events in stadia and arenas

The late 1980s saw a series of high-profile safety disasters over a uniquely short time span. These included the Kings Cross Underground fire, the Piper Alpha oil rig explosion and the Clapham Junction rail crash. There was also the 1989 Hillsborough Stadium disaster in Sheffield. This was a badly managed mass event in a decrepit stadium where 96 people died in a fatal crowd crush.

Hillsborough was the nadir in the long history of British stadium disasters. Yet, within seven years, the UK had successfully staged the UEFA EURO 1996 football championships in safe, modern and well-managed stadia and by 2010, FIFA President Sepp Blatter commented that Britain had “made football safe”.

### Definitions

#### Stadia and arenas

Stadia and arenas are examples of “public assembly facilities”. These have been comprehensively defined as venues that:

- provide amenities for spectator viewing of sporting and non-sporting events
- must be accessible, comfortable and safe for a range of users and participants
- attract large number of spectators attending events of relatively short duration
- are managed to ensure the safe movement of people in a smooth, unimpeded, fashion in the time before, during and after the event
- provide pleasurable experiences in an enjoyable and safe way
- provide a range of ancillary services and amenities to meet the needs and demands of spectators, participants and promoters
- provide environments to encourage the highest standards for sporting participants

within the criteria required by the regulations of that sport

- may be open to the elements, or may be covered or enclosed in total or in part
- involve an ensemble of features creating a sense of place and identity
- contribute to the wider community, through economic, social and cultural benefits
- adopt a responsible approach towards community aspirations and concerns
- have the potential to be used for a range of sporting and non-sporting events on a single- or multiple-use basis.

This report will deal with four types of stadia and arenas.

1. Designated sports grounds, ie those with either a capacity over 10,000 spectators or else any ground in the top four divisions of English/Welsh football.
2. Regulated stands, ie any covered stand with a capacity over 500 persons.
3. Other stadia and arenas with alcohol licences.
4. Other stadia and arenas without alcohol licences.

#### Mass events

Stadia and arenas host two broad types of mass events: sports events, eg football, rugby or cricket matches, and artistic or entertainment events such as music concerts, festivals and tournaments.

The distinction is important because each of the types has a different principal guidance document — the *Green Guide* for sports and the *Purple Guide* for other events.

#### “Health and safety” and “safety, security and service”

When referring to risks, the stadium and arena business talks about “safety, security and service” rather than about health and safety.

“Safety” includes calculating and knowing the safe capacity of the venue in question. It refers

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to getting people in and out within a short period of time. It covers risky behaviours such as climbing on structures, overcrowding and crowd surges, as well as dealing with emergencies and evacuation.

“Security” refers to the prevention and detection of crime, the terrorist threat and the maintenance of public disorder. In the event of a crisis, security takes over from safety to clear up, investigate and, perhaps, enforce accountability. Security is thus a sub-set of safety.

### History

The table below shows the more serious post-war British disasters.

Year	Location	Deaths	Injuries
1946	Burnden Park, Bolton	33	400
1957	Shawfield, Clyde	1	50
1961	Ibrox Park Glasgow	2	not known
1971	Ibrox Park, Glasgow	66	100+
1985	St. Andrews, Birmingham	1	250
1985	Valley Parade, Bradford	56	100+
1989	Hillsborough, Sheffield	96	400+

Note that these disasters, apart from those at Birmingham and Bradford, were caused by overcrowding.

Disaster and disorder remain current concerns. When Birmingham City played Aston Villa in December 2010, over one thousand Birmingham fans invaded the pitch, fans taunted each other, pyrotechnics were lit and

thrown and seats were broken and used as missiles.

### Legislation

Hillsborough was the catalyst for radical changes, including the legislative and regulatory framework for stadia and arenas. The fundamental principle behind this framework is that, “Responsibility for the safety of spectators lies at all times with the ground management. The management will normally be either the owner or lessee of the ground, who may not necessarily be the promoter of the event.”

The principal relevant provisions are the:

- Health and Safety at Work, etc Act 1974 and the Management of Health and Safety at Work Regulations 1999
- Safety at Sports Grounds Act 1975
- Fire Safety and Safety of Places of Sport Act 1987
- Football Spectators Act 1989
- Licensing Act 2003.

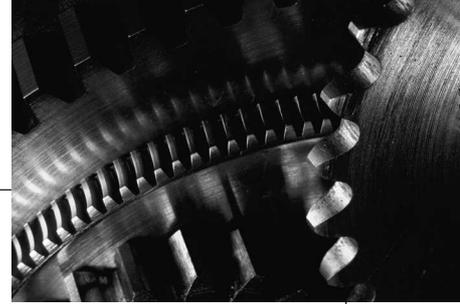
These create a complex regulatory framework that impacts in different ways on the four different types of stadia and arenas.

### “Designated sports grounds” and “regulated stands”

“Designated sports grounds” that are football grounds require a licence from the Football Licensing Authority (FLA) before they can admit any spectators to matches designated by regulations made under the Football Spectators Act 1989.

“Designated sports grounds” then require a safety certificate issued by the local authority under the Safety at Sports Grounds Act 1975. This specifies the safe capacity and the conditions under which the ground must operate.

“Regulated stands” also require a safety certificate from the local authority, this time



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issued under the Fire Safety and Safety of Places of Sport Act 1987. Again, the safe capacity and conditions are specified.

To avoid duplication of enforcement, the sports safety legislation takes primacy when events are being held using the spectator accommodation. For functions on non-event days, the general health and safety provisions apply. These also apply to the health and safety of the players or performers in the event as well as to the venue's staff and any external agency personnel.

### Other stadia and arenas

Stadia and arenas that are neither designated sports grounds nor have regulated stands may, nevertheless, hold an alcohol "premises licence". This is issued by the local authority for all or part of the premises under the Licensing Act 2003. If they do hold such a licence, it will specify the safe capacity and operating conditions.

In venues with no premises licence, the general health and safety legislation applies.

### Key hazards and their impact

#### Safety hazards

The following occurrences fall into the category of safety hazards.

- *Structural failure*, eg the collapse of a railing or roof resulting in crushing injuries.
- *Adverse weather*, such as snow and ice making the stairways slippery and dangerous, or heavy rain leading to uncontrolled crowd migration as people look for cover.
- *Loss of services*, such as electricity or water, leading to possible falls and distress.
- *Inadequate safety management or stewarding*, which exposes the crowd to other risks.
- *Systems failure*, eg the breakdown of the radio or entry counting systems that support the management of crowd safety.
- *Crowd incidents*, eg crushing from overcrowding and surging.
- *Blocked exits*, trapping people in an emergency, resulting in fatalities.
- *Tripping hazards*, which cause individuals to fall and hurt themselves, but which could also trigger a progressive crowd collapse and crush injuries.
- *Critical incidents*, such as a gas leak or explosion resulting in burns and blast injuries.
- *Pyrotechnics*, exposing people to burns, toxic products and respiratory distress.
- *Disproportionate policing tactics*, leading to crowd crushing or injuries from baton strikes.
- *Persistent standing in seated areas*, which is a safety hazard at angles of rake above 34° because of the risk of progressive crowd collapse.

#### Security hazards

The following are categorised as security hazards.

- *Public order*
  - *"Risk" fans*, ie football supporters who pose a possible risk to public order, whether planned or spontaneous.
  - *Segregation breach*, where it is necessary to separate supporters of different teams.
  - *Pitch invasion*, which threatens the participants or officials as well as rival supporter groups.
  - *Alcohol problems*, which can contribute to spontaneous disorder.
- *Hate*, racist and/or homophobic chanting or attacks, resulting in substantial distress and even serious injury.
- *Protest*, such as demonstrations against the venue, club or event.
- *Criminal activity*, eg counterfeit tickets or the sale or use of illegal drugs.

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- *Terrorism*, such as bomb threats, bombings and other attacks, which can result in multiple fatalities.

### Service hazards

These hazards are important because unmanaged service hazards can quickly lead to safety or security problems.

- *Ticketing/seating problems*, particularly when people visit a venue for the first time.
- *Primitive accommodation*, which is both uncomfortable and dehumanising.
- *Broken seats*, leaving the ticket-holder with no seat if the event is sold out.
- *Inadequate facilities*, such as unsanitary toilets or dirty food outlets.
- *Long queues*, meaning people miss some of the event and become frustrated.
- *Poor quality products*, eg lukewarm food and pirate merchandise, spoil the spectator experience.

### Risk assessment

Given the overall mission of preventing future disaster, it is unsurprising that risk assessment underpins the management of health and safety risks at mass events. The term “risk assessment” has become ubiquitous and refers to a complex range of assessment activities involving past incidents, future changes, individual hazards, event-specific risks and the generic management of the whole venue.

For example, one major British stadium discharges its responsibilities through:

- a comprehensive set of safe working methods and risk assessments covering operations for the staff within the stadium
- an event planning log which contains all of the risk management controls needed to prepare for each individual event
- event-specific risk assessments for different types of events
- collating and monitoring risk assessments from contractors such as broadcast companies

- a comprehensive generic risk assessment for events at the stadium.

### Learning from previous incidents

Following an incident, the risk assessment is effectively an accident investigation seeking to apply lessons learned to prevent a recurrence.

### Learning for future changes

An example of an organisation that has done this is the stadium that noticed that the numbers of spectator injuries did not justify the numbers of voluntary ambulance personnel attending a match, and the cost that this would incur. Here the risk assessment is an impact analysis of the consequences of reducing the level of cover.

### Specific hazards

Football Licensing Authority guidance recommends specific risk assessments on standing in seated areas, attendance of television crews and/or the media and special effects/pyrotechnic displays.

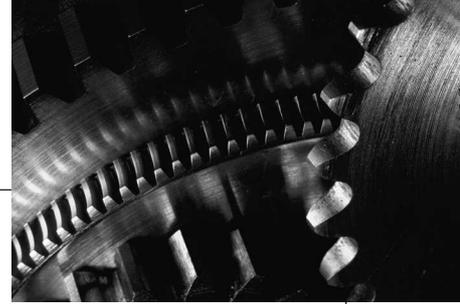
### Event-specific hazards

A stadium or arena staging a different type of event from its regular tenant team event will face a different set of hazards. Examples include a rugby stadium staging a pop concert where the crowd is on the pitch, or an all-day cheerleaders' festival at a basketball arena.

### Generic risk assessment for the venue

This can be a comprehensive document covering a wide range of safety and security risks to spectators as well as other health and safety risks to staff and participants. The complexity of the building and the hazards mean that the Health and Safety Executive's five steps to risk assessment are too simplistic. One major British stadium uses the following methodology.

- Look for the hazard.
- Decide in which of the five stadium/arena zones (the activity area, the seating bowl, the inside concourses, the outside



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concourses and venue approaches) the hazard could occur.

- Explain the resulting harm if the hazard occurs in that place.
- Note the relevant risk controls already in place.
- Estimate the residual probability and consequences of occurrence.
- Evaluate the risk.
- Identify any additional risk management controls required.
- Allocate responsibility for progressing the controls.
- Monitor and report on progress.

### **Risk management principles**

British experts are frequently invited overseas to advise on the management of health and safety risks at mass events in stadia and arenas. The experts' collective experience has resulted in a set of key principles from which countries can develop customised risk management solutions. These key principles are as follows.

- A well developed infrastructure providing safe/secure buildings, spectator accommodation and facilities.
- An integrated multi-agency service system within which each partner understands and accepts its safety and security roles and responsibilities.
- Appropriate legal measures with clear roles and responsibilities providing a regulatory framework for licensing and safety certification.
- The application and enforcement of legal measures to exclude the "risk" fans, ie those who pose a risk.
- Long-term social education measures to educate out the risk fan phenomenon.
- Facilitating people's lawful intentions so as to empower non-risk fans to express their collective identity.

- Providing policing that is perceived as legitimate by being intelligence-led, targeted, proportionate and based on dynamic ongoing risk assessment.
- Carrying out crowd management through hospitality and stewarding rather than crowd control by police.
- Providing specialist training programmes for key personnel such as police commanders, safety officers and stewards.

The responsibility for some of these principles rests with the venue management, for others with the national sports federations and government departments.

### **Risk management controls**

It is clear that mass events in a stadium or arena pose a complex set of risk management challenges. The main headings (from a list of 158 items) in the operations manual of a major British stadium give a flavour of the range of planning, documentary and operational controls which need to be applied to manage the health and safety risks. The list includes:

- spectator safety policy statement
- safety management structure
- capacity calculations
- stewarding plan
- medical plan
- fire safety plan
- contingency plans
- ticketing strategy
- segregation policy
- traffic management plan
- event management plan
- planned preventive maintenance/tests/inspections
- exercises
- event file
- current plans of the ground
- recruitment and training policies and procedures

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- job descriptions of safety personnel
- statement of intent between venue and police
- access audit for disabled persons
- safeguarding policies
- data protection policies
- service level agreements with specialist providers.

### Future developments

#### New-style safety certification

Under the present system, the local authority issues the certificate and specifies the conditions with which the sports ground must comply. In line with the move to “lighter touch” regulation, the FLA has developed an alternative style of safety certification.

This will allow management to develop a risk assessment-based operations manual which details how it will manage risks. This manual is submitted to the local authority, which then issues a simple safety certificate requiring management to comply with its own manual. This has the benefit of putting control back in the hands of the responsible persons.

#### FLA role

Following the Government cull of quangos, the FLA will cease to exist as an independent entity after the 2012 Olympic Games. Budget cuts of 15% also mean that the levels of staffing and the frequency of match visits have been reduced.

Pending legislation will change the name of the FLA to the Sports Grounds Safety Authority. This would allow the organisation to provide advice outside English/Welsh football and to charge for these services; however, the renamed organisation’s football remit will not be extended into other sports.

The FLA is currently involved in advising on the safety requirements for the Olympics and this involvement will increase. These changes mean the FLA’s regulation of football must inevitably assume an even lighter touch.

#### New risks

New technologies and new media are changing the way people engage with mass events. There is a cross-section of users — stadia/arenas, clubs, organisers, fans and event participants. Some users create content while others comment on it. Some people collect content while the majority only surf.

Fans buy tickets on the Internet and organise their attendance on social media. Venues create Facebook pages, Twitter feeds and YouTube channels to publicise their events. Fans and participants have become “citizen journalists” who tweet, blog and post thoughts on social media, both in real time during an event and afterwards at home. They also post images on Flickr and videos on YouTube.

Stadia and arenas must therefore think about new virtual safety and security hazards. These could include Internet ticket touts breaching segregation arrangements as well as protests or disorder planned on social media sites. ■