

# **Overview – Issues Relating to Work at Height / Fragile Roofs**

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# Introduction

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- Background
- Law
- Hierarchy of Control
- Short Duration
- Fragile Roofs
- Examples
- Tips & Common Failings

# Statistics



- Construction accounts for about 5% of employees in Britain, but 27% of fatal injuries and 10% reported major accidents
- 2012-2013 – 39 fatal injuries in Construction
  - 23 were falls from height
- 2013-2014 – 20 fatal injuries relating to work at height (provisional)

- Fragile Roofs
- Home Building
- Loft Conversions
- Solar Panel Installations

# The Law

- Construction (Design and Management) Regulations 2007:
  - Provision of pre-construction information (including roof light/roof fragility).
  - Duties of principal contractors to plan, manage and monitor their construction phase.
  - Duty of contractors to ensure that work under their control is managed safely.

# The Law Continued

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- Designers – design out risks
- Clients – provide relevant information
- Principal Contractors – plan, manage and monitor construction phase. Including relevant information to contractors
- Contractors – ensure work is carried safely under their control
- CDM Co-ordinators – assist clients meet their duties (including pre-construction information)

# The Law Continued

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- Work at Height Regulations
- Regulation 4(1) requires work at height to be:
  - Properly planned;
  - Appropriately supervised,
  - Carried out in a manner which is SFAIRP safe.
  - Includes selection of correct work equipment
- Regulation 9: Fragile surfaces – explicit regulation to deal with the risks posed from working on, or near, fragile surfaces.

# The Law Continued

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- Work at Height Regulations 2005; Regulation 6(3):

Employers (and those in control of work at height) shall take suitable and sufficient measures to prevent, SFAIRP, any person falling a distance liable to cause personal injury.



# The Law Continued

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- Work at Height Regulations 2005; Regulation 10:
  - (1) SFAIRP prevent fall of material
  - (2) ABSOLUTE DUTY to prevent any person being struck by falling material or objects which is liable to cause injury
- And others...

# Adequately Planned?



# Appropriately Supervised?





# Carried Out In A Manner Which Is, SFAIRP Practicable, Safe?



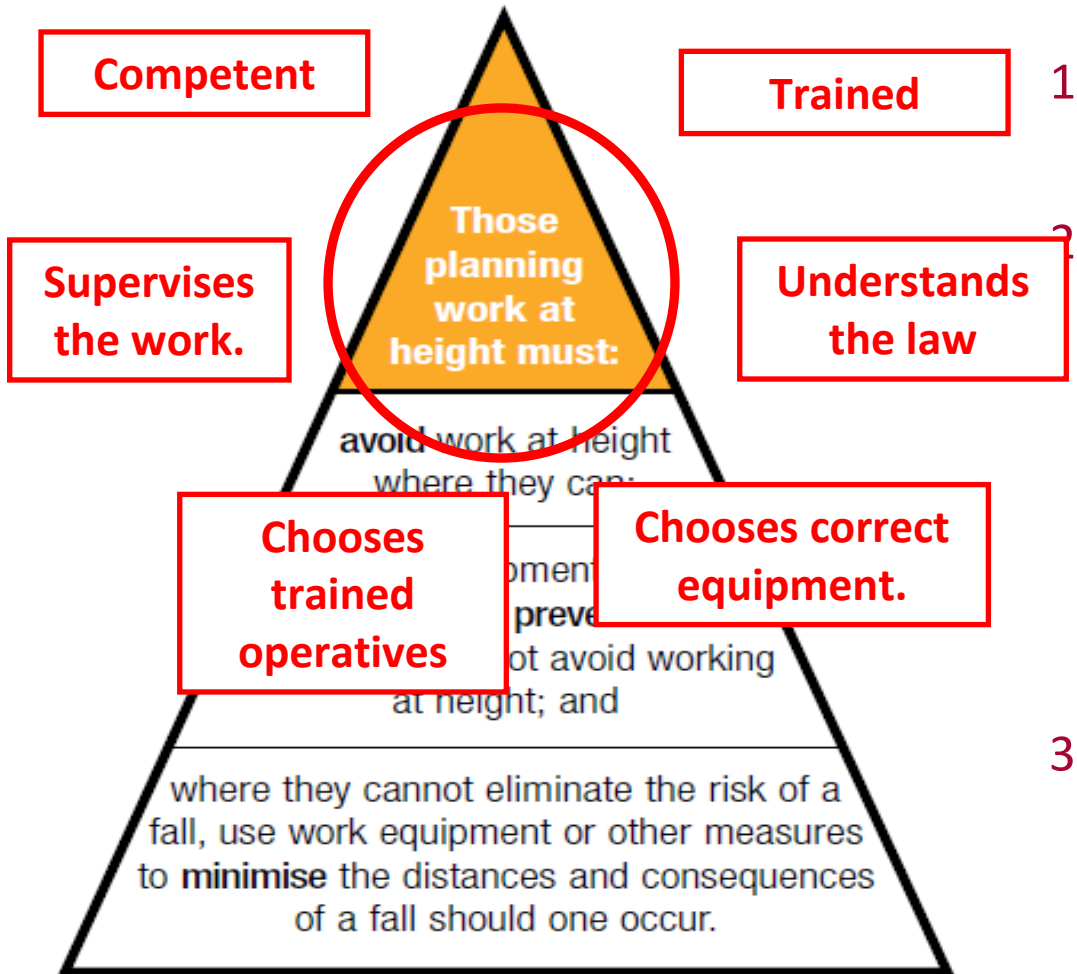
15 foot drop  
to ground  
level.



# Suitable Edge Protection?



# Hierarchy of Control



1. Eliminate the need to work at height.
2. Use work equipment to prevent falls:
  1. Existing place of safe access,
  2. **Collective** fall prevention,
  3. **Personal** fall prevention,
3. Use work equipment to mitigate (**collective then personal**) the consequences of a fall.

# Elimination

- Pre-fabricated material with correct measurements
- Roof tiles measured then cut at ground level

# Fall Prevention



- Scaffolding / Edge Protection
- Work restraint systems





# Fall Mitigation

- Fall Arrest



- Soft Landing Bags



# Fall Mitigation Continued

- Crash Decking



- Netting



# Short Duration Work

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- HSG33 (Health and Safety in Roofwork):
- *Tasks that are measured in minutes rather than hours, for example: -*
  - *Replacing a few tiles*
  - *Adjusting a television aerial*
- Ladders etc. may be suitable for these kinds of jobs
- **Follow the hierarchy of control**

# Fragile Roofs



# Fragile Roofs – HSG33 - Health & Safety in Roof Work



- Paragraph 175
- Work from underneath the roof using a suitable work platform;
- Where this is not possible, consider using a MEWP that allows people to work from within the MEWP basket without standing on the roof itself;
- If access onto the fragile roof cannot be avoided, perimeter edge protection should be installed and staging used to spread the load. Unless all the work and access is on staging or platforms that are fitted with guard rails, safety nets should be installed underneath the roof or a harness system used; and
- Where harnesses are used they need adequate anchorage points. They also rely on discipline, training and supervision to make sure that they are used consistently and correctly.



# Fragile Roofs – Risks to Consider

- Non-fragile roofs deteriorate with time and can become fragile
- Non-fragile roof, but fragile roof lights



# Examples



# Work Ec... Maintained In A... er?





# Using What Is Handy



# Appearances Can Be Deceiving



# Appearances Can Be Deceiving



# What Happens If It Goes Wrong?



14 year-old daughter of workman fell through fragile roof light sustaining serious injuries.



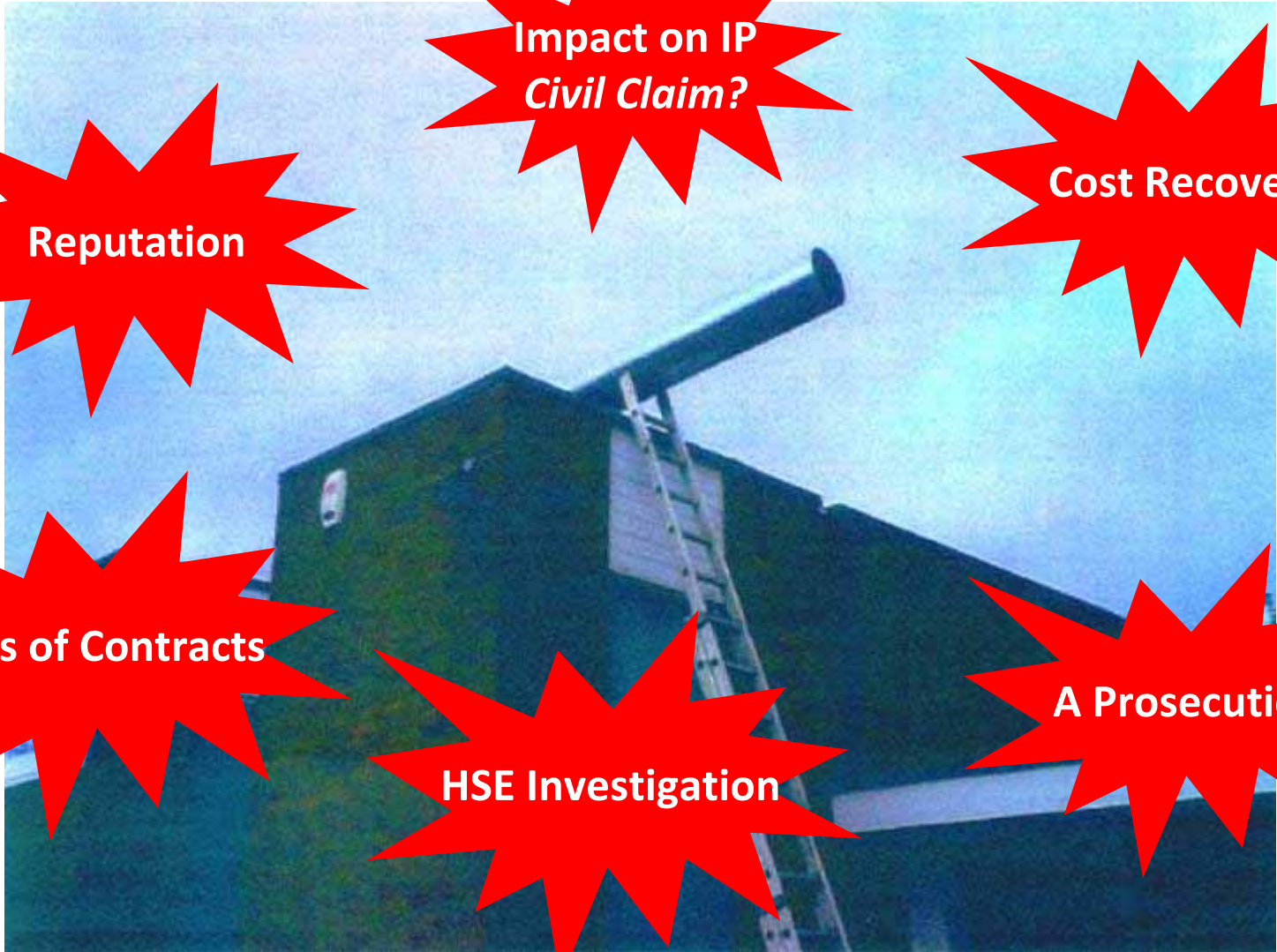


**Fined £12,000  
+ Costs**

Operative fell through **here**, when **this** batten snapped...



# What Happens If It Goes Wrong?



**Reputation**

**Impact on IP  
*Civil Claim?***

**Cost Recovery**

**Loss of Contracts**

**HSE Investigation**

**A Prosecution**



# Common failings

- No planning
- Incorrectly erected (tower) scaffolds
- Altered (tower) scaffolds
- “Dodgy” Ladders – e.g. damaged or domestic
- Equipment erected on unstable ground
- Scaffolds not checked weekly



# Advice

- Actually assess & plan work at height in the first place
- Don't over complicate things
- Follow the risk assessments you produce
- Follow the hierarchy of control: avoid, prevent, mitigate
- Select the correct work equipment
- Ensure operatives are suitably trained
- Don't forget fragile roofs/roof lights
- Don't be afraid to approach an Inspector