

EMAP 08 – WORKING AT HEIGHT



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1.0 Introduction

- 1.1: The Estates and Facilities Directorate (EAF) recognises that working at height remains one of the single biggest causes of fatalities and major injuries. Common cases include falls from ladders and through fragile surfaces <http://www.hse.gov.uk/toolbox/height.htm>
- 1.2: The Work at Height Regulations 2005 apply to all works undertaken at height where there is a risk of a fall liable to cause personal injury
- 1.3: This EMAP provides a mechanism for E&F to fulfil their duty to assess and manage the risk to health and safety arising from working at height.
- 1.4: The HSE define working at height as;
“...work in any place where, if there were no precautions in place, a person could fall a distance liable to cause personal injury (e.g. a fall through a fragile roof)”

2.0 Scope

- 2.1: This EMAP aims to;
- Set a standard for EAF to achieve for managing work at height activities
 - Provide guidance in achieving the required standard
- 2.2: This EMAP applies to all tasks and activities undertaken by EAF operatives or contractors working at height under their instruction on the QMUL estate

3.0 Legislation

- 3.1: The Health and Safety at Work etc. Act 1974 places a duty on QMUL, so far as is reasonably practicable, to ensure the health, safety and welfare of its employees and others.
- 3.2: The Management of Health and Safety at Work Regulations 1999 places a duty on QMUL to undertake suitable and sufficient risk assessments and to take action to control such risks associated with working at height to safeguard employee health and safety.
- 3.3: The Working at Height Regulations 2005 (as amended) apply to all work at height when there is a risk of a fall liable to cause personnel injury. Duties are placed on EAF to ensure work at height is effectively planned, adequately supervised and undertaken by competent people.
- 3.4: The Provision and Use of Work Equipment 1998 (PUWER) covers all work equipment provided for working at height. PUWER states that all equipment must be properly maintained to ensure it operates safely and any defects must be reported so that remedial actions can be taken to prevent injury. EAF's arrangement for compliance with PUWER are detailed within [PUWER EMAP12](#)
- 3.5: The Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) covers the use of any equipment used at work for lifting or lowering loads, including attachments used for anchoring, fixing or supporting it. The regulations cover a wide range of equipment including; fork lift trucks, lifts, hoists, scissor lifts, mobile elevated work platforms and cradles. The Regulations also cover lifting accessories such as chains, slings, eyebolts etc. EAF's arrangement for compliance with LOLER are detailed within [LOLER EMAP21](#)

4.0 References

4.1: In addition to the regulations noted in S(3) the HSE have produced a number of documents that give guidance and detail on undertaking works at height and the control measures required to deem such works as safe. Although the list below is not exhaustive, it is intended to detail the key documents for reference;

- The Working at Height Regulations 2005 (as amended)
- Working at Height – A Brief Guide INDG401 (rev2)
- Safe Use of Ladders and Step Ladders – A Brief Guide INDG455
- Working at Height Access and Information Toolkit (WAIT) <http://www.hse.gov.uk/work-at-height/wait/index.htm>
- Further information can be obtained from; <http://www.hse.gov.uk/work-at-height/index.htm>

4.2: Additional information is available from the following federations and associations;

- IPAF – International Powered Access Federation <http://ipaf.org/>
- PASMA – Prefabricated Access Suppliers and Manufacturers Association <https://www.pasma.co.uk/>

4.3: The QMUL Health and Safety Directorate have produced the following policy and guidance document;

- Working at Height Policy QM_HSD_089 (Draft subject to review)

5.0 Responsibilities

5.1 Director of Estates and Facilities

5.1.1: The Director of Estates and Facilities is the delegated senior member of the Directorate in regard to compliance with health and safety legislation and agreed best practice.

5.1.2: The Director ensures that resources are available to ensure full compliance with the Working at Height Regulations and any supporting QMUL policies.

5.1.3: The Director shall nominate a member of the Estates Senior Management Team to take responsibility for reviewing and monitoring work at height activities through the EAF Strategic Health and Safety Committee.

5.1.4: The Director shall satisfy themselves that all those within the Directorate who have been allocated duties are sufficiently trained and experienced to fulfil such duties

5.2 Local Line Managers

5.2.1: Adequate resources are allocated to ensure suitable access equipment is available to staff to undertake their duties in a manner that does not place them at risk.

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- 5.2.3: Appropriate work equipment is provided for working at height, which is subject to maintenance, inspection and examination where applicable
- 5.2.4: All work at height activities are subject to risk assessment. In the event of the generic risk assessment not being deemed as suitable and sufficient to adequately eliminate or reduce all associated risks, a task or location specific risk assessment shall be drafted. A suite of [generic working at height risk assessments](#) have been produced for reference and guidance
- 5.2.5: All identified control measures from risk assessments are implemented and adapted to weather conditions as appropriate
- 5.2.6: Records of inspection, test and maintenance logs are compiled and updated. Such records should be readily available for inspection.
- 5.2.8: Defective or damaged access equipment is taken out of use immediately
- 5.2.9: Ensure the risks from fragile surfaces are recognised, communicated and adequately controlled (refer to S7.2)
- 5.2.10: Ensure the risks from falling objects are recognised, communicated and adequately controlled
- 5.2.11: Ensure the [EAF working at height permit to work process](#) is followed and adhered to

5.3 Estates & Facilities Employees

- 5.3.1: Report any incidents, accidents or near misses resulting from work at height activities immediately
- 5.3.2: Inspect all equipment supplied prior to use and report/record any defects (Appendix A)
- 5.3.3: Use all equipment provided for their use in accordance with any training and/or instruction relating to its use, as such assisting the Directorate to fully comply with their statutory duty of care
- 5.3.4: Report to their supervisor, any activity or defect relating to work at height that may endanger the safety of themselves or others

5.4 External Contractors

- 5.4.1: Provide their own access equipment that fully complies with BS/BS EN standards
- 5.4.2: Undertake suitable maintenance, inspection and examination (with certificates where appropriate) of all access equipment taken onto the QMUL estate
- 5.4.3: Provide details of their safe system of work, with supporting RAMS, to the EAF Project Manager (Person managing works) prior to arrival on site
- 5.4.4: Cooperate fully with EAF in the event of any near miss, incident or accident occurring as a result of their activity

****NOTE – Contractors are not permitted to use QMUL owned access equipment****

5.5 Head of Health and Safety (EAF)

5.5.1: Undertake regular audits of the working at height arrangements across the Estates & Facilities Directorate. Producing audit reports with remedial actions noted within an easy to use action plan

5.5.2: Assist line managers in producing training packages for refreshing working at height awareness

5.5.3: Oversee the production of generic working at height risk assessments and offer support to line managers where there is a requirement for task or location risk assessments

5.4.4: Ensure that the details of all working at height accidents and incidents, including near miss incidents, are uploaded onto MySafety. Either investigate or assist any investigations, feeding back to the EAF Strategic Health & Safety Committee

5.6 Health and Safety Directorate

5.6.1: Provide advice and guidance on legislative changes and best practice, and where necessary, provide expert advice to the Estates and Facilities Directorate.

5.6.2: Determining the adequacy of the Estates and Facilities working at height arrangements including the asset & check lists, adequacy of training provision, risk assessments and policies.

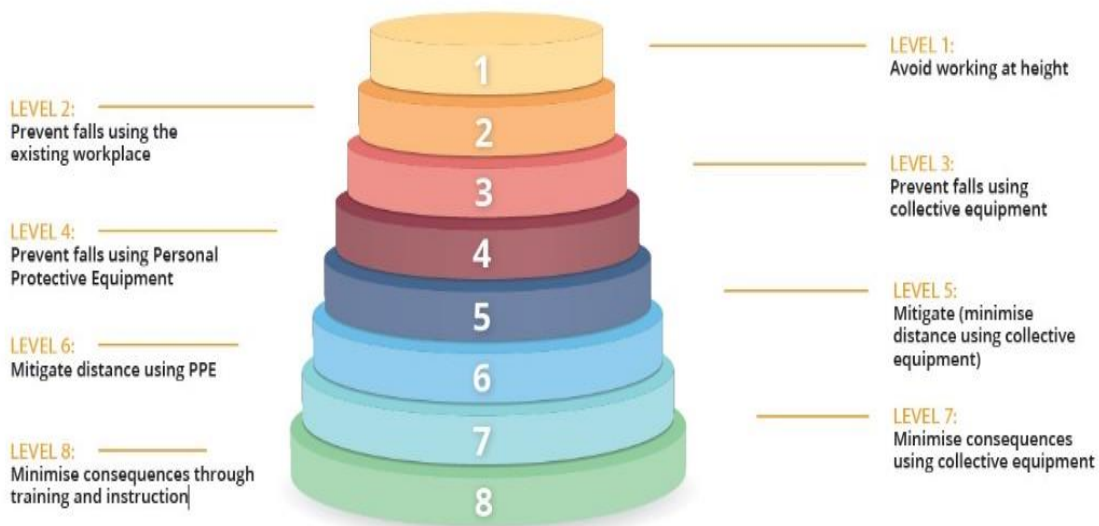
5.6.3: Providing training on working at height where requested by Estates and Facilities Managers

6.0 Risk Assessment

6.1: A suitable and sufficient assessment of all risks arising from working at height and associated equipment shall be undertaken by the EAF Project Manager (person in control of the works), in the event of the works being undertaken by a directly employed member of the Directorate.

6.2: Where the works are sub contracted out, the risk assessment is the responsibility of the external Project Manager or Contractor Representative.

6.3 Regulation 6 of the Working at Height Regulations 2005 stipulates the measures that should be taken to avoid the risks associated with working at height. Together, these form the Hierarchy of Control Measures, as shown on the following page



6.4: The working at height risk assessment should consider the following;

- The day to day function of the building, including student travel routes
- Assess what activity will be done at height, this will determine what means will be used to access and work at height
- Equipment that will be used on site is suitable for the task and conditions
- The condition of the work surfaces and the ground structure are stable, not sloped, fragile or slippery as this could result in a fall involving the worker or work equipment
- Duration of works, including access and egress
- Tools and plant required to be used while working at height, implementing measures to prevent any person being struck by a falling object
- Exclusion or protection from the work area. PPE must be provided not only for those working at height but also those who cannot avoid working underneath
- Make allowances for varying working conditions, including: weather, temperature and lighting
- Provision of sufficient information, instruction and supervision to ensure all concerned work safely
- The work area must allow for easy and timely evacuation in the event of an emergency

7.0 Areas of Specific Risk

7.1 Roof Work

7.1.1 All building roofs fall within the classification of 'working at height' and therefore require



measures to be put in place to prevent falls as per the risk control hierarchy. When implementing fall protection measures the first consideration must be to provide 'collective' fall prevention systems that will ensure all personnel accessing the roof are protected. Collective fall prevention will normally be provided via the installation of

a physical barrier e.g. key clamp which must stand at least 950mm high and have an intermediate rail fitted so that no gap greater than 470mm exists between the horizontal rails.

7.1.2 Where there is a substantive reason as to why a collective fall prevention system cannot be fitted e.g. due to planning restrictions or roof construction type then protection must be provided by personal fall restraint or fall arrest equipment such as a personal harness attached via a lanyard to a 'Latchway' system or anchor device.

An example of inadequate edge protection can be seen below;

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Edge protection not extended following plant installation, creating a significant fall from height risk

7.1.3 QMUL's building roofs have been risk assessed and, where suitable, collective fall prevention systems have been installed. Where collective fall prevention is not available, access to the roof will only be granted via the [RMS permit to work system](#)



7.1.4 All fall arrest equipment and fall prevention systems are inspected and tested by QMUL's contracted service provider.



7.2 Fragile Roofs

7.2.1 Protection can be retrofitted or included within design

7.2.2 The HSE publication Fragile Roofs – safe working practices (GE1S5) states;

“Falls through fragile roofs and fragile roof lights cause death and serious injury. They account for almost a fifth

of all the fatal accidents that result from a fall from height in the construction industry”.

7.2.3 Fragile Surfaces across QMUL have been identified, risk assessed and precautions put in place to prevent employees / contractors walking on them or falling through them in the case of roof lights. Typical protection measures are shown in the picture above.

7.2.4 In the event of a roof light not being suitably protected, a job ticket should be raised through the IVANTI help desk immediately

8.0 Equipment

8.1: All equipment purchased and provided for use will be manufactured according to the following standards;

- Aluminium Ladders – BSEN 131 (Industrial Class 1)
- Aluminium Stepladders – BSEN 2037 (Industrial Class 1)
- Glass Fibre Stepladders – BSEN 131 (Industrial Class 1)
- Aluminium Mobile Towers – BSEN 1004:2004

8.2: It is EAF's intention, through a rolling replacement programme, that all aluminium ladders will be replaced with fibreglass alternatives.

9.0 Specialist Equipment

9.1: The majority of tasks undertaken by EAF operatives will be safely accessed via steps or stepladders. Where specialist equipment is required this is either hired or if used on a regular basis purchased.

9.2: At present EAF have two items of specialist equipment. These are shown below;



Nifty 90 – 9.5m Trailer Mounted Cherry Picker (Mile End Campus)



LOBO Modular Access Tower

10.0 Inspection & Examination

10.1 Pre-Use Inspection

10.1.1: All ladders, step ladders and mobile towers must be inspected by the user prior to use, all defects should be reported to the relevant line manager immediately and the access equipment removed from use until repairs have been completed.

10.2 Bi-Annual Inspections

10.2.1: All ladders, step ladders and mobile towers, will be subject to bi-annual inspections and given unique reference numbers, recorded on a working at height equipment asset record sheet.

10.2.2: If equipment is classified as unsafe for use it will be removed until such a time as a repair has been completed or if unrepairable destroyed or disposed of.

10.3 Statutory Examinations

10.3.1: The Nifty 90 Cherry Picker is subject to a 6 monthly statutory examination by an Insurance Inspector in full compliance with the requirements of LOLER. Examinations are uploaded onto the [Crimson Data Base](#)

11.0 Training

11.1: Any EAF manager that supervises, plans or risk assesses work at height activities will receive Working at Height Authorised Person training appropriate to their role

11.2: All EAF operatives that work at height on a regular basis receive recognised accredited working at height training

11.3: Maintenance operatives who use the Nifty 90 Cherry Picker receive specialist training every 3 years.

11.4: Basic working at height training is refreshed through Tool Box Talks delivered by local line managers

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APPENDIX (A) – Ladder Inspection Checklist

Ladder Inspection Sheet – All findings must be recorded on this form. Ladder tags need to be updated for date of next inspection. Ladders must be inspected before every use.

Date of Inspection:	Ladder ID No. :	Inspected by:

Location at time of inspection:	
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Item to be checked	Pass/Fail	Action Required	Who by	When by
General				
Suitable for work use (and specified to Class 1 rating (150kg))				
Loose steps or rungs (consider loose if they can be moved by hand). Remove from use: repair or discard				
Loose, damaged or corroded nails, screws, bolts or other metal parts. Remove from use: repair or discard				
Warped, bent or twisted stiles. Discard: do not attempt repair				
Cracked, split or broken stiles, braces, steps or rungs. Discard: do not attempt repair				
Slivers/splinters on stiles, rungs or steps. Remove from use: repair or discard				
Damaged, missing or worn non-slip feet. Remove from use: repair or discard				
Ladder painted (may hide defects). Remove from use: remove paint or discard				
Stepladders				
Wobbly or unstable. Remove from use: repair or discard				
Loose or bent hinge spreaders. Remove from use: repair or discard				
Broken stop on hinge spreaders. Discard: do not attempt repair				
Loose hinges. Remove from use: repair or discard				
Extension ladders				
Loose, broken or missing extension locks. Discard: do not attempt repair				
Defective locks that do not seat properly when ladder is extended. Remove from use: repair or discard				
Deterioration of rope. Remove from use: repair or discard				

Important note:

Ladders must not be re-used until proper repairs have been carried out – remove ladder to a safe place and attach warning notice to prevent use. Discarded ladders should be cut up or broken beyond repair, to prevent re-use

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(APPENDIX B) Ladders & Step Ladders Asset List (example)

Ladders and step ladders are to be inspected monthly and before use (Monthly checks are to be recorded on separate form and uploaded onto Qmul-rms - E logs)						Date:	21 st February 2020
Ref. no	Make	Type ¹	Construction ²	Rungs ³	Height (fully extended)	Location	Serviceable?
1		Folding	GRP	9	2.7M	JVSC – Ground Floor (North)	Y
1A		Folding	GRP	5	1.4M	LIF – 1 st Floor (Plant Room)	Y
1B		Folding	GRP	5	1.4M	LIF – Basement (Store Room)	Y
2		Folding	GRP	9	2.7M	JVSC – 2 nd Floor (South)	Y
3		Folding	GRP	7	2.2M	JVSC – Lower Ground (Duct A)	Y
4		Folding	GRP	7	2.2M	WHHC – Roof (Plant Room)	Y
5		Folding	GRP	5	1.4M	JVSC – Ground Floor	Y
6		Folding	GRP	5	1.4M	DH – Basement (Electrical Store)	Y
7		Folding	GRP	7	2.2M	JVSC – Basement	Y
8		Folding	GRP	9	2.7M	JVSC – Plant Room	Y
9		Folding	GRP	7	2.2M	JVSC - BSU	Y
10		Folding	GRP	7	2.2M	WHHC – Basement (Duct)	Y
11		Folding	GRP	7	2.2M	WHHC – 1 st Floor (Duct)	Y
12		Folding	GRP	5	1.4M	DH – Basement (Paint Store)	Y
13		Folding	GRP	5	1.4M	JVSC – 2 nd Floor (Duct K)	Y
14		Folding	GRP	7	2.2M	RB – 1 st Floor (Electrical Cupboard)	Y

APPENDIX (C) – Key Safety Features of Work at Height Equipment

Safe Work at Height in Practice: Features to Check for

Scaffolds and similar work platforms

- Erected by a competent person.
- Platform complete/fully boarded-out. Double guard rails and toe boards. Safe access by secured ladder or steps.
- Safe arrangements for lifting up/lowering materials.
- All components free of rust or damage. Ties or similar to prevent the scaffold tipping over.

Tower scaffold

- On a firm level base.
- There's safe access to the platform, normally from within the tower so as to maximise stability.
- Double guard rails and toe boards. Never moved with anyone on the platform.
- Not used to support hops-ups or ladders.
- All components free of rust or damage.

Ladders

- Intended for use at work and made to the appropriate standard (Class I
- 'Industrial' or Class EN131 'commercial').
- At correct angle (one metre out for every four metres up) and secured against tipping.
- At least one metre (three rungs) between highest place a person works and the ladder top.
- No signs of damage to the rungs or the stiles (uprights).
- Users do not overreach to the side.

Steps

- All components free from defect and fastenings (screws/bolts) present and tight.
- Legs fully extended so as to give maximum stability.

Mobile access platforms

- Of correct type for situation (e.g. rough terrain when used on unmade ground). Operating area assessed for hazards such as kerbs and culverts..
 - Current certificate of thorough examination under the Lifting Operations and Lifting Equipment Regulations (LOLER) 1998. Harnesses worn where risk assessment shows they are needed. All operators have been instructed/trained in safe use.

Harnesses

- Checked before use for defects, wear and damage.
- Of correct type (must include a shock absorber if used for fall-arrest).
- Attached to building, structure or other secure anchorage.

Nets and air bags

- Correctly positioned in relation to the work.
- Secured against movement. Free of holes and other defects/damage.

Fragile roofs and similar

- Have they been identified, where present?
- Are measures in place to prevent people falling through?