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Target Audience:
All FOD Inspectors
All HID Inspectors
All Construction
All NSD Inspectors
All HSAOs
All LA Inspectors

THE WORK AT HEIGHT REGULATIONS 2005

This OC provides advice to visiting staff (HSE & LA) on the interpretation and enforcement of the Work at Height Regulations 2005 (WAHR). The Regulations are concerned with reducing deaths and injuries caused by falls from height. These account for 50 to 60 fatal accidents each year, more than any other activity and just under 4000 major injuries.

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INTRODUCTION

1 The WAHR came into force on 6 April 2005. There are no transitional arrangements. The Regulations adopt a risk based approach, so that measures taken to comply are proportionate to the risks involved.

2 Practical guidance on the Regulations includes, 'A brief guide to the WAHR (INDG 401)' and a Q&A brief for the construction industry on the Regulations. Inspector briefing presentations on the Regulations which have been delivered to HSE and LA inspectors are available on the HSE website. The website also includes general guidance on falls from height. The Topic Inspection Pack on Falls from Height also contains guidance.

3 Draft guidance was produced for the consultation process. However, the comments received on that guidance convinced HSC that it would be difficult to produce sufficiently comprehensive guidance to satisfy the wide range of sectors involved in work at height and that an ACOP should therefore not be produced. HSC opted instead for a brief guide. This is in line with the strategy 'to 2010 and beyond' to encourage industry to amend and produce its own guidance on work at height to suit their own specific needs. This may be achieved with co-operation from HSE. The Falls from Height Programme and the associated website will be used to promote guidance and initiatives.

4 The Regulations consolidate existing duties and do not constitute any significant change to the way work at height risks are expected to be managed, inspected or enforced. Duty holders following 'good practice' as embodied in codes of practice and guidance should be doing enough to comply with the WAHR. Duty holders who carry out risk assessments and select the appropriate methods and work equipment for work at height should meet the standards expected by the WAHR.

5 Further information or advice concerning aspects of these Regulations which are not covered in this OC, can be obtained by contacting HSE's Safety Unit or sector colleagues if it is a sector specific query. Specialist help on technical issues relating to work at height can be obtained from local specialist groups. LA inspectors can request specialist help through their Enforcement Liaison Officer.

GENERAL

6 The WAHR implement the 2nd Amending Directive (2001/45/EC the Temporary Work at Height Directive) to the Use of Work Equipment Directive (89/655/EEC). The Temporary Work at Height Directive sets out minimum requirements for the selection and use of work equipment for all work at height.

7 HSC has taken the opportunity to create a single set of goal setting Regulations to implement the Directive. They are flexible enough to apply to all work at height activities across all sectors. The WAHR consolidate requirements into one place making it easier for duty holders. The Regulations also extend duties to activities previously not covered by specific Regulations such as peripatetic activities eg working on vehicles by the roadside, bill posting, arboriculture etc. (Such activities were and still are covered by duties under the Health and Safety at Work etc Act 1974 (HSWA))

8 Schedule 8 of the Regulations lists revocations which include some parts of the Workplace (Health, Safety and Welfare) Regulations 1992 (W(H,S&W)R) and parts of the Construction (Health, Safety and Welfare) Regulations 1996 (C(H,S&W)R) which dealt with risks from work at height.

9 ACOP material accompanying revoked legislation is no longer current, although the standards being advocated are mostly maintained, apart from prescriptive requirements relating to work above 2 metres. This is covered in more detail in paras 21-28.

10 The Regulations maintain standards in the construction industry with some prescriptive provisions being carried over and improved from the (C(H,S&W)R) eg guard rail heights in construction have been increased from 910 mm to 950 mm, see Schedule 2. Outside construction, goal setting standards have been established.

ENFORCEMENT

11 Enforcement guidance is contained within paras 14-153 on the Regulations and Appendices 1 to 6 on the Schedules. The Falls from Height Topic Inspection Pack contains information on initial enforcement expectations (IEE) in Section 2. Section 4 of the pack contains enforcement guidance for sectors enforced by HSE and LAs. Section 6 contains template Notices. Where enforcement is proposed (Notices and Legal proceedings) this OC and linked guidance should be considered along side HSC's Enforcement Policy Statement and the EMM. Enforcement guidance on the safe use of ladders and stepladders is contained in OC 200/30.

12 In general the enforcement approach should entail no relaxation of expected standards for duties which are not new, but a progressive approach where duties are new except for flagrant or deliberate breaches where there is significant risk of major injury or worse.

13 Such 'new' issues include inadequate assessment of low fall risks (falls below head height), failure to plan for emergencies and rescue, failure to take into account weather conditions while working at height, inappropriate selection of work equipment, particularly ladders, and failure to follow the principles set out in the hierarchy in Reg 6.

INTERPRETATION (REG 2)

14 Regulation 2 sets out the main definitions used in the Regulations, but not all terms and concepts are defined, see Appendix 7 for further definitions. The technical definitions listed in Appendix 7 and some found in blue font within this OC have been provided by HSE to ensure consistency of meaning when certain specific technical terms and certain concepts are used. Part 1 of the Inspector briefing presentations contains guidance on some important definitions and includes pictorial examples to illustrate meanings. The Topic Inspection Pack on Falls from Height also contains guidance.

Work at Height

15 Work at height means work in any place, including a place at or below ground level, where, if measures required by these Regulations were not taken, a person could fall a distance liable to cause personal injury.

16 This includes obtaining access or egress from a place of work, as measures are required to prevent a person falling during access or egress. Work at height does not include access or egress by a staircase in a permanent workplace and hence the Regs would not apply to a fall up or down stairs unless work was being carried out on the stairs such as maintenance or structural work involving the use of work equipment. Use Regulation 12 (W(H,S&W)R) for issues relating to falls on staircases in a permanent workplace.

17 Work at height does not include a slip or a trip on the level. A fall from height has to involve a fall from a higher level to a lower level.

18 Work at height includes any work at height using work equipment eg MEWPs (Mobile Elevating Work Platforms), scaffolds, guardrails, ladders, kick stools etc. It also includes work on a roof, vehicle, machine, plant, fabrication, ship, telegraph pole, tree etc. Working next to an excavation or cellar opening constitutes work at height. As does using a harness, rope and other personal fall protection equipment at height. Any task where if precautions were not taken, a person could fall a distance liable to cause personal injury, constitutes work at height.

19 Work on the upper floor of an office is not work at height, neither is sitting on a chair because there is no risk of a fall. However knocking a hole in the floor as part of a renovation or modification of the office, will constitute work at height because there is a risk of a fall.

20 Regulation 15 of the (W(H,S&W)R) should still be used to address risks of falls in relation to windows, skylights and ventilators.

21 All work at height is covered regardless of what height it is performed at. Precautions are required where there is a risk of injury from a fall. There is **no** '2 metre rule' in the WAHR. (The C(H,S&W)R had prescriptive requirements for work equipment being used above 2 metres, this became known as the '2 metre rule'). There is no prescription in the WAHR regarding the height at which precautions should be taken. Risk assessment should be used to decide whether precautions are needed and in what form.

22 The enforcement line is that precautions are expected above 2 metres (**head height**) and in 9 times out of 10 the expectation will be collective fall prevention measures eg guardrails. However also assess risks from falls below head height and ensure sensible precautions are taken which reflect the risk. Challenge any culture that thinks there is no risk of injury from a fall below head height. 60% of major injuries are as a result of falls below head height.

23 A sensible pragmatic approach should be taken when considering what precautions should be taken below head height. For falls below head height, solutions should be risk based which will mean different solutions for different jobs. There is no easy prescriptive answer.

24 Factors to weigh up in the risk assessment when considering precautions at or below head height include the height at which the work is carried out, the condition of the surface a person is likely to fall on, whether people are working with their back to an edge, whether

there is a high volume of pedestrian traffic exposed to an edge etc. Falling onto a sharp surface or falling backwards from an edge are liable to result in personal injury and as a result, fall prevention measures will be expected.

25 Part 1 of the Inspector briefing presentations contain examples of falls below head height where precautions would be expected.

26 Other factors to consider with work below head height include duration, frequency and height of the task, eg a longer duration higher frequency task at say 1.5 metres may warrant guardrails whereas a short duration infrequent task at 1 metre may not warrant guardrails. Judgements have to be made on a case-by-case basis.

27 There will be no change in enforcement expectation, so the standards that were established before the Regulations will still be acceptable eg railway staff standing next to a platform edge. A painted warning line will still be sufficient. This is a suitable and sufficient measure to prevent a fall as advocated by the bottom of the hierarchy in Reg. 6(5)(b). See para 78. The bottom of the hierarchy will still allow a librarian to use a kick stool to retrieve a book providing the kick stool is well maintained and the user has received briefing in its safe use ie no overreaching etc. The bottom of the hierarchy can be used to justify the use of ladders and step ladders for the same reasons.

28 There will also be situations where low risk and common sense dictates no precautions eg lollipop person standing next to a kerb.

Working Platform

29 Working platform means any platform used as a place of work or as a means of access to or egress from a place of work. It includes any scaffold, mobile platform, trestle, gangway etc.

30 A working platform can be a guarded working platform (with guard rails) such as a scaffold or a MEWP. It can also be an unguarded working platform where fall mitigation measures are provided eg nets or airbags or personal fall protection systems are provided.

31 A working platform needs to comply with Schedule 3 in that it has to be stable, of suitable and sufficient strength, possess a suitable surface through which no person can fall and be of sufficient dimension to allow work to be carried out safely.

32 A working platform is safe when you cannot fall off it or through it, or when measures are taken to mitigate a fall from it. A duty holder has to make an assessment as to whether a working platform constitutes a suitable surface to work from ie complies with Schedule 3. They then have to apply fall protection measures to it in accordance with the principles of the hierarchy in Reg 6. See para 78. Preference should be given to collective fall prevention ie guard rails etc which complies with Schedule 2. Personal fall prevention measures could also be applied if collective fall prevention is not reasonably practicable eg personal fall prevention systems or work restraint. See Appendix 7 for definitions of these terms.

33 If fall prevention is not reasonably practicable, collective fall mitigation should be applied eg nets and airbags which complies with Schedule 4. If collective fall mitigation is not reasonably practicable, personal fall mitigation measures (Schedule 5) should be used in association with the working platform eg fall arrest, work positioning etc. See Appendix 7 for definitions.

34 Given the variety of fall protection measures that can be applied to a working platform, a number of situations can constitute a safe working platform eg a roof, top of a vehicle or its load, a tree, top of a piece of equipment or plant, aircraft wing etc. providing fall prevention or fall mitigation measures are applied.

35 The term 'any' in the definition under sub para (a) of the definition of working platform, widens the definition beyond the traditional guarded working platforms such as scaffolds or MEWPs.

36 See also the definition of an existing place of work. (Para 15, Appendix 7). A working platform differs from an existing safe place of work because it requires work equipment to make it safe, whereas an existing place of work has existing permanent fall prevention measures in place.

37 There is no minimum width for a working platform in the WAHR. The enforcement expectation is that working platforms should be at least 600 mm wide unless a risk assessment can justify a narrower width, eg working platforms used for pylon working can be narrower because wider working platforms are heavier and can affect safety in terms of the ability of the pylon to support the weight.

Fragile Surface

38 Means a surface which would be liable to fail if any reasonably foreseeable load was to be applied to it.

39 The term used in the C(H,S&W)R was 'fragile materials'. The term has changed to 'fragile surface' in the WAHR to reflect circumstances outside of construction eg bridged materials in silos or crusted surfaces of sludge lagoons in agriculture.

40 Common fragile surfaces encountered during work at height include asbestos and fibre cement roof sheets, skylights, glazing etc. Regulation 9 covers the legal requirements for fragile surfaces.

41 The term 'fail' in the definition, means that a person would pass through it, so where the material merely deforms, but continues to hold the individual, this would not constitute failure. However this could change with circumstances eg someone falls onto a surface and is injured. The surface is damaged but has not failed. The surface may fail when the rescuer goes to assist the faller. This is a reasonably foreseeable loading which would have to be taken into consideration during the rescue operation.

APPLICATION (REG 3)

42 Regulation 3 places duties on employers, the self employed and any other person in control of work at height, to the extent of their control. This imposes duties on persons

carrying out work at height activities on their own site/premises but it also imposes duties on them in relation to workers under their control and the work equipment which may be sent to other sites/premises.

43 If workers and work equipment under the control of one person are sent to another person's premises or site, both persons need to co-operate so that the requirements of the Regulations are complied with.

44 The need to co-operate is important when multiple contractors are used. Arrangements should be formalised before work commences so that it is clear who is responsible for which aspects of work at height.

45 If a person provides work equipment for use at a site which the provider has no control over, the provider should still ensure that the work equipment complies with the WAHR. The user should then exercise control over its use on site and gather assurances from the provider that the work equipment complies in terms of inspection etc.

46 For example, when a scaffold hire company delivers the equipment to a premises and erects it on behalf of the user, the hire company must ensure that it is erected in accordance with the WAHR but the ongoing use and inspection issues will be under the control and responsibility of the user.

47 The Regulations do not apply to ship board activities under the direction of the master (providing it does not affect third parties). The WAHR would apply in ports where the activities affect third parties ie shore based workers, visitors etc and they will apply in ports and at sea for the Navy. (See OC 780/1 the Memorandum of Understanding between the HSE and the Department for Transport (DfT) for enforcement etc activities at the water margin and offshore).

48 Apart from Reg 11, the Regulations apply offshore to the same extent as the HSWA. Offshore legislation has an existing duty which covers Reg 11.

49 Regulations 4 to 16 do not apply to the paid provision of instruction or leadership to one or more persons engaged in caving or climbing by way of sport, recreation, team building or similar activities. Caving includes the exploration of mines and climbing includes natural or man made structures. SIM 05/2005/06 provides information on the dis-application of the WAHR to defined adventure activities.

50 Employed instructors or leaders for adventure activities when engaged in such activities with other persons are not covered by the WAHR. However, their activities will be covered by the HSWA and the Management of Health and Safety at Work Regulations 1999 (MHSWR).

51. Adventure activity providers will be required to comply with the WAHR for activities such as the maintenance of climbing walls, painting ceilings, changing light bulbs etc at activity centres.

52 The WAHR place duties on employers, self employed and others in control to prevent any person falling a distance liable to cause personal injury (Reg 6(3)) and to prevent injury to any person from the fall of material or objects (Reg 10). 'Any person' includes

members of the public. Duty holders need to ensure that matters under their control do not expose members of the public to a risk of a fall or being struck by falling objects.

53 Reg 3(3)(b) will not impose any duty on a private householder who is paying for a service eg having double glazing installed at their house because the householder does not have an undertaking, is not engaged in any work activity and does not exercise any control over the work. The issue is 'control' and in such a situation, a householder will have no control as they are a passive recipient of a service. The Regs would apply to the person installing the double glazing.

54 Under Reg 3(2) and 3(3)(a), the term 'person under his control, to the extent of his control', imposes a duty on an employer or self employed person to ensure the WAHR are complied with in relation to work at height activities, work equipment and persons who are, or should have been, under his control.

55 A technical definition of 'person under his control, to the extent of his control' means, **worker/s in his charge within the limit of his delegated authority.**

56 Under Reg 3(3)(b) the same duty is imposed on 'any person'. 'Any person' could include a landlord, property developer etc who has control over work at height but are not considered to be an employer or self employed. They must have an undertaking which means that the HSWA will apply to them. The extent of their control will not normally extend to them being responsible for the acts or omissions of any contractors they employ to perform work at height. It will however extend to them exercising control over the selection of contractors to ensure competent contractors are chosen to perform the work.

57 Questions relating to whether or not a person has duties under the WAHR should be addressed in the same way as they were before the commencement of these Regulations.

ORGANISATION AND PLANNING (REG. 4)

58 Many falls from height result from failures to organise and plan the work properly. Reg 4 requires duty holders to properly plan work at height and to ensure it is appropriately supervised so that it is carried out in a safe manner. A failure to adequately supervise work at height often results in plans not being followed.

59 Planning includes the selection of work equipment in accordance with Reg 7. Selecting inappropriate work equipment for a task is a common cause of falls from height.

60 Reg 4(2) requires duty holders to plan for emergencies and rescue. Effort should be in proportion to the risk and should cover reasonably foreseeable situations such as users stranded in equipment eg MEWPs or high bay order pickers and deployed fall arrest equipment. The duty holder needs to have plans in place to deal with such situations. Workers need to be trained in the procedures, together with any rescue equipment which may need to be used.

61 Duty holder's arrangements for emergency and rescue should not rely on the fire brigade. Duty holders create the risks so they should manage them. They should have their own arrangements in place to deal with emergency and rescue. Rescue kits are available and suppliers can provide training in their use so that in house equipment and

expertise can be provided. Reliance on the fire brigade will result in unnecessary delay which may be critical, eg in the event of suspension trauma as a result of a deployed fall arrest system. The fire brigade may not have the necessary equipment or expertise to effect a rescue safely.

62 Reg 4(3) requires duty holders to take into account the effects that the weather can have on work at height. Plans should be in place which recognise when conditions change to such an extent that work needs to be suspended because workers health or safety is at risk eg strong wind or lightning.

63 When considering weather conditions Reg 4(3), the Regulations are concerned with conditions which do not jeopardise the health or safety of person at work. Jeopardise means endanger the health or safety of workers (*detrimental affect*). If weather conditions pose a threat to health and safety, stop work, eg risk of being blown off or slipping off due to ice. On the other hand, exposure to rain and cold can be dealt with by PPE.

64 Organisation and planning should consider other environmental conditions which could affect health or safety eg working in high temperatures in a boiler room or exposure to flue gasses while working at height. Switching things off to allow a cool down would be reasonably practicable precautions in such circumstances.

65 Reg 4(4) exempts the Reg 4(3) requirement to the emergency services acting in an emergency, ie police, fire, ambulance or other emergency services. This exemption enables the work of the emergency services during the emergency or rescue phase to proceed.

66 The policy line is that all the Reg 4 duties should not hinder the work of the emergency services while they are working in the emergency rescue phase when life may be in danger or life saving is being attempted. The intention is not to hinder the speed or effectiveness of emergency services acting in this emergency phase but when this phase has passed, the Regulations will be expected to apply as normal.

67 Emergency services will be expected to have generic training and experience available to deal with risks associated with the emergency phase. They should also be able to use dynamic risk assessments to cope with changing circumstances.

68 There are important links between Reg 4 and other provisions in the WAHR because organisation and planning will involve an assessment of all the risks associated with work at height so that appropriate methods of work (including use of appropriate work equipment) are selected. There are links with Reg 6 (avoidance of risks from work at height), Reg 7 (selection of work equipment for work at height) and Reg 9 (fragile surfaces).

69 Effort should be in proportion to risk. Low risk, relatively straight forward tasks will require less effort. More complex tasks will require more effort in terms of the level of detail needed in a risk assessment. Briefing sessions may be necessary for more complex tasks to inform workers of requirements for safe systems of work.

70 All risks should be considered, not just the task itself. Organisation and planning should cover risks associated with setting up and dismantling a job as well as rescue. This is a specific requirement of Reg 7.

COMPETENCE (REG 5)

71 Employers should ensure that persons engaged in any activity in relation to work at height or work equipment for use in such work, are competent. 'Any activity', includes organisation and planning, supervision, and selection and use of work equipment.

72 Trainees or apprentices can work at height providing they are supervised by a competent person.

73 Competence is not defined in the WAHR. HSE has worked with industry to define competence and recommends the definitions in Appendix 8 in relation to what is required under Reg 5.

74 Duty holders should make the assessment of what constitutes competence for a particular task and should ensure that those with the relevant skills, knowledge and experience are employed to perform the task. In the case of some low risk activities, particularly those involving falls below head height, this may involve no more than ensuring the person is aware of the risk of a fall and can choose the correct equipment to perform the task.

75 More will be expected of managers and supervisors in terms of competence so that they can carry out their duties effectively.

76 Existing training and accreditation schemes drawn up by trade bodies and training bodies should be sufficient proof of competence for a given piece of work equipment.

AVOIDANCE OF RISK FROM WORK AT HEIGHT (REG 6)

77 Reg. 6 is at the heart of the WAHR. It sets out a hierarchy of measures to enable duty holders to select the most appropriate method of work in order to avoid or minimise risk associated with work at height. The first step is to carry out a risk assessment as required by Reg 3 of the MHSWR.

78 Consideration of the hierarchy is the key part of the risk assessment/decision making process on how to work safely. The hierarchy prompts a duty holder by asking them a set of questions as they decide how to work safely.

- (1) **Can they avoid the need to work at height? (Reg 6(2))** eg utilise long handled tools so work can be carried out from ground level, vacuum fill or mechanically fill equipment so persons do not have to perform the task at height, shrink wrap pallets at ground level so vehicles don't need to be sheeted at height etc.
- (2) **Can they prevent a fall? (Reg 6(3))**

- i By utilising or creating an existing place of work including a safe existing means of access and egress (Reg6(4)(a)). See para 15 Appendix 7 for a definition of an existing place of work.)

Or

- ii By utilising work equipment to prevent a fall (Reg6(4)(b) eg collective guard rails, scaffolds, tower scaffolds, MEWPs etc. or personal work restraint etc

(3) **Can they minimise the distance and/or consequences of a fall? (Reg 6(5(a))** eg utilise collective cradles, nets and airbags or personal fall arrest equipment such as work positioning, rope access etc.

(4) **Can they provide additional training and instruction or take other additional suitable and sufficient measures to prevent a fall? (Reg6(5)(b))** eg. Normal ladder or stepladder use will not ensure fall prevention or mitigation, however, if the user is given basic training and instruction in its safe use and this is combined with an inspection and maintenance regime, these constitutes other measures which can help to prevent a fall. Using lighting to delineate a stage edge or split level floor in a retail premise is another suitable and sufficient measure which reduces the risk of a fall.

79 Each level of the hierarchy is qualified by so far as is reasonably practicable (SFAIRP) so a duty holder has to consider avoidance before prevention and prevention before mitigation etc.

80 The hierarchy is goal setting and technology independent so it will be able to accommodate new technology as it develops.

81 The hierarchy gives structure to the thought processes for decision making. It is also closely linked with Reg 7 which sets out the principles for selecting work equipment for work at height. Reg 6 and 7 inform the risk assessment process by taking a duty holder through a set of questions which should prompt them to make the correct decisions when considering how to avoid or control risk when working at height.

82 Reg 6(3) is the **key duty** in the WAHR. Namely, 'every employer shall take suitable and sufficient measures to prevent, SFAIRP, any person falling a distance liable to cause personal injury'. Reg 6(3) will be the most commonly quoted breach in any enforcement action because it is the key duty to prevent any fall. The term 'any person' means persons at work and members of the public.

83 See Appendix 7 para 22 for a definition of appropriate ergonomic conditions in relation to the duty in Reg 6(4)(a).

84 Distance and consequences (Reg 6(5)(a)(i)) means, **the height of the fall and the effects of the fall on the human body**. In personal fall protection systems which utilise a body holding device connected to a reliable anchor, minimising the distance and consequences is best achieved by minimising the fall factor. (See para 25 in Appendix 5

part 4 for an explanation of fall factor) The correct application of the Regulations dictates that personal protective equipment is used in the best possible way.

85 Reg 6(5)(a)(ii) recognises that in some situations the consequences only of a fall can be minimised, eg stunt persons may not want the distance of a fall to be minimised for effect but they will want the consequences minimised.

86 Part 3 of the Inspector briefing presentation shows examples of the different levels in the hierarchy.

87 The table in Appendix 10 sets out the hierarchy and where various work equipment fits into it. The table also shows where collective measures should take priority over personal measures. The dotted line shows the sequence in which work equipment should be selected taking into account the principles of the hierarchy. The table can be used together with the principles in Reg 7 to assess whether a duty holder has selected an appropriate method of work. The table can also be used to inform enforcement decisions if the duty holder has overlooked work equipment further up the hierarchy which was reasonably practicable to use in the circumstances.

88 The bottom of the hierarchy Reg 6(5)(b) covers situations where work equipment does not prevent or mitigate a fall (eg ladders, kick stools, stilts used for plastering) and situations where it is not reasonably practicable to provide work equipment to prevent or mitigate a fall (eg guard rails on all railway platforms (painted line will suffice), guardrails for split level floors in retail premises (designating the change in level with lighting will suffice)).

89 Without prejudice to Reg 6(3), the provision of information, instruction and training, adequate supervision, safe systems of work, maintenance etc, are all means of ensuring adequate precautions to prevent a fall in relation to the duty at the bottom of the hierarchy. The provision of work equipment which neither prevents or mitigates a fall (eg lighting, painted lines, tape and or cones to designate and edge) is also a means of complying with this duty.

90 However a duty holder **must** be able to show that it was **not** reasonably practicable to have taken the measures advocated by Reg 6(2) to 6(5)(a) (avoidance, fall prevention, fall mitigation) before relying on additional training and instruction or taking other additional suitable and sufficient measures to prevent a fall liable to result in personal injury.

91 Difficulties can occur with heritage buildings where the application of fall protection (see Appendix 7 para 12 for a definition of fall protection) measures in the form of eg permanent guardrails on a roof edge to create an existing (safe) place of work, may conflict with the aesthetics of the building. Similarly, drilling anchors for fall protection into a buildings fabric may be unacceptable. This is a complex area and each case will need to be judged individually.

92 A risk assessment may be able to justify less visible fall prevention or mitigation measures for heritage cases. Pure aesthetic arguments for non heritage buildings will carry less weight in determining which part of the hierarchy and what type of permanent measures or work equipment to apply.

SELECTION OF WORK EQUIPMENT FOR WORK AT HEIGHT (REG 7)

93 When selecting work equipment for work at height, Reg 7(1)(a) requires a duty holder to give collective measures priority over personal measures - see Appendix 7 for a definition of collective and personal protection measures. In principle, this means that collective protection offered by MEWPs, scaffolding, guardrails etc should be given preference to personal fall protection systems such as work positioning, rope access and fall arrest. However it does not prohibit the use of the latter if it is the most appropriate work equipment given the nature of the work to be carried out.

94 When considering the nature of the work to be carried out, Reg 7(1)(b) lists a set of principles to be taken into account when selecting work equipment for a task. Together with the hierarchy discussed in para 78 above, these principles can be used in the duty holder's risk assessment to determine which work equipment is best suited for a particular job. These principles include the following.

- (1) **The working conditions.** Slopes, poor ground conditions, and obstructions will effect the choice of work equipment. A MEWP would be better suited to reach over slopes, poor ground or obstructions rather than using a tower scaffold, but both would need to be located on good ground. If a security camera had to be installed next to a fragile asbestos cement roof the installer should use a tower scaffold or MEWP to work safely from, rather than using a ladder to access the fragile surface to carry out the task.
- (2) **Distance to be negotiated for access and egress.** Ladders are less suitable for higher access especially if loads are being carried. Consideration should be given to the provision of stairs whether permanent or temporary for construction work.
- (3) **Distance and consequences of a fall.** A fall arrest system will be of no use if the deployment distance is greater than the available clearance. Nets fixed at or near the working level will entail less risk to the user in the event of a fall compared to fixing them below the working level. The risk of injury increases as the fall distance into nets and airbags increases.
- (4) **Duration and frequency of use.** Longer duration and higher frequency of use, generally justifies a better standard of fall protection eg a scaffold, tower scaffold or MEWP rather than a ladder or step ladder. However a ladder or stepladder may be acceptable for a short duration task eg replacing a light bulb. Building a tower scaffold or podium steps in such circumstances would not be reasonably practicable because the task itself takes only a few seconds to complete and it can be performed safely from a ladder or stepladder. However installing several rows of light bulbs or fluorescent strips in a false ceiling refurbishment may justify the use of a tower or podium due to the increase in frequency and duration of the task.
- (5) **Evacuation and rescue.** If rescue from a deployed fall arrest lanyard is going to be problematic, choose another method of fall protection such as work restraint.

- (6) **Additional risks posed by the use, installation or removal of the work equipment.** It may take four people to assemble a tower scaffold for access to a roof and install temporary edge protection on the roof whereas only one person, may be needed to carry out the repair task on the roof. Four people are put at risk so that one person can work safely. A far better scenario would be to use a MEWP for the one person to perform the same repair job safely without the need to put others at risk to set up and dismantle the job. This is the global approach to risk assessment, ie look at all the risks throughout the operation, not just those associated with the 'use' phase.

95 Collective protection measures should be given priority over personal protection measures because collective systems protect all persons at the working position eg the guard rails on a scaffold, mezzanine etc. They are less onerous in terms of training because they are passive systems which require no action on the part of the user to clip on or adjust etc. They are also less onerous in terms of inspection, maintenance and supervision. Even a minor defect or misuse of a personal system can have fatal consequences eg damaged lanyard or using equipment in a fall arrest situation which encompasses no energy absorbance. This can lead to potentially fatal forces being applied to a body during a fall.

96 Refer to Appendix 10 which shows the relative positions of collective versus personal systems in terms of the hierarchy. In selecting a personal system in preference to a collective one, a duty holder must be able to demonstrate that collective protection higher up the table was not reasonably practicable to the circumstances.

97 See para 37 for enforcement guidance on the dimensions of working platforms in relation to the requirements of Reg 7(2). Characteristics include appropriate ergonomic conditions so that workers do not have to overreach and are not constrained by the space afforded by the work equipment.

REQUIREMENTS FOR PARTICULAR WORK EQUIPMENT (REG 8)

98 This Regulation provides a link to the Schedules and increases enforcement options. It can be used to allege a breach if work equipment does not comply with its relevant Schedule.

99 For example, in the case of a tower scaffold missing sections of guardrails or with guardrails of insufficient dimension, a breach could be alleged using Reg 8(a) for non compliance with Schedule 2 which specifies the requirements for guard rails etc.

100 For a working platform with missing floor sections or having insufficient strength and rigidity for which it is being used, Regulation 8(b) could be used to pursue a breach for non compliance with Schedule 3 which specifies the requirements for working platforms.

101 Alternatively, Reg 6(3) could be used to cover the situations outlined above because in both situations a duty holder has not taken suitable and sufficient measures to prevent SFAIRP any person falling a distance liable to cause personal injury.

FRAGILE SURFACES (REG 9)

102 See paragraph 38 for a definition of a fragile surface. Falls through fragile surfaces account for, on average, 10 fatalities per year. This Regulation reflects the hierarchical approach imposed by Regulation 6.

- (1) **Avoid** the need to pass across or near, or work on, from or near a fragile surface when work can be carried out without doing so, (Reg 9(1)) eg by providing permanent access with fixed physical safeguards which avoid direct contact with fragile surfaces or work from underneath them using a MEWP or tower scaffold to repair eg a leaking skylight.
- (2) **Prevent a fall** by utilising platforms, coverings, guardrails and similar means of support or protection so that any foreseeable loading is supported. (Reg 9(2)(a))
- (3) **Minimise the distance and consequences of a fall** (mitigate) where the risk of a fall remains (Reg 9(2)(b)). This involves utilising work equipment such as nets and airbags (collective), then personal systems such as fall arrest.

103 Choice of methods of work and work equipment depends on factors such as duration, frequency of access, nature of the work ie the same principles covered in Regs 6 and 7. Where regular access is needed to a fragile roof for maintenance eg an aircon unit, suitable permanent access should be provided with fixed physical safeguards to in effect avoid the need to work on or pass across fragile surfaces. Where occasional access is required, the provision of work equipment could be justified eg a MEWP or other working platforms or coverings with guardrails, which prevent a fall or nets, fall arrest etc to mitigate a fall. Fall arrest should be the last resort in such circumstances.

104 If nets or personal fall arrest is chosen, suitable anchorage points, and sufficient height and clearance will be required underneath the fragile surface so that the ground or other structures are not hit before the protection has safely arrested the fall.

105 Prominent warning notices should be placed at approaches to fragile surfaces eg valley gutters. Where this is not reasonably practicable, persons should be made aware by other means eg permit to work systems.

106 The duty to affix warning signs is qualified by SFAIRP. This duty is carried over from the W(H,S&W)R. The duty to affix warning signs typically means affixing signs at access ways to fragile surfaces such as asbestos cement roofs, skylights etc. Notices should for example be attached to the peripheral wall of a warehouse which has an asbestos cement roof where access is foreseeable for circumstances such as maintenance or repair.

107 The duty to provide warning notices is not intended to cover the provision of temporary signs to cover actual work in progress unless a risk assessment determines a need for them.

108 The requirement to provide warning notices does not apply to the emergency services acting in an emergency. It is expected that emergency services training and generic risk assessment will make their employees aware of fragile surfaces.

109 The duties under this Regulation are qualified by SFAIRP so if it is not reasonably practicable to achieve 9(1) then the measures in 9(2) should be achieved with fall prevention being considered before fall mitigation ie a process of elimination.

110 The reverse onus created by Section 40 of the HSWA, means that, under any proceedings which are qualified by SFAIRP, it is up to the accused to prove that it was not reasonably practicable to do more than was in fact done to satisfy the duty. They must be able to demonstrate why it was not reasonably practicable to avoid work on or near a fragile surface if they adopted fall prevention measures instead. If fall mitigation measures were selected, they must be able to demonstrate that it was not reasonably practicable to achieve fall prevention.

111 There are important links with Reg 4 when considering work on or near fragile surfaces. Organisation and planning should consider factors such as ageing which can affect fragility. The loadings (eg work equipment and materials) as well as numbers of persons will also affect fragility. Fragile surfaces can be vertical as well as horizontal. Risks of falling against a vertical surface may also need to be considered.

FALLING OBJECTS (REG 10)

112 Reg 10(1) requires measures to be taken to prevent the fall of any material or object by keeping workplaces at height clear of loose material or objects SFAIRP ie make sure such objects are not present in the first place by practicing good house keeping etc.

113 Where it is not reasonably practicable to prevent the presence of material or objects a duty holder should prevent a person being struck by falling materials or objects (Reg 10(2)) by providing barriers, toe boards etc so that loose materials or objects do not roll off and are not inadvertently knocked off a place of work at height.

114 Reg 10(3) concerns the prevention of unplanned or uncontrolled throwing or tipping of materials or objects from height (commonly known as bombing). Hoists, rubbish chutes or cordoned off areas should be utilised to prevent injury. ie planned or controlled throwing or tipping.

115 Reg 10(4) requires materials and objects to be stored in such a way so that they do not collapse, overturn etc, eg ensure bricks, bales of paper etc are stored safely so that they do not constitute a risk.

116 As with the duty in Reg 6(3), the term 'any person' means persons at work and members of the public.

DANGER AREAS (REG 11)

117 Reg 6(3) preventing a person falling and Reg 10 preventing falling objects takes precedence over this requirement and should be achieved if reasonable practicable.

118 Reg 11 is a recognition that it is not always reasonably practicable to achieve this eg a tree undergoing arboriculture work, a building being inspected using rope access techniques, parts of a demolition site etc. In such circumstances a duty holder can

designate a danger area around or underneath such work so that persons not engaged in the work are prevented from entering the area.

119 'Devices preventing unauthorised persons from entering' (Reg11(a)(ii)) means, **physical barriers or means which prevent a person going beyond them**. This includes fencing but could also include cones and tape for short duration tasks. 'Clearly indicated' (Reg11(b)) means, **unambiguous marking or instruction which conveys it is dangerous to enter**, eg warning signs.

120 This Reg applies to 'any person at work', so for members of the public, HSWA Section 3 would have to be used.

INSPECTION OF WORK EQUIPMENT (REG 12)

121 See Appendix 9 (Guidance on Inspection of work equipment and checks on existing places of work at height) for guidance on inspection requirements under Reg 12. The table lists types of work equipment together with the required inspection intervals.

122 This Regulation applies only to work equipment to which Schedules 2 to 6 apply.

123 There is no general requirement in the WAHR for maintenance although it is mentioned as a requirement in Schedules 1 and 3 in relation to existing places of work and working platforms. Reg 5 of PUWER (Provision and Use of work Equipment Regulations 1998) will apply to maintenance issues involving work equipment used for work at height (except for issues covered by Schedules 1 and 3).

124 Suitable intervals between inspections which are quoted under Reg 12(3)(a) are determined on the basis of risk assessment. A competent person should determine the nature, frequency and extent of any inspection by considering factors such as the type of equipment, how and where it is used, its likelihood to deteriorate etc. If equipment is used in onerous outdoor conditions it may be appropriate to inspect it more regularly than something which is used indoors.

125 Factors requiring an inspection following exceptional circumstances liable to jeopardise the safety of work equipment (Reg 12(3)(b)), will typically involve situations such as exposure to adverse weather eg strong winds or being involved in a collision.

126 Inspection requirements in the WAHR are based on pre-existing duties. Important changes to note are that inspection requirements for work equipment used for work at height are now found in Reg 12 of the WAHR **not** Reg 6 of PUWER. This has been achieved by the amendment listed in Reg 17 of the WAHR.

127 The C(H,S&W)R inspection requirements in relation to work equipment used for work at height are now found in Reg 12 of the WAHR.

128 The Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) will continue to apply to work equipment which was inspected under LOLER before the WAHR came into place. (Reg 9 and 10 of LOLER will continue to apply to such equipment). A thorough examination made under LOLER Reg 9 and report made under Reg 10 of LOLER will be treated as an inspection and record for the purpose of the WAHR.

129 LOLER applies to work equipment used for work positioning and rope access.

130 In accordance with Reg 12(10) an inspection means a visual or more rigorous inspection by a competent person as is appropriate for safety purposes and includes any testing appropriate for those purposes.

131 Reg 12(4) requires a working platform used for construction work and from which a person could fall 2 metres or more to not be used in any position unless it has been inspected within the previous 7 days. This applies to mobile and non mobile working platforms used in construction. Schedule 7 of the WAHR lists the particulars to be included in a report of an inspection. (See Reg 2 for a definition of 'Construction Work').

132 The last 'or' in Reg 12(4) is for distinguishing the two alternative places of inspection depending on whether the working platform is mobile or not. The last 'or' is not qualifying or affecting 'within the previous 7 days'. The words 'within the previous 7 days' qualify all the inspection requirements of Reg 12(4). So, whether the working platform is fixed (eg a scaffold around a building) or mobile (eg a MEWP or scaffold tower), it should be inspected in its position or on site (in the case of a mobile platform), within the previous 7 days prior to use.

133 All other work equipment should be inspected at intervals determined by Reg 12(3). This includes work equipment used for work at height which is not covered by Reg 12(4) eg non construction working platforms, PPE etc.

134 The person carrying out the Reg 12(4) inspection requirement shall, before the end of the working period, prepare a report containing the details set out in Schedule 7 and within 24 hours, provide a copy of the report to the person on whose behalf it was carried out. The recipient should keep it at the site until the construction work is complete and thereafter for 3 months.

135 In practice a tower scaffold could have a tag attached to it which includes the particulars of the 7 day inspection (Schedule 7 of the WAHR). By being physically attached to the tower this constitutes 'providing the report' to the person on whose behalf it was carried out providing it is brought to their attention. The repeat 7 day record can also be included within the tag system. Keeping copies of the tags for 3 months will constitute compliance also.

136 In Reg 12(2) 'installed' means **put into position** and 'assembled' means **put together**. 'Installed or assembled' and 'installation or assembly' in the context of Reg 12(2) does not mean an inspection is needed every time a MEWP or ladder is moved on site or a lanyard is clipped onto at a different point. It does not apply to a tower scaffold being moved from one point to another unless it has been disassembled and then reassembled.

See paras 55-59 of OC 200/30 for guidance on inspection requirements for ladders.

137 A record of inspections recorded under Reg 12(3) should be kept until the next inspection is recorded.

138 Reg 12(5) requires every employer to ensure work equipment does not leave his undertaking for use elsewhere or is obtained from elsewhere for use in his undertaking without physical evidence that the last inspection required under the WAHR has been carried out. 'Physical evidence' means **documented proof** eg a tag, label or sheet. For equipment inspected under LOLER, Reg 9(4) of LOLER suffices as it is the same duty.

INSPECTION OF PLACES OF WORK AT HEIGHT (REG 13)

139 This Regulation applies to the checking of the surface and every parapet, permanent rail or other such fall protection measures of every place of work at height on each occasion before it is used.

140 Inspection of work equipment whether collective or personal is covered by inspection requirements under Reg 12. Fall prevention measures provided at existing places of work (Schedule 1) are covered by Reg 13.

141 The requirement involves checking existing places of work at height including means of access or egress. Duty holders should check for obvious defects such as corroded or damaged/missing guardrails, holes in floors etc.

142 In practical terms, this requirement covers the checking of places of work at height such as roofs, plant, tanks, silos or equipment and other places with existing permanent fall protection measures in place. Prior to use, they should be checked for obvious defects which could increase the risk of a fall. Often such places are not accessed very often and are subject to the elements, hence the need to carry out a check.

143 The duty in Reg 13 is to carry out a 'check' not an 'inspection'. This distinguishes it from a duty under Reg 12. Reg 13 is not about a detailed inspection but rather a visual check to ensure the place of work is sound.

144 There is no requirement to record a check under Reg 13 or to retain any record of a check. It is there to encourage common sense and good practice.

145 Carrying out the check is qualified by SFAIRP. It is recognised that it is not always reasonably practicable to carry out a check beforehand eg work of the emergency services. Similarly this Regulation does not require a check every time a person accesses a mezzanine floor. A check at the beginning of a working period would be more appropriate where there are gateways or other moveable/removable elements on a mezzanine floor.

146 For most buildings the persons carrying out the checks do not have to be structural engineers but they do need to be sufficiently competent to spot defects or problems that would require further investigation. They are looking for obvious defects such as corroded or damaged fall protection measures or missing steps in access stairs or holes in the floor. A structural survey and appraisal may be necessary only if the check reveals conditions which may warrant further investigation.

DUTIES OF PERSONS AT WORK (REG 14)

147 Every person working under the control of another person should report any activity or defect relating to work at height which he knows (through information, instruction and training) is likely to endanger the safety of themselves or other persons.

148 Persons should also use work equipment etc in accordance with any training and instructions received from the employer.

149 Work at height can be a high risk activity, it is therefore important that all people at work cooperate to achieve safety in performing work at height. The WAHR have included duties here which reflect those already existing in Reg 14 of the MHSWR and Section 7 of the HSWA.

150 Once a defect has been reported, the duty holder should make an assessment and decide whether any corrective action is required under the WAHR or any of the relevant statutory provisions.

EXEMPTIONS, AMENDMENTS, REPEALS AND REVOCATIONS (REG 15-19)

151 Regulation 15 and 16 cover exemptions and are self explanatory. See para 126 for information regarding Regulation 17.

152 Regulation 18 repeals Section 24 of the Factories Act 1961 which covered teagle openings and similar doorways. These requirements are now covered by Schedule 2 paragraph 5(2) and (3).

153 Regulation 19 refers to Schedule 8 which lists revoked instruments.

APPENDIX 1

SCHEDULE 1 REQUIREMENTS FOR EXISTING PLACES OF WORK AND MEANS OF ACCESS OR EGRESS AT HEIGHT

- 1 This Schedule lists the requirements for every existing place of work. See para 15 of Appendix 7 for a definition of an existing place of work.
- 2 Schedule 1 should be used to make a judgement as to whether an existing place of work is in fact safe and can be used for carrying out work at height without the need for work equipment because it has existing fall prevention measures in place or it is 'safe by position', see para 18 of Appendix 7.
- 3 'Suitable and sufficient means for preventing a fall' (para (d)) as well as guard rails, parapets etc, can also include being 'safe by position' eg in the middle of a large flat roof at a sufficient distance from an unguarded edge so that no risk of a fall exists. See para 18 of Appendix 7.
- 4 An existing place of work is used within the hierarchy in Reg 6 as a means of achieving fall prevention.
- 5 An existing place of work should comply with paragraphs (a) to (g) listed in Schedule 1.
- 6 If part or all of the fall prevention measures are removed ie guardrails or parapets, or holes are placed in the floor, then the place of work will no longer be an existing safe place of work because it is not complying with Schedule 1. In such circumstances it should be treated as a working platform and fall prevention or mitigation measures should be applied to it using work equipment or any combination of it specified by Schedules 2 to 6.

APPENDIX 2

SCHEDULE 2 REQUIREMENTS FOR GUARDRAILS, TOE BOARDS, BARRIERS AND SIMILAR COLLECTIVE MEANS OF PROTECTION

1 Schedule 2 covers work equipment which provides collective fall prevention. Schedule 4 deal with collective fall mitigation measures. See para 26 of Appendix 7 for a definition of collective protection measures.

2 The Schedule includes some prescriptive standards in relation to work at height in construction. The top guard rail in construction should be at least 950 mm and an intermediate guard rail or similar means of protection should be positioned so that any gap between it and other means of protection does not exceed 470 mm. The increase to 950 mm from 910 mm reflects the fact that the height of the average person has increased since the figure of 910 mm was first set in legislation. The increase also reflects the current European standard of 1000mm plus or minus 50mm.

3 There is no prescriptive minimum height for toe boards in construction (or non construction). Toe boards should be suitable and sufficient to prevent the fall of persons or objects. The policy line is that 100 mm is an acceptable minimum height.

4 The word 'any' in para 3(c) signifies that an intermediate guard rail may not always be the means by which no gap greater than 470 mm is achieved in means of protection. There are other means of ensuring no gap greater than 470 mm exists eg the use of barriers, board in fills and suitable nets used as edge protection. Orange high visibility netting is not suitable even as a brick guard. The word 'any' therefore does not mean that an intermediate guardrail is optional. In most situations however in construction, intermediate guardrails will be the means by which 3(c) is achieved.

5 It may be acceptable where construction work is carried out at an existing place of work for existing fixed guardrails to be lower than 950 mm, eg work on a gas holder, tank or piece of plant which has fixed existing guardrails at 910 mm. The expectation would not be to require 40 mm extensions to be applied to existing handrails for the course of the construction work providing the risk assessment could justify this.

6 Where guardrails are chosen as the means of protection, they **should** comply with para 2 and 3. However for falls below head height, decisions regarding means of protection will need to be risk based. There are no easy prescriptive answers.

7 A guard rail, mid rail and toe board for a 1 metre high working platform may be justified as being unnecessary on the basis of risk assessment, ie low risk of injury from a fall because the work is above a surface that is free from sharp edges and there is no need to work with your back to an edge and the work is of relatively short duration.

8 The nature of the work will influence decision making, eg a long term job with many trades who can work with their backs to and edge with sharp surfaces below, may warrant protection ie top guard rail, mid and toe boards for work below head height.

9 For non-construction work, there are no prescriptive dimensions. Means of protection eg guardrails, toe boards, barriers and other collective means of protection shall be of

sufficient dimension for the purposes for which they are being used. Sufficient dimension means **of a size which ensures that a person cannot fall through or over it.**

10 For buildings, factories, warehouses, offices, public buildings, retail premises etc sufficient dimensions for guard rails or similar barriers will be achieved by complying with the Building Regulations which require 1100mm. This maintains the standard which was in the revoked ACOP to Reg 13 of the (W(H,S&W)R).

11 For plant, machinery, equipment etc sufficient dimension will be achieved by compliance with any relevant EN standard (eg BS EN 14122-3:2001 which covers the safety of machinery access and specifies a top guard rail of 1100mm) or the Supply of Machinery Safety Regulations 1992 (SMSR) Essential Health and Safety Requirements (EHSR) which specifies, 'designed and constructed to avoid falls.'

12 The policy line is that in the absence of any standards, guard rail heights in non-construction should be a minimum of 950 mm. Any protection below this height should be justified on the basis of risk assessment. Similarly any fixed guard rails below 950 mm at the commencement of the WAHR can be justified on the basis of risk assessment. If they were deemed safe before the commencement of the Regs, there may be no justification for raising their height.

13 Para 5(1) allows for a lateral opening in means of protection at a point of access to a ladder or stairway. 5(2) allows means of protection to be removed eg to allow goods to be landed. However 5(3) requires effective compensatory safety measures to be in place when means of protection are removed.

14 In the context of para 5(3) compensatory safety measures can be personal measures such as work restraint or personal fall arrest as it is acknowledged that the collective means of protection have been removed. However in the context of Reg 7 (1)(a), collective measures should be given priority over personal so collective safety barriers should be considered in terms of goods landing and retrieval.

APPENDIX 3

SCHEDULE 3 REQUIREMENTS FOR WORKING PLATFORMS

PART 1

REQUIREMENTS FOR ALL WORKING PLATFORMS

- 1 Part 1 sets out the requirements for all working platforms in terms of condition of surface, stability, dimension and loading.
- 2 There is no prescriptive dimension for the minimum width of working platforms. ((C(H,S&W)R) quoted 600 mm). The policy line is to maintain a 600 mm minimum width unless there is a need for a smaller width which can be justified by a risk assessment. (See para 37).
- 3 Working platforms can be guarded or unguarded providing they are a suitable surface to work from. See para 29 - 36 for a definition of a working platform. A guarded working platform will need to comply with Schedule 2 in that it will require collective fall protection eg guard rails, barriers etc which will prevent a fall of persons or materials.
- 4 An unguarded working platform will need to comply with Schedule 4 or 5 depending on what means of protection are reasonably practicable to the circumstances. Unless the risk assessment can justify that no fall protection is necessary, see Appendix 2, para 7.
- 5 Para 3 and 4 above explain why Schedule 3 contains no requirement for collective fall prevention because collective fall prevention is not always the reasonably practicable precaution in relation to working platforms. Schedule 3 therefore should not be read in isolation when considering protection for working platforms used for work at height.
- 6 'Appropriate devices' in para 3(b) means **a component or set of components which generate sufficient resistance to prevent the wheels turning.**
- 7 'Effective anti slip device' in para 3(c) means **(in the context of working platforms, not ladders) a component or set of components which is designed to hold the load bearing component, it is associated with, in position either by friction or other means.**

PART 2

ADDITIONAL REQUIREMENTS FOR SCAFFOLDING

- 8 This section covers the requirements for scaffolding used in construction and non-construction applications such as grandstands, stages and lighting towers for events and concerts etc.
- 9 Several of the terms used in this part are derived from the Directive and are not defined in the Regs. See paras 38 to 43 in App 7 for definitions.

10 The term scaffolding is not given a technical definition because there are a variety of types and applications. There is also potential for technological changes which could make any definition obsolete. For guidance, a scaffold means, 'A **temporary construction which provides a safe place of work including access and egress. It can also be used to support materials plant or equipment**'.

11 See para 2 above for details of minimum dimensions for scaffold platforms.

APPENDIX 4

SCHEDULE 4 REQUIREMENTS FOR COLLECTIVE SAFEGUARDS FOR ARRESTING FALLS

- 1 This Schedule covers the requirements for work equipment such as nets and airbags which provide collective protection to mitigate the effects of a fall. These requirements are based on existing good practice.
- 2 In terms of the hierarchy in Regulation 6, they should be considered only if fall prevention work equipment is not reasonably practicable. The risk assessment should demonstrate that the work can be carried out safely using collective mitigation measures.
- 3 The Schedule also makes reference to the need to have sufficient persons available who have received adequate training specific to the safeguard including rescue procedures. This does not mean the net installer has to be present all the time the system is in use. It means sufficiently trained person/s are present on site so they can detect any deterioration which requires remedial action and they have the necessary knowledge to carry out a rescue.
- 4 Other important requirements include the use of suitable anchors to secure a safeguard so that it is capable of supporting any foreseeable loadings in arresting a fall and during subsequent rescue.
- 5 A sufficient clearance should be provided so that a person does not hit the ground or an obstruction as the net deflects. 'Sufficient Clearance' (Schedule 4 para 4(c)) means, '**An uninterrupted space of sufficient dimensions which allows the safeguard to deflect or distort as required by its design without coming into contact with items liable to injure the person whose fall is being arrested**'.
- 6 Nets and airbags should be placed as close as possible to the working platform to restrict the fall height and thereby reduce the likelihood of injury. This does not prohibit nets and airbags being positioned lower, however the greater fall height will have to be justified on the basis of risk assessment. Consulting the manufacturer will be an important part of the risk assessment process.

APPENDIX 5

SCHEDULE 5 REQUIREMENTS FOR PERSONAL FALL PROTECTION SYSTEMS (PFPS)

PART 1

REQUIREMENTS FOR ALL PERSONAL FALL PROTECTION SYSTEMS

- 1 Part 5 of the inspector briefing presentations on the Regulations contain pictures and illustrations of the various PFPS.
- 2 PFPS and techniques covered by this term are defined in para 1 to 10 of Appendix 7.
- 3 All PFPS need to comply with Part 1. They can be used only if the risk assessment can demonstrate that work can be carried out safely using PFPS and the use of other safer work equipment is not reasonably practicable. The use of the table in Appendix 10 can help the duty holder determine whether safer work equipment is reasonably practicable for a given task.
- 4 Users of PFPS should be sufficiently trained in the use of such equipment including rescue. Training becomes even more important for personal systems because any misapplication of the equipment or failure to detect damage can result in fatal consequences. See para 95 for more information on the merits of collective v personal protection.
- 5 Para 2 to 4 address detailed requirements for all PFPS. The term ‘...prevent uncontrolled or unplanned movement...’ in para 2(e) means **fail to safe** eg. releasing your grip on a rope escape ascender should result in it stopping.
- 6 Individual components of a PFPS include the harness, lanyard, ropes etc. Which Parts of Schedule 5 to apply, depends on how the equipment is actually being used ie its **functionality**, eg an energy absorbent lanyard can be used for work restraint providing the user cannot get into a position from which a fall can occur. A harness or rope can be used for work positioning or rope access.
- 7 Although the terms found under the heading PFPS have been defined in Appendix 7, the following paras contain some fundamental principles which should help duty holders distinguish between the various subheadings so that they understand which parts of Schedule 5 apply to a particular circumstance.

PART 5

ADDITIONAL REQUIREMENTS FOR WORK RESTRAINT SYSTEMS

- 8 Work restraint is a personal fall prevention system so it features higher up the Reg 6 hierarchy than personal fall mitigation systems which are covered by parts 2 to 4. This is why it is being addressed before parts 2 to 4. (See appendix 10)

9 See Appendix 7 para 5 for a definition of Work Restraint. A fundamental principle that distinguishes a work restraint system is that the user **cannot reach a position from which they can fall**. This is a requirement of Part 5. If the user is able to fall it is fundamentally not work restraint. (Terms such as fall restraint are incorrect, the correct term is work restraint).

10 A fall arrest lanyard can be used for work restraint providing the length does not allow a user to reach a position from where a fall can occur. Similarly adjustable lanyards can be used providing the workers use them correctly in accordance with their training and their use is appropriately supervised.

PART 2

ADDITIONAL REQUIREMENTS FOR WORK POSITIONING SYSTEMS

11 See Appendix 7 para 6 for a definition of Work Positioning. A fundamental principle which distinguishes work positioning from work restraint is that in work positioning the user relies on the system for **support** to maintain a work position, eg pole working or work on a steep incline.

12 The easy way to distinguish between the two is to imagine a user on a flat surface using work restraint. Imagine the surface is then inclined to approximately 22° (to the horizontal) (17° if the surface is wet). The user will then require support from the system to maintain their position so the system becomes work positioning. In such circumstance the user will be in tension. Work positioning also applies to someone in suspension.

13 Schedule 5 part 1 and 2 will apply. This requires a back up system for preventing a fall. This can include the use of a single line on a sloping surface with edge protection or peripheral netting as a back up. It can also include a second line as a back up providing the user is connected to it.

14 The back up can be omitted if it is not reasonably practicable to provide one, as long as all practicable measures are taken to prevent equipment failure and the line being cut, ie increase factors of safety.

PART 3

ADDITIONAL REQUIREMENTS FOR ROPE ACCESS AND POSITIONING TECHNIQUES

15 See Appendix 7 para 8 for a definition of Rope Access. A fundamental principle which distinguishes work positioning (when a rope is used) from rope access is that during work positioning, the rope moves with the user. If the rope remains **stationary**, and the user moves along it using their own effort then the functionality will be rope access and Part 3 will apply in addition to Part 1.

16 Part 3 requires rope access to have two separately anchored lines of which one is the working line and the other the safety line.

17 The system may comprise of a single rope only under circumstances where it can be demonstrated that the use of a second line will entail higher risk, eg during rescue where the deployment of a second line would introduce delay or entanglement risk, eg water rescue or helicopter rescue. Similarly rope borne deployment of police or military personnel may be hampered by the presence of a second line.

18 There are therefore only a few exceptional circumstances where the use of a single line can be justified for rope access techniques.

19 The technical definition of ‘...a mobile fall protection system...’ (Schedule 5 Part 3 Para 1(d)) is, **a moveable device which provides fall to safe fall protection (in the event of the working line support system failing) which follows or is moved with the worker during any task they perform.**

20 The technical definition of ‘...ergonomic constraints...’ (Schedule 5 Part 3 para 2) is, **limitations within the workplace which prevent a person from adopting the correct working position or posture for the work being undertaken.**

PART 4

ADDITIONAL REQUIREMENTS FOR FALL ARREST SYSTEMS

21 See Appendix 7 para 9 for a definition of Fall Arrest. A fundamental principle which distinguishes fall arrest from work restraint is that the user will be in a position from which a fall **can** occur.

22 If a fall is possible then Part 4 will apply in addition to Part 1. Part 4 requires energy absorption within the system to limit the forces on the users body in the event of a fall.

23 Part 4 also requires there to be no sharp edges over which a deployed system could be cut and there is sufficient clearance zone to allow the system to be deployed safely.

24 Fall factor is an important consideration with fall arrest. The fall factor should be minimised so that the fall distances and associated risk of injury from a fall and risk of equipment failure are minimised during the deployment of a fall arrest system.

25 Fall factor is the height of a fall divided by the length of the connection between the body holding device and the reliable anchor. Normally this will be the height of the fall divided by the length of the lanyard.

26 An anchor located above a user’s head will limit the fall height, whereas one anchored at the users foot will be increasing the fall height and fall factor, therefore a higher anchor is preferred.

27 This is an important consideration when using EN360 inertia reel devices. Most inertia reels are not designed to cope with the forces generated if they are anchored at foot level as the fall factor will be greater than that to which the unit has been tested. Foot level anchorage can also mean potential deployment over a sharp edge resulting in an increased risk of failure.

APPENDIX 6

SCHEDULE 6 REQUIREMENTS FOR LADDERS

- 1 The requirements of this schedule are covered by OC 200/30 'Safe Use of Ladders and Stepladders'.
- 2 The term 'Effective anti slip or other effective stability device' (para 5(b)) means, **anything that passes the test detailed in Contract Research Report 423/2002 and Research Report 205**. See above OC for more information.
- 3 The definition of ladders includes step ladders and fixed ladders.
- 4 If a fixed ladder is visibly damaged or otherwise defective, a breach under Regulation 6(3) can be alleged because the duty holder has not taken suitable and sufficient measures to prevent SFAIRP any person falling a distance liable to cause personal injury. In this case suitable and sufficient measures would be a failure to inspect and maintain. Alternatively Reg 5 of (W(H,S&W)R) could be used.
- 5 This approach will remove the difficulty associated with using Reg 5 of the PUWER or Reg 12(3) of the WAHR because a fixed ladder is not deemed to be work equipment.

APPENDIX 7

DEFINITIONS

The following terms and concepts are used in the Regulations but are not defined. This appendix includes the technical definitions and guidance which have been agreed within HSE to ensure consistency of meaning when certain specific technical terms and certain concepts are used.

Personal Fall Protection System (PFPS) (Reg 2 and Schedule 5)

1 This term is defined in Reg 2 but only in relation to a list of other terms which are themselves defined in paras 3 to 10 below. The definition in Reg 2 does not include a meaning but the term PFPS effectively encompasses anything that is non collective by its nature. (See para 26 below for a definition of Collective Protection Measures)

2 Technical definition. 'An assembly of components or equipment to protect the individual whilst working at height (including gaining access/egress from the working position).'

Personal Fall Prevention System (Reg 2 and Schedule 5 Part 1)

3 Technical definition. 'A PFPS not using a body holding device (harness) connected to an anchor, by which a person is prevented from reaching zones where the risk of a fall exists'.

4 An example is a valley gutter frame walker.

Work Restraint System (Reg 2 and Schedule 5 Part 1 and 5)

5 Technical definition. 'A PFPS which uses a body holding device connected to a reliable anchor to prevent a person from reaching zones where the risk of a fall exists.'

Work Positioning System (Reg 2 and Schedule 5 Part 1 and 2)

6 Technical definition. 'A PFPS which normally includes a body holding device connected to a reliable anchor to support the user in tension or suspension in such a way that a fall is prevented or restricted'.

Rope Access System (Reg 2 and Schedule 5 Part 1 and 3)

7 This term is explicitly listed in the Regs as rope access and positioning techniques.

8 Technical definition. 'A PFPS using two lines (or ropes), each positionally static and separately secured to reliable anchors, one equipped with a body holding device acting as the primary means of support and the other equipped to act as a safety back up to arrest and restrict the fall in the event of the primary support failing.'

Fall Arrest System (Reg 2 and Schedule 5 Part 1 and 4)

9 Technical definition. 'A PFPS which uses a body holding device connected to a reliable anchor to arrest and restrict a fall so as to prevent the collision of the user with the ground or structures whilst limiting the forces on the body.'

Rescue System (Reg 2 and Schedule 5 Part 1)

10 Technical definition. 'A PFPS by which a person can carry out a rescue, rescue themselves, or be rescued from a height or depth by, pulling, lifting, lowering or self ascent/descent.'

Fall Protection

11 The term fall protection is not actually used or defined in the Regulations other than in relation to personal systems but it is embodied and central to the hierarchy in Reg 6.

12 Technical definition. 'A work equipment system or an existing feature which provides either fall prevention or fall arrest.'

13 Fall protection includes collective and personal measures.

Existing Place of Work (Reg 6(4) and Schedule 1)

14 This is a term used in the Reg 6 hierarchy in the context of ensuring fall prevention when working at height. The requirements for an existing place of work are covered by Schedule 1.

15 Technical definition. 'Any existing permanent place of work including access route or any temporary place of work including access route or working position (excluding any actually provided by temporary work equipment) which does not require the use or addition of any temporary work equipment to prevent a fall from height occurring.'

16 An existing safe place of work will usually (see para 18) have existing (permanent) fall prevention measures such as guard rails or a parapet. The key concept is that nothing else will have to be done to make it safe because the fall prevention measures are already in place. A duty holder can make an assessment that work at height can be carried out safely by utilising an existing place of work which has existing fall prevention measures in place.

17 The roof of a building or a mezzanine floor can be a safe existing place of work if they have permanent guardrails or parapets in place. A piece of permanent plant or equipment can be a safe existing place of work if it has guardrails eg the top of a silo or tank.

18 An existing place of work could also be a place of work which is safe by position. eg an access way enters onto the middle of a roof where the roof edge is 20 linear metres away. If the work involves painting the door frame of the access way, then this constitutes a safe existing place of work because there is no risk of a fall at the work position. However if the work approaches an edge or fragile skylight (distance to be determined by risk assessment but no less than 3 metres), then this will no longer constitute a safe existing place of work because work equipment will be required to prevent or mitigate a fall.

19 In order to justify declaring the situation discussed in para 18 as an existing safe place of work, the duty holder **must** ensure that:

- (1) Access is controlled
- (2) There is no need to approach within at least 3 metres of the edge
- (3) There is no slope that workers could roll or slide down and over the edge
- (4) Only workers who are fully briefed and competent are allowed to access this area (this may involve the use of permit-to-work systems)
- (5) Appropriate levels of supervision are provided to ensure that the precautions are being adhered to.

20 If any of these elements are missing or there is evidence that the measures are ineffective, this would be unacceptable and fall protection measures would be needed.

21 The use of a permanently installed fall protection system incorporating safety lines on a roof in the absence of guard rails or a parapet will not constitute a safe existing place of work because the individuals have to bring with them and use work equipment in the form of harnesses and lanyards to make the work safe.

Appropriate Ergonomic Conditions (Reg 6(4) and Reg 9(1))

22 This term is used in association with an existing place of work in Reg 6(4) and in Regulation 9(1) which deals with fragile surfaces.

23 Technical definition. 'Suitable arrangements of the workplace which allow the person to adopt the correct working position or posture for the work in hand.'

24 This means that the work position should have characteristics including dimensions which are appropriate to the nature of the work being carried out. The work position should allow the person at work to adopt the correct work position or posture for the work in hand so that there is no undue stretching or overreaching. The work position should also be of sufficient dimension to allow passage without risk. (See para 37)

Collective Protection Measures (Reg 7)

25 This term appears in Reg 7 which is concerned with the selection of work equipment.

26 Technical definition. 'An assembly of components or equipment which provides fall protection for all persons working at a position, without requiring any action on their part to be effective.'

27 A fundamental principle is that collective protection measures constitute passive fall protection which does not require any adjustment, alteration or operation after installation, by any user to work properly.

28 Examples of collective fall prevention include guardrails, mezzanine safety barriers, multi user MEWPs, scaffolds, tower scaffolds etc. Examples of collective fall mitigation measures include nets and airbags.

29 Collective measures protect all at risk at a work area and they are less onerous in terms of training for users, inspection, maintenance and supervision.

30 Schedule 2 covers requirements for collective fall prevention and Schedule 4 covers requirements for collective fall arrest.

Personal Protection Measures (Reg 7)

31 This term also appears in Reg 7 which is concerned with the selection of work equipment. Reg 7 dictates that when selecting work equipment, collective systems should be considered before personal systems.

32 Technical definition. 'An assembly of components or equipment which provides fall protection for an individual (or collection of individuals) which require some action on their part to be effective.'

33 A fundamental principle is that personal protection measures require active intervention on the part of the user to work properly eg a lanyard and a harness requires clipping on, adjusting etc.

34 Examples of personal fall protection which stop a person from falling include personal fall prevention systems and work restraint. Examples of personal fall mitigation include work positioning, rope access, fall arrest and rescue systems. These terms are defined in paras 6-13 above.

35 Personal protection measures protect only the user and are more onerous in terms of training, inspection and maintenance.

36 Schedule 5 covers requirements for personal fall protection systems.

37 A multi user standing line system incorporating fall arrest, work positioning or work restraint will always be a personal (active) system because each individual has to clip onto the system for it to be effective. So it is not a collective (passive) system.

Strength and Stability Calculations (Schedule 3 para 7)

38 Technical definition. 'Detailed documented process which demonstrates that a scaffold has sufficient load bearing capacity and positional fixity'

A Note of Calculations (Schedule 3 para 7(a))

39 Technical definition. 'A summary of results (conclusions) including working drawings from a set of strength and stability calculations'

Generally Recognised Standard Configuration (Schedule 3 para 7(b))

40 Technical definition. 'An arrangement of scaffold components which has been shown either by strength and stability calculations or by custom and practice, to be fit for purpose for its intended use'

Complexity of the Scaffold (Schedule 3 para 8)

41 Technical definition. 'The degree of divergence from a generally recognised standard configuration'

Standard Plan (Schedule 3 para 8)

42 Technical definition. 'Generic sequence of operations' requires use to be considered so the client needs to be involved at the planning stage so that loadings etc can be determined.

'...altered only under the supervision of a competent person...' (Schedule 3 para 12)

43 Technical definition. 'Anywhere where the results of the alteration would have an impact on the safety of the structure or the persons working on it'

APPENDIX 8

COMPETENCE

1 Competence is not defined in the Regulations.

2 Approximately 3 million people work at height in the UK. Some are regarded as specialists who use equipment such as MEWPs, personal fall protection systems or are involved with erecting temporary edge protection, scaffolding, tower scaffolds, nets etc. Others regularly work at height utilising equipment set up by others. For such people, most if not all of the requirements listed in para 5 and 6 will be required.

3 However, it is recognised that for a lot of people work at height will be incidental to their main job eg librarians using a kick stool to retrieve books or a shop assistant retrieving stock using a stepladder. For such simple tasks only some of the elements listed in para 5 and 6 will be relevant. In its simplest form, competence for these incidental, occasional or low risk tasks, should involve a person having,

- (1) an awareness of the risks
- (2) appropriate access equipment available
- (3) knowledge of how to use the access equipment safely
- (4) knowledge of how to spot defects in the equipment
- (5) knowledge of who to speak to if they have any concerns regarding to (d).

4 Bearing in mind the proportionality issues discussed in paras 2 and 3 above, the following basic definition can be used.

5 **A competent person** is a person who can demonstrate that they have sufficient professional or technical training, knowledge, actual experience, and authority to enable them to,

- (1) carry out their assigned duties at the level of responsibility allocated to them,
- (2) understand any potential hazards related to the work (or equipment) under consideration,
- (3) detect any technical defects or omissions in that work (or equipment), recognise any implications for health and safety caused by those defects or omissions, and be able to specify a remedial action to mitigate those implications.

'authority' means delegated authority to the individual by their employer to carry out a certain function or duty.

6 The wording of the basic definition in para 5 has been adopted and included in a number of British Standards and industry documents. The definition may be used in practice by stating what it implies for any given situation or activity.

The following is an example of its application.

ACWAHT (Advisory Committee for Work at Height Training) have agreed that for an individual to be “competent to work at height” the definition given above implies the following.

- (1) To know and understand the specific legal duties under the Work at Height Regulations which apply to them as an individual.
- (2) To understand who controls their activity and the lines of communication to use.
- (3) To understand the principles of fall protection that the Work at Height Regulations requires to be used.
- (4) To be able to recognise safe and unsafe situations/activities.
- (5) To understand how to deal with the hazards associated with the task allocated to them.
- (6) To have adequate training in the correct use and limitations of any work equipment allocated to them for the task.
- (7) To understand the need for and the ability to check the adequacy of the safety equipment allocated to them.
- (8) If that equipment has been issued to them on a personal basis an understanding of the correct procedure for storage and maintenance and inspection.
- (9) To understand safe procedures of work and be able to state the correct procedure for the task, the emergency (including rescue) procedures in place for the work and their role in it.
- (10) To know the procedure for reporting any defects, hazards or unsafe procedures they detect.

Note: Similar industry groups are working currently to define the attributes that the basic definition implies for their activities. Used in this way, HSE believes that competence for any given task/role can be assessed by simple questions and answers and does not require detailed knowledge of the individual, their background, training or experience.

APPENDIX 9

GUIDANCE ON INSPECTIONS OF WORK EQUIPMENT AND CHECKS ON EXISTING PLACES OF WORK AT HEIGHT (Reg 12 & 13)

	WAHR Reg.12(2) Inspection after installation or assembly in any position	WAHR Reg.12(3)(a) Inspection at suitable Intervals	WAHR Reg.12(3)(b) Inspection after exceptional circ. which are liable to jeopardise safety of work equipment	WAHR Reg.12(4) Inspect working platforms used in construction within the previous 7 days	WAHR Reg.13 Check existing places of work at height on each occasion before use	LOLER Reg.9 Thorough examination (If work equipment is subject to LOLER)
The surface and every parapet, permanent rail of every existing place of work at height including non work equipment working platforms (Schedule 1)					✓	
Guard rail, toe board, barrier and similar means of collective protection (Schedule 2)	✓	✓	✓			
Scaffolding and working platforms used for construction work (Schedule 3)	✓		✓	✓		✓
All other work equipment working platforms (Schedule 3)	✓	✓	✓			✓
Collective safeguards for arresting falls including nets, airbags and landing mats (Schedule 4)	✓	✓	✓			
Personal fall protection systems including, personal fall prevention, work restraint, rope access, work positioning, fall arrest and rescue systems (Schedule 5)	✓	✓	✓			✓
Ladders (Schedule 6)		✓	✓		✓ (Fixed ladders)	