First evaluation of the impact of the work at height regulations
First evaluation of the removal of the 'two metre rule'

Prepared by System Concepts Limited
for the Health and Safety Executive 2007
First evaluation of the impact of the work at height regulations
First evaluation of the removal of the 'two metre rule'

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The Work at Height (WAH) Regulations were introduced in Great Britain on 6 April 2005. The impact of the new Regulations needs to be evaluated to meet both formal European Commission and Health & Safety Commission (HSC) requirements and in order to guide future policy. In addition, the HSC decided to evaluate the impact of the removal of the two metre rule for construction work, which was repealed by the WAH Regulations. This study was conducted in two stages. The first stage (Stage 1) was conducted in early 2005 prior to the introduction of the Work at Height Regulations and the second stage (Stage 2) was conducted one year after the Regulations were introduced.

This report sets out how both stages of the research studies into the impact of the new Work at Height Regulations and the removal of the two metre rule were carried out. The findings from both studies (one into the overall impact of the Regulations and one into the impact of the removal of the two metre rule) are presented separately for Stages 1 and 2. Both studies included the key industries in which high falls (from above two metres) and/or low falls (up to and including two metres) were a risk.

This report and the work it describes were funded by the Health and Safety Executive (HSE). Its contents, including any opinions and/or conclusions expressed, are those of the authors alone and do not necessarily reflect HSE policy.

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EXECUTIVE SUMMARY

The Work at Height Regulations were introduced in Great Britain on the 6th April 2005. The Regulations apply to all sectors of industry (except paid provision of leadership or training in climbing and caving) and are intended to ensure that where work at height is necessary it is carried out as safely as possible. One of the changes brought in by the new Regulations was the removal of the existing “two metre rule” from the Construction (Health, Safety and Welfare) Regulations 1996. This rule required employers to use specific control measures for construction work that presented a risk of people falling two or more metres.

The impact of the new Regulations needs to be evaluated to meet both formal European Commission and Health & Safety Commission (HSC) requirements and in order to guide future policy. System Concepts Ltd was therefore commissioned by the Health & Safety Executive (HSE) to conduct two research studies into the impact of the new Work at Height Regulations, one into the overall impact of the Regulations and one into the impact of the removal of the two metre rule in construction work. This study was conducted in two stages. The first stage (Stage 1) was conducted in early 2005 prior to the introduction of the Work at Height Regulations and the second stage (Stage 2) was conducted one year after the Regulations were introduced.

The aim of the research study is to evaluate the overall impact of the Work at Height Regulations and their contribution to the effectiveness of the HSC’s Falls from Height Programme. Stage 1 of the study was conducted to establish a baseline for the state of safety in work at height before the Work at Height Regulations came into force. Stage 2 was conducted to evaluate the impact of the Work at Height Regulations one year after they were introduced. This report details how the study was carried out and presents the results of both Stage 1 and Stage 2.

The Work at Height study included a number of key industries, which were chosen to ensure that they included both those where high falls (from above two metres) were a risk and those where low falls (up to and including two metres) were a risk. These were: construction; steeplejacks; building maintenance; arboriculture; window cleaning; electricity production and distribution; shipbuilding and aircraft building and maintenance; telecommunications; food and drinks industry; road haulage; education and retail.

The data collection steps of both Stage 1 and Stage 2 were based on telephone interviews, site visits and postal questionnaires. We interviewed HSE and Local Authority (LA) inspectors, manufacturers and suppliers of fall protection and fall arrest equipment and duty holders. We visited sites where work at height was carried out to conduct more detailed interviews with duty holders, to interview employees, to observe work at height and to examine paperwork. We also distributed postal questionnaires to trade union safety representatives.

The aim of the Two Metre study is to evaluate the impact of the removal of the two metre rule for construction work from the new Work at Height Regulations. Again, this research was conducted in two stages. The initial stage was conducted to establish a baseline against which the impact of the removal of the two metre rule was measured in Stage 2. This report details how this was carried out and presents the results of both Stage 1 and Stage 2.

The key industries for the Two Metre study were chosen because they carry out work at height that was included in the definition of construction work in the Construction (Health, Safety and Welfare) Regulations 1996 and were therefore required to comply with the two metre rule.
They were: construction; steeplejacks, building maintenance; shipbuilding and aircraft building and maintenance; and telecommunications.

The research presented in this report was primarily qualitative rather than quantitative, as most of the sample sizes were small. The quantitative data included in the report should therefore be treated with some caution. However, it does provide qualitative data on how well the risks from work at height were managed before and after the Work at Height Regulations came into force.

**General conclusions**

Our study indicates that the Work at Height Regulations have started to have an impact in a number of areas. Many manufacturers reported that demand for and sales of access equipment, including work platforms, had increased. Additionally, a large percentage of managers reported that changes to the way work at height was managed had been made in the last year, and this was also observed by a number of inspectors. Common changes included revising or conducting risk assessments and providing new access or safety equipment, which supports the increased sales reported by equipment manufacturers and suppliers.

However, there are still improvements to be made as only a small number of managers were able to correctly define work at height and very few actually understood the Regulations’ detailed requirements. Furthermore, around half of the employees and trade union safety representatives interviewed believed that more could be done in their company to make work at height safer.

The removal of the two metre rule has also started to have some impact as more than half of the managers interviewed reported that they had made changes to the way work at height was managed due to the removal of the two metre rule, most noticeably in the construction and shipbuilding/aircraft maintenance sectors. However, the inspectors were generally not confident that many duty holders were aware of or understood what the removal of the two metre rule meant in practice when working at height.

There appears to be a general lack of understanding by duty holders of the requirements of the Regulations and the implications of the removal of the two metre rule. Although duty holders were aware of the Regulations and the removal of the two metre rule, few people appeared to fully understand their duties under the Regulations.

Improvements still need to be made in some sectors in how they control work at height, especially the education, retail and road haulage sectors.

**Stage 1 – Baseline information for Work at Height study**

The key messages were used to establish the baseline information against which the impact of the Work at Height Regulations were evaluated in Stage 2 of the study.

**Equipment manufacturers and suppliers**

Overall, the manufacturers and suppliers we interviewed expected the Work at Height Regulations to have a positive impact on their businesses. Most of them expected an increase in sales in the next 12 months, partly due to the Regulations, including an increase in the sales of work platforms and fall arrest equipment. However, they expected that the sales of ladders to decrease.
**HSE and LA inspectors**

The inspectors provided a fairly negative view of how well work at height was managed by duty holders, as most of them were not at all or not very confident that duty holders understood the risks involved or the controls required.

However, this negative view was not consistent with their views of how well duty holders complied with legal requirements (including carrying out suitable and sufficient risk assessments), which were much more varied and did not present a clear picture. The lowest level of compliance reported was in the construction sector.

The inspectors believed that the most common agent involved in falls from height was portable ladders, and that the main underlying cause of falls was the failure to ensure that a safe system of work was used. The other most important underlying causes were failure to use or provide appropriate equipment. They believed that most falls resulted from multiple failings.

In Stage 1, most inspectors did not see the need for the new Regulations, as they thought that existing legislation was adequate or mostly adequate. However, half of the HSE inspectors thought that the Regulations would have a positive effect on reducing falls, but that the effects would be limited. All of the LA inspectors thought the Regulations would have either no effect or were unsure of what their effect would be. The most common suggestions for reducing falls from height were better guidance and stronger enforcement.

Overall, the inspectors were less positive about how well duty holders prevented falls from height than the duty holders themselves. This may be because inspectors visit a wider range of companies that we were able to include in our sample of duty holders.

**Telephone interviews with duty holders**

The majority of duty holders in most sectors were confident that they complied with their legal obligations, in contrast with the views of the inspectors. The lowest levels of confidence were in education, and food and drink.

Most of the managers were aware of the new Regulations, except in the education sector, who had by far the lowest percentage of managers who were aware. Only a minority planned to introduce changes to comply with the Regulations as 60% of the duty holders felt they already conformed.

The most common measures that the duty holders reported they used to prevent falls were training, appropriate work equipment, avoiding work at height and site inspections. All sectors said that they carried out risk assessments for work at height, although the managers who did not carry out risk assessments were mainly in education and arboriculture.

As for the inspectors, portable ladders were the most common agent identified by the managers as being involved in falls from height. However, the main underlying causes identified by managers (operator error, unsafe systems of work, complacency, employees not following procedures and unsafe work equipment) suggested a tendency to blame their employees who had accidents, unlike the inspectors.

**Interviews with duty holders during site visits**

As the duty holders whom we visited in were self-selected (i.e. they agreed to allow us to visit when interviewed by telephone), it is possible that they would be more likely to comply with legal requirements than those that did not invite us to visit. This was reflected by the higher
percentage of managers (83% compared to 60% of those interviewed by telephone) who felt that the Regulations would have little impact as they already had adequate systems in place.

Half of the managers knew that work at height was work above ground level and a further third defined it as work above two metres. Most did not have policies specifically for work at height, but had general health and safety policies that included it, which were almost all rated as average or better. The exception was the one from the education sector, which was very poor.

All managers provided risk assessments for work at height, the vast majority of which were rated average or better. Again, the exception was the education sector.

Over half of the managers used supervision to make sure that employees and contractors worked safely at height. This contrasted with the employees, most of whom reported that their behaviour when working at height was not influenced by supervision.

Training was identified as the main criteria for making sure that employees could work safely at height, expect in the education, road haulage and steeplejack sectors. Most managers provided training, expect for those in education, road haulage and retail sectors. The equipment used for work at height was similar in most sectors, with ladders and fall/work arrest equipment being the most popular.

**Interviews with employees during site visits**

The majority of employees were in agreement with their managers that their companies were good at protecting people who worked at height, except in the education sector. However, about a third of the employees felt that their companies could make work at height safer, by providing improved training, equipment or work procedures.

The employees reported using a similar range of equipment to that identified by the managers, except that employees in the education sector identified using unsuitable equipment for work at height. The same percentage of employees as managers (85%) said that they had been provided with training for work at height. The exceptions were in the education sector.

As for both inspectors and managers, portable ladders were the main agent identified by employees as being involved in falls from height. The underlying causes for falls that the employees identified had more in common with the views of the inspectors than that of the managers, as the employees did not blame their fellow workers for accidents but identified unsafe work practices (i.e. no safe system of work), pressure to work too quickly and unsafe work equipment as the main causes.

Most employees reported that their behaviour when working at height were not influenced by financial rewards or supervision, although the trade union safety representatives rated these as more influential. The most important influences reported by the employees were work experience, consequences of accidents, compliance with the law, training and pressure to meet work deadlines.

**Observations of work at height**

Most companies visited (83%) appeared to be adequately controlling the risks from work at height and were broadly complying with the current legal requirements. We did identify some problems, including the difficulty in controlling contractors on a construction site, inadequate work practices at one arboriculturist and a very low level of compliance at the one school we visited (unsuitable equipment, unsafe working practices, lack of training and risk assessment).
Avoiding work at height may lead to changes in practices that may increase other risks. The example we identified was the increasing use of water fed poles in the window cleaning sector, which reduced the need to work at height but was likely to increase the risk of musculoskeletal disorders. Pressure from customers could also stop such techniques being used in place of work at height.

The new Regulations appeared to already be having an impact in the construction sector, as stepladders were increasingly being replaced with small work platforms. As portable ladders were identified by managers, employees and inspectors as the main agent involved in falls from height, this may reduce falls in the future.

Information from trade unions
A lower percentage (52% compared to 85%) of trade union safety representatives reported that training was provided to people who worked at height than did managers and employees during visits. This may be due to the sites which we were invited to visit being better in controlling the risks from work at height than those that we were unable to visit. The percentage of safety representatives who reported that risk assessments were carried out (76%) was also lower than for employees (85%) or managers (100%). More (43% compared to 30%) safety representatives than employees reported that their companies needed to take further measures to make work at height safer, especially training.

The safety representatives reported that a similar range of equipment was provided for work at height to that identified by the managers and employees, except that they mentioned ladders less frequently.

The main agents that the safety representatives reported were involved in falls from height were portable ladders, work platforms and vehicles, presenting a wider view than any of the other groups. They were more in agreement with the employees and inspectors than the managers about the main underlying causes of accidents, identifying unsafe work practices (i.e. no safe system of work) and pressure to work too quickly as the top two.

The safety representatives’ views on what were the most important influences on employees’ behaviour when working at height were similar to that of the employees, except that they thought financial rewards and supervision were more influential and compliance with the law less influential.

Stage 2 – Impact of Work at Height Regulations
The key messages in both Stage 1 and Stage 2 were used to evaluate the impact of the Work at Height Regulations.

Equipment manufacturers and suppliers
Overall, the manufacturers and suppliers we interviewed reported that the Work at Height Regulations have had a positive impact on their businesses. Many manufacturers reported that they had gained customers in the last year, and that many customers had mentioned the Regulations when ordering. As predicted in Stage 1, demand for access equipment, including work platforms, had increased and the demand for ladders had decreased.

Most manufacturers and suppliers reported an increase in sales, ranging from 5 to 50% with an average of 17.5%. The increase in sales reported exceeded those estimated by manufacturers and suppliers in Stage 1, which suggests that the Work at Height Regulations may have had more impact than they expected.
**HSE and LA inspectors**

The inspectors provided a fairly mixed view of the impact that the Work at Height Regulations had had on duty holders. Most HSE inspectors were confident that duty holders were aware of the Work at Height Regulations, however most LA inspectors were not confident. More HSE inspectors than LA inspectors reported a change in how duty holders managed work at height in the last year, suggesting that the Regulations may have had more of an impact in HSE-enforced sectors than in LA-enforced sectors.

Around a third of the inspectors interviewed reported that the time they spent dealing with work at height issues had increased in the last year but that the type of enforcement action had not changed. However, it was reported that the Work at Height Regulations made it easier to enforce work at height issues.

The inspectors identified the biggest single agent involved in falls from height as portable ladders (as in Stage 1) and the main underlying cause was the failure to assess risks and plan work at height activities. The vast majority of inspectors reported that they had not seen any change in the number or type of fall from height accidents in the last year. This did not agree with the predictions made by inspectors in Stage 1 of the study, where more than half of the inspectors believed that the Work at Height Regulations would result in a decrease in the number of falls from height. However, many inspectors reported that it was too soon to tell if accident numbers had reduced.

Around two-thirds of inspectors reported that the Work at Height Regulations brought benefits to duty holders, but that there were associated costs, both financial costs (for new equipment) and management resource costs (to conduct risk assessments, plan work at height activities etc).

A number of HSE inspectors commented that the wording of the Work at Height Regulations and the lack of an approved code of practice made it difficult for duty holders to fully understand and comply with the main requirements.

**Telephone interviews with duty holders**

All managers, with the exception of one in the education sector, were aware of the Work at Height Regulations.

A large number of managers reported that changes to the way work at height is managed had been made in the last year, most commonly providing new access or safety equipment and revising or conducting risk assessments. The difficulties associated with managing contractors and third-party visitors on site were an issue raised by many managers.

The majority of duty holders in most sectors were very confident or confident that they were complying with the requirements of the Work at Height Regulations. However, only a small number were able to correctly define work at height and very few actually understood the Regulations’ main requirements.

Managers in the road haulage sector were the least confident that their companies were complying with the Regulations. Managers in the road haulage sector reported a higher number of accidents than managers in most other sectors (with the exception of construction and retail).

A lower percentage of managers in Stage 2 reported that there had been falls from height and unsafe practices than in Stage 1, suggesting that the Work at Height Regulations may have resulted in a slight reduction in the number of accidents and unsafe practices. As for the
inspectors, portable ladders were the most common agent identified by managers as being involved in falls from height.

Very few managers reported that the Regulations have brought benefits or savings to the company. However, the majority reported that they had incurred costs or problems, most commonly financial costs and problems with staff believing that ladders had been banned.

It was reported that a lack of guidance or an approved code of practice for the Regulations makes it difficult for some duty holders to comply; a view also shared by inspectors and trade union safety representatives

**Interviews with duty holders during site visits**

As the duty holders whom we visited were self-selected (i.e. they agreed to allow us to visit when interviewed by telephone), it is possible that they would be more likely to comply with legal requirements than those that did not invite us to visit.

A small number of managers reported that some work at height had been avoided in the last year, since the introduction of the Work at Height Regulations.

Nearly half of the managers reported that they had specific policies for work at height, compared to only a sixth in Stage 1 of the study.

The same general methods were used to communicate safety information about work at height to workers as in Stage 1, however there was now more focus on training.

All managers reported that they carried out risk assessments but not all provided us with copies. The quality of the risk assessments we saw were similar to those in Stage 1, i.e. most were rated average or better. The exception was the education sector. Managers in all sectors reported that risk assessments had been reviewed in the last year.

Ladders have dropped from being the most common type of work equipment provided in Stage 1 to the third most common in Stage 2, which supports the increase in demand for work platforms and the reduction in demand for ladders, as reported by equipment manufacturers and suppliers.

The four most common measures taken by managers to ensure safe work at height were supervision, written work guidelines, training and permits to work. These measures concurred with those reported by employees.

Training was identified as the main criteria for making sure that employees could work safely at height, expect in the education sector. All managers provided some form of training on work at height to employees, except in the education sector. This was an improvement to Stage 1 when retail and road haulage, as well as education, did not provide any training.

**Interviews with employees during site visits**

Most employees were in agreement with their managers that their companies were good at protecting people who worked at height, except in the education sector. However, around half of the employees felt that their companies could make work at height safer, by providing improved training, equipment or work procedures.
The employees reported using a similar range of equipment to that identified by the managers. The same percentage of employees as managers said that they had been provided with training for work at height.

As for both inspectors and managers, portable ladders were the main agent identified by employees as being involved in falls from height (as in Stage 1). The underlying causes for falls that the employees identified was incorrect use of equipment, which was the second most common underlying cause identified by inspectors.

The most important influences affecting behaviour, as reported by employees, were training, work experience, consequences of accidents and pressure to meet work deadlines. These were the same factors identified by trade union safety representatives.

**Observations of work at height**

At the majority of sites we visited (87%), the work at height practices and work equipment seen appeared to be adequate for the risks involved and the companies were broadly complying with the Work at Height Regulations. The exceptions were the education and retail sectors, as well as one of the aircraft maintenance companies.

Overall the Work at Height Regulations appeared to have little impact at the sites we visited. Although most sites appeared to be adequately managing work at height risks in practice, documentation often needed to be improved.

Some sites appeared to have good control over how well contractors complied with the Work at Height Regulations, however some sites faced difficulties, particularly in the food and drink, road haulage and construction sectors.

The only sector that appeared to be improving their avoidance of work at height was window cleaning, where the use of water fed poles was continuing to increase.

Avoiding work at height may lead to changes in practices that may increase other risks. The example we identified was the increasing use of water fed poles in the window cleaning sector, which reduced the need to work at height but was likely to increase the risk of musculoskeletal disorders. Pressure from customers could also stop such techniques being used in place of work at height.

One company in the electricity sector was concerned about plant and equipment design (at other sites) and vehicle design that made it difficult to work at height safely, commenting that the Work at Height Regulations did not include any design requirements to minimise the risks of working at height.

**Information from trade unions**

Most trade union safety representatives were aware of the Work at Height Regulations, with the exception of a number of union representatives in the retail sector. However, very few had a good understanding of what the main requirements of the Regulations are. Less than half of the trade union safety representatives reported that they had been provided with information on the Regulations, which may explain their poor level of understanding.

The safety representatives reported that a similar range of equipment was provided for work at height to that identified by managers and employees.
The main agents that the safety representatives reported were involved in falls from height were portable ladders, work platforms and vehicles and the main underlying cause was unsafe work practices.

The safety representatives’ views on what were the most important influences on employees’ behaviour when working at height were the same as those identified by employees.

The majority of trade union safety representatives reported that their company was good or excellent at protecting employees who worked at height. All those who reported that their company was poor or very poor were from the road haulage, retail and manufacturing sectors. The highest number of work at height accidents and near misses were reported by trade union safety representatives in the road haulage and manufacturing sectors.

Most trade union safety representatives were confident that the Work at Height Regulations would make work at height safer for the workers they represent. However, more than half believed that more could be done to make work at height safer.

More (63% compared to 50%) safety representatives than employees reported that their companies needed to take further measures to make work at height safer, especially training and the provision of more suitable equipment.

**Stage 2 – Baseline information for Two Metre study**

The key messages were used to establish the baseline information against which the impact of the removal of the two metre rule was evaluated in Stage 2 of the study.

**HSE inspectors**

The inspectors had varying levels of confidence in duty holders’ compliance with work at height, however they were more confident that duty holders were compliant for work above two metres than below. This was supported by their view that duty holders used specific controls measures for work above two metres, but few, if any, measures for work below this height. This suggests that the two metre rule had an adverse effect on preventing falls during work below two metres.

Overall, most inspectors believed that the removal of the two metre rule would have no positive impact. They felt that it would not reduce falls from above two metres and that it would have a slight negative effect in reducing falls below two metres, due to the unwillingness of duty holders to comply with the new Regulations.

**Telephone interviews with duty holders**

The risks involved in the work was most common factor that managers reported that they considered when deciding how to prevent falls from height. Height and the workers’ skill levels were the next most important factors. This suggests that duty holders were already adopting a risk based approach before the new Regulations came into force, however only a small minority of them knew that there was a legal requirement to assess the risks from work at height.

Two thirds of managers were aware of the two metre rule, with the highest level of awareness in building maintenance. However, less than 10% of managers said that they used the two metre rule when determining how to prevent falls. This does not agree with the views of the inspectors.

Almost all managers said that the current level of safety on their sites for work at height was good or very good. Again, this conflicts with the views of the inspectors.
Overall, the information gathered from the managers suggests that the two metre rule had little effect on the precautions taken to prevent falls. The greater awareness of managers in building maintenance may reflect the fact that work below two metres is more likely in this sector than in the other sectors (see section 8.2.5).

**Interviews with duty holders during site visits**

Two thirds of the managers defined work at height as work above two metres, however no-one in building maintenance defined it this way. This does not agree with the findings from the telephone interviews, however the sample size for the visits was much smaller.

Almost all managers said that the risks from work at height were assessed, suggesting that they were already taking a risk based approach, despite the fact that only a minority of the managers that were interviewed by telephone knew that there was a legal requirement to assess the risks from work at height.

As for the main project, the most common measure used to ensure that workers followed safe procedures when working at height was supervision. Again, this contrasted with the employees interviewed for the main project, most of whom reported that their behaviour when working at height was not influenced by supervision.

Managers reported that competence to work at height was largely dependent on the level of training provided and experience, not the height of the work. In addition, most of them said that there was no significant difference in the training provided to workers who worked above or below two metres. Both of these suggest that the two metre rule had little impact on this issue.

As in the telephone interviews, almost all managers were confident that they complied with their legal obligations for work at height, presenting a different picture to that reported by the inspectors.

**Interviews with employees during site visits**

Similar information was provided by the employees interviewed to that gathered by the interviews with managers during the site visits concerning risk assessments and the equipment used for work at height.

Over half of the employees were aware of the two metre rule, with the lowest level of awareness in building maintenance, although their comments indicated that their interpretation of it varied.

Employees in construction and building maintenance reported that they did not follow different safety procedures for work above or below two metres, while those in the steeplejacks, aircraft maintenance and telecommunications sectors did. This contrasts with the information gathered from duty holders and through observations of work at height.

**Observations of work at height**

The observations gave the most consistent picture of the importance of the two metre rule. In the construction, steeplejacks, aircraft maintenance and telecommunications sectors, most of the work at height was over two metres, and the two metre rule appeared to have little impact. For instance, although different equipment was used in the construction sector for above and below two metres, similar levels of protection were provided for all work at height.

In building maintenance, work at height was carried out both below and above two metres and different equipment was used (e.g. trestles and stepladders below two metres, mobile work...
platforms and safety nets above) but practical considerations appeared to be more important than the two metre rule.

The aircraft maintenance company that we visited were expecting the new Regulations to assist them in improving their working practices.

**Stage 2 – Impact of the removal of the Two Metre rule**

The key messages in both Stage 1 and Stage 2 were used to evaluate the impact of the removal of the two metre rule.

**HSE inspectors**

The inspectors had varying levels of confidence in duty holders’ awareness that the two metre rule had been removed, but generally they were not confident that many duty holders were aware or understood what it meant in practice when working at height. The lack of any guidance or approved code of practice was identified as a contributory factor in the duty holders’ lack of awareness or appreciation of the removal of the two metre rule.

Most inspectors had not seen any duty holders make any changes in the way work at height is managed. Additionally, most inspectors reported that duty holders still use different control measures above and below two metres, with many not using any controls for work below two metres.

None of the inspectors reported that the removal of the two metre rule had resulted in any specific benefits to duty holders and only one inspector reported that it had caused duty holders any costs or problems, suggesting that the removal of the two metre rule may not yet have had much of an impact.

**Telephone interviews with duty holders**

The majority of managers were aware of the two metre rule. Most knew that it had been removed and was not included in the Work at Height Regulations.

More than half of the managers reported that the removal of the two metre rule had had a positive impact (most noticeably in the construction and steeplejack sectors), commenting that it made work at height safer. Many managers in the shipbuilding and aircraft maintenance sector reported a negative impact, as it had resulted in costs for new equipment and management time for risk assessments for activities conducted below two metres.

Only half of the managers reported that they had made changes to work at height practices in the last year, despite more than two-thirds reporting that the removal of the two metre rule had practical implications.

Around one-fifth of managers reported that they used different control measures for work above and below two metres, with a small number reporting that no controls were used for work below two metres. Most other managers reported that more stringent controls were used for work above two metres.

The removal of the two metre rule has not appeared to have brought benefits to many duty holders. However, it has incurred costs and problems, most noticeably to companies in the construction, steeplejack and aircraft maintenance sectors, as managers in these sectors reported a higher percentage of changes than managers in other sectors to the way work at height is managed in the last year.
**Interviews with employees during site visits**

Around half of the employees interviewed were aware of the removal of the two metre rule in the Work at Height Regulations. Most thought that the removal of the two metre rule had had no effect in practice. However, a number of employees reported that their employer has introduced further controls to make work below two metres safer, suggesting that a risk-based approach, as required by the Regulations following the removal of the two metre rule, is being adopted by at least some employers.

**Observations of work at height**

The removal of the two metre rule appeared to have had little impact in the construction, steeplejack and telecommunication sectors, as most of their work was above two metres. Only managers in the building maintenance and aircraft maintenance sectors reported that the removal of the two metre rule had had a significant impact and that changes to working practices below two metres had been made as a result. A reduction in the use of ladders and an increase in the use of tower scaffolds and work platforms for work activities below two metres was observed in these sectors, as well as in the construction sector.

**Suggestions for further work**

We have included suggestions for further work in the report, as listed below.

- Publicise and further develop guidance on the Work at Height Regulations
- Publicise existing HSE guidance on ladders and MEWPs and develop new guidance to cover a range of other equipment used for work at height
- Provide detailed guidance on managing contractors who work at height
- Continue to collect and publish case studies of good practice for work at height
- Carry out research into how to increase awareness and improve compliance in LA-enforced sectors
- Continue to raise awareness of the consequences of low falls (i.e. below two metres)
- Conduct more detailed research into what influences the behaviour of people working at height
- Investigate whether avoiding work at height may increase other risks to workers
- Investigate ways to encourage the consideration of work at height during the design process
- Conduct a further study to investigate the impact of the Work at Height Regulations
- Encourage the education sector to improve the management of work at height and discuss with Ofsted the possibility of including health and safety issues in their inspections of schools.
INTRODUCTION

Workers are exposed to the hazard of work at heights in all industry sectors. Falls from height are the most common cause of fatal injury and historically the second most common cause of major injury for workers in the UK. The incidence level varies considerably between different industry sectors. High falls of two metres and above occur most often in the construction and agriculture industries, but also occur in a variety of industries such as the steeplejack, window cleaning, arboriculture, utilities, retail, shipbuilding, manufacturing, maintenance and industrial cleaning industries. Low falls from less than two metres account for two-thirds of major injuries caused by falls and are particularly common in the manufacturing and service sectors, including education, maintenance, food industry and haulage.

The high level of accidents involving falls in the workplace has resulted in the HSE making falls from height one of its priority programmes with specific targets to reduce the number of falls from height that result in fatal and major accidents.

The Work at Height Regulations were introduced in Great Britain on the 6th April 2005 as part of a European Directive on work at height (the Temporary Work Directive (2001/45/EC) to reduce work related falls from height. The Regulations apply to all sectors of industry (except paid provision of leadership or training in climbing and caving), bringing together the relevant parts of the Workplace (Health, Safety and Welfare) Regulations 1992, the Construction (Health, Safety and Welfare Regulations) 1996 and the other legislation applying to work at height. The new Regulations were introduced to ensure that where work at height is necessary it is carried out as safely as possible.

One of the changes in the new Regulations was the removal of the “two metre rule” from the Construction (Health, Safety and Welfare) Regulations 1996. This rule required employers to use specific control measures where there was a risk of people involved in construction work falling two or more metres.

The impact of the new Regulations was evaluated to meet both formal European Commission and Health & Safety Commission (HSC) requirements and in order to guide future policy.

2.1 THE RESEARCH OBJECTIVES

System Concepts Ltd was commissioned by the HSE to conduct two research studies into the impact of the new Work at Height Regulations:

2.1.1 Work at Height research study

System Concepts Ltd was commissioned to evaluate the impact of the new Work at Height Regulations and their contribution to the effectiveness of the Falls from Height Programme. The initial stage (Stage 1) of this research, conducted prior to the introduction of the Work at Height Regulations, involved establishing a baseline for the state of safety in work at height before the new Work at Height Regulations came into force. Stage 2 of the study was conducted one year after the introduction of the Regulations to investigate their impact.

Objectives of the Work at Height study

This research study had the following key objectives:

- To assess the current trends in falls accidents to determine whether they are really declining.
To produce a “snapshot” of current awareness, knowledge, etc., in order to provide a baseline for later evaluation of the impact of the new Regulations.

To assess whether the hierarchy of measures with the new Regulations lead to effective organisational change in working at height.

To assess whether the use of more sophisticated fall protection and fall arrest equipment is increasing and, if so, whether this is having an effect in reducing the incidence of falls accidents.

To assess whether and how other factors may be affecting trends in falls accidents (positively or negatively), and whether this is part of broader intelligence that others could and should do.

To produce estimates of the costs and benefits of changes required by the new Regulations, compared to those that are likely to have incurred anyway.

To produce an analytical framework that is capable of being replicated by the HSE or its contractors, over a period of several years after the Regulations come into force.

Stage 1 of the Work at Height study commenced in November 2004. The data collection steps were carried out from January to April 2005. Stage 2 of the study commenced in January 2006 and the data collection steps were carried out from March to June 2006.

2.1.2 Two Metre research study

System Concepts Ltd was commissioned to evaluate the impact of removing the two metre rule for construction work from the new Work at Height Regulations. Again, this research was conducted in two stages. The initial stage was conducted to establish a baseline against which the impact of the removal of the two metre rule could be measured in Stage 2. Stage 2 of the study was conducted one year after the introduction of the Regulations to investigate the impact of the removal of the two metre rule.

Objectives of the Two Metre study

This research study had the following objectives:

- To produce a “snapshot” of the effectiveness of current requirements regarding work at height in the construction industry, for baseline purposes.
- To assess whether the Work at Height Regulations led to any changes in the way work at height is managed in the construction sector both below two metres and at or above two metres.
- To assess whether the Work at Height Regulations lead to any changes in the type and use of equipment employed for controlling risks from work at height in the construction sector, both for work below two metres and at or above two metres.
- To assess what impact the new Regulations have on those trades that work in both construction and other activities.
- To produce estimates of the costs and benefits of the removal of the two metre rule, compared to those that are likely to have incurred anyway.

The Two Metre study commenced in March 2005. The data collection steps were carried out in March and April 2005. The decision to carry out this study was made by the HSC early in 2005, after it had been decided not to retain the two metre rule in the Work at Height Regulations. We therefore were unable to commence work on this study until about five weeks before the new Regulations came into force on April 6th 2005. Most of the data collection stages were completed before April 6th, however we were unable to arrange some of the visits before then and they were all carried out during the remainder of April. Stage 2 of the study...
commenced in January 2006 and the data collection steps were conducted from March to June 2006.

In Chapter 3 of this report, we present the methods we used to carry out both stages of the two studies. Chapter 4 presents a literature review of current published literature on falls from heights. In Chapter 5 we discuss the accident statistics for falls from height in the UK. In Chapters 6 and 7 we present our findings for the main work at height study to investigate the impact of the Work at Height Regulations (Chapter 6 details the findings from Stage 1 and Chapter 7 details the findings from Stage 2). Our findings on the Two Metre study are presented in Chapters 8 and 9 (with Stage 1 findings presented in Chapter 8 and Stage 2 in Chapter 9). Our conclusions are presented in Chapter 10 and in Chapter 11 we make suggestions for further work. Chapter 12 lists the references and Chapter 13 contains the bibliography.

Appendix 1 contains the questionnaires used in Stage 1 of the Work at Height study and Appendix 2 contains the questionnaires used in Stage 1 of the Two Metre study. Stage 2 questionnaires can be found in Appendix 3. A selection of verbatim comments from Stage 2 participants is presented in Appendix 4.
3 METHODS

In this chapter we describe the procedures and techniques that we used in Stage 1 and Stage 2 of the Work at Height and the Two Metre research studies.

3.1 PROCEDURES USED IN THE WORK AT HEIGHT STUDY
In this section we describe the various procedures used to complete the Work at Height study.

3.1.1 Project initiation and planning
Both Stage 1 and Stage 2 of the project started with a meeting with the HSE to agree in detail the requirements for this assignment.

3.1.2 Literature review
We conducted a literature review of available published literature on falls from height and work at height. We searched the following databases:

- Ergonomics abstracts database
- The Internet – including the HSE and NIOSH websites.

Our search terms were:

- Falls from height
- Falls
- Work at height
- Fall protection
- Edge protection
- Safety harnesses
- Work accident statistics.

166 references were obtained covering the hazards, risks and control measures for work at height activities. 22 references were identified as being specifically relevant to this research study. All the literature is referenced in Chapter 12 or in the bibliography in Chapter 13.

3.1.3 Identification of key industries and stakeholders
We identified key industries both through the analysis of work related falls from height accident statistics for the UK, available from the HSE website, and through direct discussions with the HSE. These sectors were chosen to ensure that they included both those where high falls (from above two metres) were a risk and those where low falls (up to and including two metres) were a risk. The twelve key sectors were:

- Construction
- Steeplejacks
- Building maintenance
- Arboriculture
- Window cleaning
- Electricity production and distribution
- Shipbuilding and aircraft building and maintenance
• Telecommunications
• Food and drinks industry
• Road haulage
• Education
• Retail.

The next stage was to identify stakeholders in each of the key sectors, as this research study required the involvement of stakeholders in the key industries to ensure that it was effective. We started by making contact with trade organisations and other bodies in the key sectors, as these were likely to be able to identify stakeholders who would be useful for us to contact in this project. We also used our existing contacts in the key sectors to help us identify stakeholders.

We made initial contact by email or by phone. If by phone, we then provided written material (by email) on the project. We explained the objectives of the research and the type and extent of the involvement that we were seeking.

3.1.4 Expert panel (Stage 1 only)
In conjunction with the organisations and bodies that we had contacted in the previous step, we selected a team of 18 key stakeholders to be involved in an expert panel. All the key industry sectors were represented. The functions of the expert panel were to:
• Provide general guidance and advice on specific areas of the research work
• Provide details of other stakeholders within their sectors who might be willing to participate in the research project
• Qualitatively assess some of the data analysis tools used in this project.

3.1.5 Assess current trends in falls accidents
We worked with HSE statisticians to obtain as much information as possible concerning falls from height reported under the Reporting of Diseases, Injuries and Dangerous Occurrences Regulations 1995 (RIDDOR). We attempted to conduct further analysis into available statistics to establish the current trends in falls from height. We also investigated whether there were other sources of accident statistics available on falls from height in the workplace that could be used to verify the RIDDOR statistics. We evaluated the usefulness for determining trends of the statistics that we found.

3.1.6 Data collection
For both Stage 1 and Stage 2 we adopted two main methods of data collection: telephone interviews and site visits. We developed a range of questionnaires to be used during telephone interviews and site visits to companies and organisations participating in the study. These questionnaires used information obtained during the literature review, discussions with the HSE and expert panel members, and were developed by System Concepts’ staff experienced in designing questionnaires for similar research projects.

The questionnaires focussed on the management of work at height issues in the key industry sectors identified. The questionnaires used in Stage 1 contained a combination of rating scales and open and closed questions to provide quantitative and qualitative data. However, the questionnaires used in Stage 2 differed slightly as the HSE wished Stage 2 to have a more qualitative approach, particularly due to the small sample sizes. Stage 2 questionnaires therefore did not contain any rating scales. As people are better at “recognition” tasks than “recall” tasks, the questionnaires in Stage 1 and Stage 2 used prompts where necessary to check the full awareness of work at height issues.
For both Stage 1 and Stage 2, we allocated participants into groups and developed a different questionnaire for each of the groups. These questionnaires were designed to suit the different activities of each group of participants. Copies of all the questionnaires used in this study are provided in Appendix 1 (Stage 1) and Appendix 3 (Stage 2).

The groups of participants were:

- Manufacturers/suppliers of fall arrest/prevention equipment
- HSE and local authority inspectors
- Duty holders (i.e. managers) in organisations in the key sector industries
- Employees of organisations in the key sector industries
- Trade union safety representatives.

To ensure that the questionnaires were free from ambiguity and bias, and that the questions elicited the right level of response, we conducted pilot studies in both Stage 1 and Stage 2 with a small sample of respondents representing the groups included in the study. Following the pilot studies, a small number of changes were made to the content and structure of some questionnaires to ensure that they were easy to understand and use, and gathered the right information.

We contacted and interviewed participants either by telephone or in person, depending on which group they were in. We made every effort to contact the same people in each of the groups for both Stage 1 and Stage 2 of the study. The method used for each group is detailed in the relevant part of this section. We explained the purpose of the HSE’s research and, if they were willing, we administered the questionnaire.

3.1.7 Identification and interview of manufacturers and suppliers

As part of the identification of key stakeholders, we identified and contacted key manufacturers and suppliers of fall protection and fall arrest equipment, using a variety of sources, mainly the expert panel, established industry contacts and the Internet. Telephone interviews were then conducted with appropriate representatives in both Stage 1 and Stage 2 of the study. Typically our contacts were safety or general managers. The telephone questionnaires used to collect information from the manufacturers and suppliers in Stage 1 can be found in Appendix 1 and for Stage 2 in Appendix 3.

3.1.8 Identification and interviews with HSE and Local Authority Inspectors

HSE and local authorities have a large number of inspectors who enforce health and safety in the workplace on a day-to-day basis. Some of them are involved in working in the key industries that were selected for this research study. We therefore liaised with the HSE and local authorities to identify which of their inspectors we should contact for both stages of the research. The questionnaire used in these telephone interviews in Stage 1 is provided in Appendix 1 and for Stage 2 in Appendix 3.

3.1.9 Identification and interview of duty holders in organisations in key industry sectors

We conducted telephone interviews with managers directly responsible for supervising people who work at height, using a variety of sources to obtain contacts, such as the expert panel members, our existing contacts, the Personnel Manager’s Yearbook and the Internet. The interviews were conducted with representatives from small, medium and large companies, and
were spread evenly across the key industry sectors. The questionnaire used in Stage 1 is provided in Appendix 1 and the Stage 2 questionnaire can be found in Appendix 3.

3.1.10 Site visits to interview duty holders and employees
During our telephone interviews with duty holders in Stage 1 and Stage 2 (see 3.1.9) we identified a number of sites to visit, within all of the key industry sectors. The purposes of the site visits were to:

- Interview the relevant managers in more detail about their company’s work at height activities
- Interview employees involved in work at height
- Examine the precautions put in place to prevent falls from height, including edge protection and fall arrest equipment etc.

The visits were carried out by a team of System Concepts’ employees with experience in a range of health and safety issues, including work at height. Most were qualified to NEBOSH Diploma level and were members of IOSH.

During the site visits we interviewed the relevant manager in more depth. We also interviewed employees during the visits. Wherever possible, we interviewed the employees in private to ensure that they were able to speak openly in confidence. As for all the interviews carried out, only collated anonymous data and comments were provided to the HSE.

The questionnaires used in these site interviews are provided in Appendix 1 (Stage 1) and Appendix 3 (Stage 2). We made every effort to re-visit the same managers for Stage 1 and Stage 2.

If the organisation allowed us to, at each site we took photographs to provide examples of the work being carried out and to identify the precautions that were in place to prevent falls from height, including the equipment used.

3.1.11 Identification and interview of trade union safety representatives
As part of the identification of key stakeholders, we identified and contacted several trade unions, who had members employed in the key sectors. The following trade unions were contacted in Stage 1 and Stage 2:

- Amicus
- Connect
- Communication Workers Union (CWU)
- Education Institute of Scotland (EIS)
- GMB
- National Association of Schoolmasters Union of Women Teachers (NASUWT)
- National Union of Teachers (NUT)
- Transport and General Workers Union (T&G)
- Union of Construction, Allied Trades and Technicians (UCATT)
- United Road Transport Union (URTU)
- Union of Shop, Distributive and Allied Workers (USDAW).
We asked the unions for their support in disseminating information to their safety representatives in the key industries. For both Stage 1 and Stage 2 we provided each union with a simple questionnaire that their representatives could use to gather information from the people that they represent. The union then disseminated this information to safety representatives in the key industries, who returned the completed questionnaires by post to System Concepts. The questionnaire for Stage 1 is provided in Appendix 1 and the questionnaire for Stage 2 is provided in Appendix 3.

3.1.12 Collation of results and analysis of data
We then collated the data that we had gathered during both Stage 1 and Stage 2 and analysed it to evaluate the impact of the Work at Height Regulations and the removal of the two metre rule.

In collating and analysing the data, we used the following techniques:

- calculating mean values and ranges
- calculating frequencies and percentages
- preparing charts to present some of the data
- collating comments.

In considering the findings of this research, care should be taken when comparing differences between the responses, particularly percentages, due to the small sample sizes of some of the groups.

3.2 PROCEDURES USED IN THE TWO METRE STUDY

In this section we describe the various procedures used to complete Stage 1 and Stage 2 of the Two Metre research study.

3.2.1 Project initiation and planning
Both Stage 1 and Stage 2 of the project started with a meeting with the HSE to agree in detail the requirements for the assignment.

During these meetings, we also identified with the HSE the key industry sectors, which are listed below. These were chosen because they carry out work at height that was included in the definition of construction work in the Construction (Health, Safety and Welfare) Regulations 1996 and were therefore required to comply with the two metre rule.

- Construction
- Steeplejacks
- Building maintenance
- Shipbuilding and aircraft building and maintenance
- Telecommunications.

3.2.2 Literature review
We carried out a literature review to identify whether there was any recent published research work that was relevant to the two metre rule in our five key industry sectors. We searched the following databases:

- Ergonomics abstracts database
- The internet – including the HSE and NIOSH websites.
Our search terms in this study were similar to those used in the main Work at Height project with the addition of ‘two metre’ and ‘three metre’.

No information specifically relevant to the two metre rule was obtained.

### 3.2.3 Development of data collection tools

We adopted two main methods of data collection for Stage 1 and Stage 2, telephone interviews and site visits. We developed a range of questionnaires to be used during telephone interviews and site visits to companies and organisations participating in both stages of the study. These questionnaires were based on information from discussions with the HSE and expert panel members and the experience of System Concepts staff in designing questionnaires for similar research projects.

The questionnaires focussed on the management of work at height issues in the key industry sectors identified. They used a combination of rating scales and open and closed questions to provide quantitative and qualitative data. However, the questionnaires used in Stage 2 differed slightly as the HSE wished Stage 2 to have a more qualitative approach, particularly due to the small sample sizes. Stage 2 questionnaires therefore did not contain any rating scales. As people are better at “recognition” tasks than “recall” tasks, the questionnaires used prompts where necessary to check the full awareness of work at height issues.

We allocated participants into groups and developed a different questionnaire for each group. These questionnaires were designed to suit the different activities of each group of participants. Copies of all the blank questionnaires used in this study are provided in Appendix 2 (for Stage 1 of the study) and Appendix 3 (for Stage 2).

The groups of participants were:
- HSE inspectors
- Duty holders (i.e. managers) in organisations in the key sector industries
- Employees of organisations in the key sector industries.

To ensure that the questionnaires were free from ambiguity and bias, and that the questions elicited the right level of response, we conducted pilot studies in both Stage 1 and Stage 2 with a small sample of representative respondents from the relevant people who were to be included in the study. Following the pilot study, a small number of changes were made to the content and structure of some questionnaires to ensure that they were easy to understand and use, and gathered the right information.

We contacted and interviewed participants either by telephone or in person, depending on which group they were in. The method used for each group is detailed in the relevant part of the rest of this section. We explained the purpose of the HSE’s research and, if they were willing, we administered the questionnaire.

### 3.2.4 Identification and interview of HSE Inspectors

We had already made contact with a number of HSE inspectors as part of the Work at Height project in both Stage 1 and Stage 2. We interviewed those inspectors who had stated in their initial interviews for the work at height research project that they had current work experience in the key industry sectors. The questionnaires used in these telephone interviews are provided in Appendix 2 (Stage 1) and Appendix 3 (Stage 2).
3.2.5 Identification and interview of duty holders in organisations in key industry sectors

In Stage 1 and Stage 2, we conducted telephone interviews with managers directly responsible for supervising people who work at height in the key industry sectors, using a variety of sources to obtain contacts, such as the expert panel members, our existing contacts, the Personnel Manager’s Yearbook and the Internet. Some of the duty holders contacted during this step were also interviewed for the main project into the evaluation of the impact of the Work at Height Regulations. The interviews were conducted with representatives from small, medium and large companies and were spread as evenly as possible across the relevant industry sectors. The questionnaires used in these telephone interviews are provided in Appendix 2 (Stage 1) and Appendix 3 (Stage 2).

3.2.6 Site visits to interview duty holders and employees

During our telephone interviews with duty holders (see 3.2.5) we identified a number of sites to visit, including all the key industry sectors. The purposes of the site visits were to:

- Interview the relevant managers in more detail about their company’s work at height activities and specifically the implementation of the two metre rule
- Interview employees involved in these work activities
- Examine the precautions put in place to prevent falls from height both below and at or above two metres.

During the site visits conducted in Stage 1 and Stage 2, we interviewed the relevant manager in more depth. We also interviewed employees during the visits. Wherever possible, we interviewed the employees in private to ensure that they were able to speak openly in confidence. As for all the interviews carried out, only collated anonymous data and comments were provided to the HSE.

The questionnaires used in these site interviews are provided in Appendix 2 (Stage 1) and Appendix 3 (Stage 2).

If the organisation allowed us to, at each site we took photographs to provide examples of the work being carried out and to identify the precautions that were in place to prevent falls from height, including the equipment used.

3.2.7 Collation of results and analysis of data

We then collated the data that we had gathered during Stage 1 and Stage 2 and analysed it to evaluate the impact of the removal of the two metre rule in the key industry sectors.

In collating and analysing the data, we used the following techniques:

- calculating mean values and ranges
- calculating frequencies and percentages
- preparing charts to present some of the data
- collating comments.

In considering the findings of this research, care should be taken when comparing differences between the responses, particularly percentages, due to the small sample sizes of some of the groups.
As part of the Work at Height study, we carried out a literature review. In this, we examined the current available literature on falls from heights. The findings of this review are contained in this Chapter.

We carried out a further literature review as part of the Two Metre study, however no relevant literature was found.

4.1 INTRODUCTION
In the UK falls from heights are a leading cause of work related accidents. They represent approximately 24% of fatal accidents and 13% of all major injuries in the workplace, according to HSE accidents statistics for 2004/05. The cost to UK industry of such accidents is approximately £500 million per year (Bomel 2003). There is therefore a real incentive both from government and industry to reduce falls from height work related accidents. In order to develop successful falls from height risk control strategies it is important that we understand the “where”, “how” and “why” of falls from height accidents as well as the effectiveness of these strategies in preventing falls from height.

This literature survey was carried out in December 2005 and reviewed the current published literature on work-related falls from height. It is divided into the following sections:

4.2 Industry sectors where falls from height accidents occur
4.3 Factors affecting falls from height
4.4 Falls from height risk control measures
4.5 Effectiveness of falls from height risk control measures
4.6 Summary.

More general reference material on falls from height is listed in Chapter 13, the bibliography.

4.2 INDUSTRY SECTORS WHERE FALLS FROM HEIGHT ACCIDENTS OCCUR
Recent research published by Bomel (2003) based on Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR) accident data from 1991-2000, reported that in the UK, the construction industry had the highest rate of falls from height accidents compared to other industry sectors. The agriculture sector had the second highest rate of falls from height accidents. The manufacturing sector had the third highest rate and the services sector had the lowest. Within these different industry sectors there were also significant variations in the number of falls resulting in fatal and non-major injuries. RIDDOR classifies falls from height as low falls (i.e. below two metres), high falls (i.e. above two metres) or height unknown. Bomel (2003) only analysed high and low falls, and found that the services industry had the highest number of low falls.

Research in other industrialised countries in Europe and America has also identified construction as the industry sector in which most falls from height accidents occur. For example Bobick et al (1990) have reported on data collected by the National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research (DSR) that show that
falls from elevations accounted for 7.4% of the traumatic occupational fatalities (more than 2,700 deaths) occurring during the six year period 1980 to 1985. Of these fatal falls, 48.0% occurred in the construction industries. Helander (1991) reported on accident data gathered from the UK, Sweden and the USA, indicating that the construction industry is the most hazardous industry sector in industrialised countries, with the majority of accidents involving falls from height.

Kines (2002) has also reported that in Denmark, many fatal falls through roofs occurred on construction sites in remote, rural areas. The author has suggested that this occurs because contractors and workers felt that the chances of a safety audit by the governmental regulatory agency were slim.

4.3 FACTORS INFLUENCING FALLS FROM HEIGHTS

In the literature, a variety of factors have been reported by researchers to influence falls from height accidents. For example Helander (1991) reported that work practices, the machinery used and the work environment are all factors influencing falls from height accidents in the construction industry. The author reported that in this industry sector the primary external factors contributing to these falls from height accidents were scaffolds, ladders, stairs, and roofs. The causes of these accidents were due to work design deficiencies i.e., unsecured ladders, lifting heavy roof materials. Similar factors influencing falls from height have been identified by other authors. Hsiao et al (2001) stated that loss of balance was a major factor influencing falls from height accidents. Lipscomb et al (2003) has stated the speed of work was also a factor influencing falls from height accidents.

Papaioannou et al (2003) have analysed falls from height accidents in the construction sector in Greece and identified the following characteristics of falls from height victims:

- Most of the victims had been employed for a period of less than a year, although cases also existed of victims being employed for more than a year.
- Labourers without specialisation were the most likely victims. This may be because labourers without specialisation were usually occupied in physically demanding work activity. They were usually not provided with information on the risks related to work or training on how to behave safely. Many of them were economic migrants from foreign countries and had limited knowledge of the Greek language and therefore had communication problems. In addition many of them had inadequate or no experience of construction activities.
- About a quarter of the victims were non-national outside the EU. Their accidents may have been due to communication problems that affected their safety performance. Due to their lack of knowledge it may have been very difficult for them to make the most of provided training or instructions.
- All ages were represented in falls from height accidents.

They also reported on a variety of human factors that they believed contributed to these accidents, such as error of judgement, carelessness or overconfidence. However Dekker (2002) has suggested that human factors may not be the true cause or explanation of such accidents; and that in fact these accidents may be symptoms of deficiencies or poor work practices which exist within an organisation.

Bomel (2003) has reported that the falls from height accident profile and risk control measures within a specific industry sector are likely to be a function of the methods of operation within that sector. For example in the construction sector work at height may occur throughout the life
of a process whereas in the manufacturing sector the need for work at height is likely to be transitory.

The author reported that the typical factors that are likely to influence falls from height accidents in various industries are:

- Whether the need to work at height is a one-off or is required during the life of the work
- The frequency of the need to work at height
- The length of time work at height will last.

They report that these factors are likely to influence both the number of accidents expected and the approach to risk control. For example if daily access is required to plant for sampling for the life of the plant, then it would seem reasonable to design out the need to work at height by allowing sampling from ground level. If this were not practicable then the next possible step would involve the incorporation of permanent access from day one. If only temporary access is required, for instance, to erect a roof then it would seem reasonable to minimise the amount of work that is required at height. Where periodic maintenance is required, permanent access measures or anchorage points for temporary access may be designed in.

4.4 FALLS FROM HEIGHT RISK CONTROL MEASURES

Bomel (2003) has summarised the wide range of risk and control measures traditionally used in industry to reduce the risk of falls from height. The author reports in addition to the use of risk assessments the following generic measures have been used either in isolation or combination to reduce falls from height accidents:

- Eliminate the need to work at height e.g. clean from ground level using jet washers
- Design in permanent measures to permit safe work at height e.g. where maintenance has to be done at height, design in permanent access
- Provide temporary access to permit safe work at height e.g. scaffolding, roof ladders, mobile platforms
- Provide global protective equipment in areas where working at height is necessary e.g. hole covers, inflatable bags, safety netting, and edge protection
- Provide personal protective equipment to personnel working at height e.g. fall arrest systems, harnesses, lanyards, and ropes.

In addition to these generic measures other measures include:

- Certification schemes for those regularly working at height
- Training
- Providing information and guidance
- Increasing awareness of the risks of working at height.

The author reports that in the UK, risk control measures for falls from height are defined by a hierarchy of information ranging from Regulations that define what must be done, to good practice guides that provide suggestions on what should be done. Bomel reports that the following documents are used to define the risk control measures in the UK:

- Regulations
- UK and European Codes and Standards
- HSE guidance, approved codes of practice and information
• Industry guidance and good practice.

These documents set the framework within which all UK industries have to work.

There is a wide body of literature available on hardware solutions to minimise falls from height accidents. For example Ertas et al (1990) report on the design and development of fall arrest system. Batchelor et al (2001) report on the engineering, work-task and environmental work task changes to minimise falls from Car-Carrying Vehicles. Kloss (1995) reports on the characteristics of scaffolding to prevent falls from height. However, this literature is very much construction-orientated and is predominantly focused on falls from roofs, which limits its usefulness.

4.5 EFFECTIVENESS OF FALLS FROM HEIGHT RISK CONTROL MEASURES

Despite the large amount of literature published on work-related falls very little is known about the effectiveness of the various falls from height risk control strategies discussed in the literature. A recent systematic review of the effectiveness of prevention of falls in construction was carried out by Rivara and Thompson (2000). These authors reported that there is very little data to support the effectiveness of various risk control programmes, and were only able to identify three studies for review. Two of the studies, by Saarela (1989) and Linguard and Rowlinson (1997,) on the educational effects, suggested that educational programmes may reduce the incidence of falls, but the methodological limitations restricted conclusions that could be drawn. The third study by Nelson et al (1997) evaluated the effect of a policy change or standard.

Since this review, Derr et al (2001) have evaluated the fatal falls in US construction for the period 1990-1999 using the Occupational Safety and Health Administration’s (OSHA) Integrated Management Information System (IMIS) database. No effect of the federal OSHA fall protection standard was demonstrated; however the authors felt lack of power may have contributed to their inability to detect significant changes.

Nelson et al (1997) attempted to evaluate the differences in fall rates of construction employers who were inspected shortly after a change in the Washington State fall arrest standard was implemented compared to a control group of employers who were not inspected. The work was hampered by the need to exclude over two-thirds of construction workers employers (and self-insured employers) because they did not submit employee work hours for the full eight quarters of the study to the Department of Labour and Industries. Despite these limitations, their analyses supported the role of regulatory inspections in reducing injuries and suggested that fall injury rates might be expected to decrease if more employers were inspected. The authors reported that employers were 2.3 times more likely to experience a reduction in claims for falls as control employers, after adjustment for employer size and type of business. This work is consistent with a study of manufacturing plants, by Gray and Sholz (1993), where a 22% reduction in injury rates was seen after the employers were inspected by OSHA. The authors pointed out that although injuries decreased after inspection the overall effect of enforcement was small because only a small proportion of employers are inspected by OSHA. The Oregon Dept of Consumer and Business Services (1994a, b) have also reported an 85% reduction in citable hazards upon subsequent industrial inspections and a reduction in disabling injuries of 18% in the two years following the consultation visit.

Lipscomb et al (2003) evaluated the changes in the rate of falls from height among a large group of union carpenters, after a change in the fall standard in Washington State, taking into account the temporal changes. The new fall standard came into force in 1991 and required, among other things, personal protective equipment and a fall protection plan identifying workers at risk of
fall of 10ft or more. This was reduced to 6ft in 1994. The impact of the changes was evaluated using observational techniques that were based on workers’ compensation claims. The authors reported that there was a significant decrease in the rate of falls from height after the standard came into effect, even adjusting for the overall decrease in work-related injuries among the group. Much of the decrease was immediate, and probably reflected the fact that there was significant publicity surrounding fatal falls and the change in the fall standard. The most pronounced decline occurred three to three and a half years after the standard and is consistent with the increasing effect of the standard over time. A particular strength of this piece of research work is the large sample size. However there are certain weaknesses associated with the research; the principal one being the use of observational data, which is subject to potential miscalculation of injuries/causes and fraud.

Becker et al (2001) have reported on an audit and incentive programme used to increase the use of fall protection practices among construction contractors. The programme consisted of a series of training sessions for both contractors and employees in fall protection systems and quarterly fall protection audits of participating contractors’ sites. Contractors who completed the training sessions and had favourable results of audits would obtain “fall-protection status”, resulting in decreased insurance premiums. The authors found that there was a significantly higher audit score improvement in participants than controls, indicating that third party intervention and incentive systems can improve fall protection practices among construction contractors. However the accident rates were not calculated and thus the ultimate effectiveness of the intervention cannot be gauged.

Bomel (2003) used an Influence Network model to identify a range of factors influencing falls from height in the UK, and their relative significance. The author used the information gathered from this model to recommend key strategies for reducing falls from height in the UK.

4.6 SUMMARY
From the literature review, we concluded that:

• Falls from height accidents occurred in all industry sectors, although they were most common in the construction sector.

• Within different industry sectors there were significant variations in the types of fall accident. The services sector had the highest number of falls accidents below two metres.

• Some of the agents involved in falls from height accidents were ladders, stairs, scaffolding, and roofs.

• Underlying causes of falls from height accidents were unsafe systems of work, inadequate training, poor communication, lack of experience, and lack of information.

• In addition to the regulatory requirements such as the requirement to produce risk assessments, there are a variety of control measures for work at height, including the use of ladders, fall arrest equipment, scaffolds, work platforms.

• There was very little information published in the literature on the effectiveness of various control strategies for falls from height.

• It may take several years to fully realise the impact of any regulatory change to reduce falls from height.

• The widespread publicity surrounding a change in the regulatory requirements aimed at reducing falls from height may result in a change by employers to safer work patterns and activities before the regulatory change has been implemented. This was shown by one study (Lipscomb et al 2003).
We sought to obtain data on the current trends in falls accidents from the HSE to determine whether they were actually increasing or decreasing prior to the implementation of the new Work at Height Regulations.

We worked with the HSE department that collates the reports received under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995. This data was available from 1996 to 2005 and differentiates between high, low and ‘height not specified’ falls. High falls are defined as falls from above two metres. Low falls are defined as falls from up to and including two metres. The data indicated that there was no clear trend for fatal falls accidents. The level fluctuates, as shown in Figure 5.1.

Figure 5.1 Fatalities to workers reported under RIDDOR due to falls from height

Figure 5.1 shows an apparent overall decline in the number of fatalities due to falls from height over the last 12 years. While the number of fatal injuries due to falls fluctuates year on year, the number tends to be lower now compared with the early 1990s.

The majority of these fatalities were due to high falls, although a significant number were due to low falls, as shown in Table 5.1.
### Table 5.1 Number of fatal injuries to workers from falls from height

<table>
<thead>
<tr>
<th></th>
<th>92/93</th>
<th>93/94</th>
<th>94/95</th>
<th>95/96</th>
<th>96/97</th>
<th>97/98</th>
<th>98/99</th>
<th>99/00</th>
<th>00/01</th>
<th>01/02</th>
<th>02/03</th>
<th>03/04</th>
<th>04/05</th>
</tr>
</thead>
<tbody>
<tr>
<td>All falls from height</td>
<td>90</td>
<td>81</td>
<td>79</td>
<td>64</td>
<td>88</td>
<td>92</td>
<td>80</td>
<td>68</td>
<td>74</td>
<td>69</td>
<td>50</td>
<td>68</td>
<td>53</td>
</tr>
<tr>
<td>Up to and incl two metres</td>
<td>15</td>
<td>13</td>
<td>6</td>
<td>3</td>
<td>10</td>
<td>12</td>
<td>9</td>
<td>5</td>
<td>5</td>
<td>11</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Over two metres</td>
<td>65</td>
<td>58</td>
<td>63</td>
<td>56</td>
<td>70</td>
<td>71</td>
<td>70</td>
<td>58</td>
<td>69</td>
<td>44</td>
<td>38</td>
<td>52</td>
<td>38</td>
</tr>
<tr>
<td>Height not specified</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>5</td>
<td>8</td>
<td>9</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>14</td>
<td>7</td>
<td>10</td>
<td>8</td>
</tr>
</tbody>
</table>

Major injuries to employees involving falls from height increased between 1996/97 and 1999/2000 and since then they have decreased as shown in Figure 5.2.

![Major injuries due to falls from height](image)

**Figure 5.2** Major injuries to employees reported under RIDDOR due to falls from height

The majority of major injuries were due to low falls however a significant number were due to high falls as shown in Table 5.2.

### Table 5.2 Number of major injuries to employees from falls from height

<table>
<thead>
<tr>
<th></th>
<th>96/97</th>
<th>97/98</th>
<th>98/99</th>
<th>99/00</th>
<th>00/01</th>
<th>01/02</th>
<th>02/03</th>
<th>03/04</th>
<th>04/05</th>
</tr>
</thead>
<tbody>
<tr>
<td>All falls from a height</td>
<td>5023</td>
<td>5382</td>
<td>5454</td>
<td>5500</td>
<td>5286</td>
<td>4066</td>
<td>3860</td>
<td>3896</td>
<td>3799</td>
</tr>
<tr>
<td>Up to and incl two metres</td>
<td>2387</td>
<td>2593</td>
<td>3140</td>
<td>3196</td>
<td>3205</td>
<td>2174</td>
<td>2099</td>
<td>2127</td>
<td>2408</td>
</tr>
<tr>
<td>Over two metres</td>
<td>1220</td>
<td>1392</td>
<td>1640</td>
<td>1616</td>
<td>1459</td>
<td>1079</td>
<td>983</td>
<td>845</td>
<td>872</td>
</tr>
<tr>
<td>Height not specified</td>
<td>1416</td>
<td>1397</td>
<td>674</td>
<td>688</td>
<td>622</td>
<td>813</td>
<td>868</td>
<td>924</td>
<td>519</td>
</tr>
</tbody>
</table>
In a similar way to fatalities, Figure 5.2 shows an apparent overall decline in the number of major injuries due to falls from height over the last 8 years. Part of this decline is due to the new guidelines for the classification of accidents that the HSE introduced in 2001/02. These clarified the distinction between particular kinds of accidents e.g. falls from a height and slip/trip accidents. As a result, a number of injuries that would previously have been classified as low falls are now recorded as trips, therefore resulting in a decline in major injuries due to falls from height between 2000/01 and 2001/02.

HSE statisticians analysed the data on falls and concluded that while part of the reduction in 2001/02 for high falls was due to the new reporting guidelines, the rest was genuine. In contrast, most of the reduction for low falls can be attributed to the new guidelines. Taking this analysis into account, the HSE consider that the number of major injuries due to high falls is lower now than five years ago, while there has been no clear change in the number of major injuries due to low falls. This is complicated by the variation in the number of injuries where the height is not specified.

As with any accident data, it is likely there is some degree of under-reporting, especially for less serious falls from height accidents. In addition, small and medium sized enterprises (SMEs) are less likely to report injuries. The estimate of the level of reporting of all non-fatal injuries based on the average Labour Force Survey (LFS) rate for 2003/04 was 48%, therefore the estimated level of under-reporting was 52%. However it was not possible to estimate a level of under-reporting specifically for falls from height injuries since these are not defined in the LFS.

The prediction of future trends of falls from height accident data is difficult due to the many factors influencing accident data, such as the economic cycle and temporal changes. The HSE has carried out some research on this issue and have estimated that the number of major injuries will be 3594 in 2005/06, which if correct will be a further reduction to the number reported in 2004/05.

We also attempted to identify other possible sources of falls from height accident data that may provide further information on the current trends in falls accidents. One source of falls from height accident data that we identified was the Department of Health’s statistics website, which provided information on all NHS hospital admissions. Although falls accidents were identified as a category in the data, the data did not differentiate between work related falls and other types of falls, such as household falls. Therefore this information was not suitable for this project.

Another source of information investigated was the Annual Mortality Statistics published by the Office for National Statistics. Although the data listed accidental falls as a category, the data did not differentiate between work related falls and other types falls such as household falls and therefore the information could not be used for this project.

We also investigated what accident statistics were available from the Occupational Safety and Health Administration (OSHA) in the USA. They collate workplace accident data that includes falls from height. However, the relevance of this data (i.e. whether it would be suitable to compare with the UK data) was discussed with the HSE and it was decided that it was not suitable.
6 RESULTS – STAGE 1 WORK AT HEIGHT STUDY

The chapter presents the results from the first stage of the main Work at Height study. The results from the different groups are presented in five separate sections. At the start of each section, there is a summary of the key messages.

6.1 EQUIPMENT MANUFACTURERS AND SUPPLIERS

Key messages
The key findings from the telephone interviews with 19 equipment manufacturers and suppliers are summarised below.

- The majority of manufacturers and suppliers supplied their fall arrest/prevention equipment to a complete range of industry sectors rather than specialising in specific sectors.
- The manufacturers who gave sale forecast figures for the next 12 months predicted an increase in sales of 9% to 25%, which they believed would be due in part to the new Work at Height Regulations.
- Most of the manufacturers and suppliers questioned provided training or advice on the safe use of fall arrest/fall prevention work equipment to their customers and the majority were waiting for the new Regulations to come out before deciding on any changes.
- All manufacturers and suppliers were aware of the forthcoming Work at Height Regulations and the majority obtained information on changes in health and safety legislation from more than one source, the most popular sources being the HSE website and trade organisations.
- 84% of manufacturers and suppliers questioned believed that the Regulations would have a positive effect on their business.
- A general comment from manufacturers and suppliers was that the sale of ladders would decrease with the forthcoming Regulations compared to an increase in sales of work platforms and fall arrest equipment.

Detailed findings
We spoke to senior managers representing 19 manufacturers/suppliers of fall arrest and fall prevention equipment.

The range of management experience of these managers varied from 0.15 to 15 years, with the average management experience being 9.3 years.

The 19 manufacturers/suppliers involved in this study supplied a wide range of fall arrest and fall prevention equipment, as shown in Table 6.1. Several companies manufactured or supplied more than one specific piece of fall arrest/prevention equipment. The two that supplied general PPE sold it in addition to fall arrest/prevention equipment.
Table 6.1 Range of equipment manufactured/supplied

<table>
<thead>
<tr>
<th>Item of equipment</th>
<th>Number manufacturing/supplying item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladders</td>
<td>11</td>
</tr>
<tr>
<td>Fall arrest equipment</td>
<td>11</td>
</tr>
<tr>
<td>Work restraint equipment</td>
<td>8</td>
</tr>
<tr>
<td>Barriers e.g. guardrails, toe boards</td>
<td>5</td>
</tr>
<tr>
<td>Work platforms</td>
<td>5</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>3</td>
</tr>
<tr>
<td>General PPE</td>
<td>2</td>
</tr>
<tr>
<td>Dead weight anchor systems and eyebolts</td>
<td>1</td>
</tr>
<tr>
<td>Air safety matting</td>
<td>1</td>
</tr>
<tr>
<td>Work suspension equipment</td>
<td>1</td>
</tr>
</tbody>
</table>

The manufacturers and suppliers sold fall arrest and fall prevention equipment to many different industry sectors, e.g. construction, agriculture, manufacturing, service and retail industries and in a majority of cases across the complete range of industry sectors.

As shown in Table 6.2, only 12 of the manufacturers/suppliers were prepared to provide information on their sales figures for items of fall arrest/prevention equipment. One of these had only started to produce fall arrest equipment in November 2004 and was therefore unable to provide information on their current annual sales. The other eight refused to provide this information because they said it was commercially sensitive, despite our assurances that they would not be identified in this report.

The current annual sales for items of fall arrest/prevention equipment estimated by the 11 manufacturers and suppliers who did provide this information ranged from £250,000 to £56 million. The manufacturers and suppliers who provided information on their annual sales figures also stated that in general they expected sales to increase over the next 12 months by between 9% and 25%. Most of them said that they expected this increase in sales to be due in part to the new Work at Height Regulations, although some increase would be due to changes in the operational aspects of their business such as increasing their range of products.

14 manufacturers and suppliers provided advice on the safe use or training of fall arrest/fall prevention work equipment to their customers. Four manufacturers and suppliers did not provide such advice or training. Of these, two manufacturers stated that such advice/training was sometimes provided to third parties by agents and suppliers. The other two manufacturers and suppliers stated that this information was not provided. One manufacturer/supplier was not willing to comment on this issue.

Of the 14 manufacturers who provided advice on the safe use or training of fall arrest/fall prevention work equipment, only one manufacturer/supplier had already changed their advice/training because of the forthcoming Work at Height Regulations. Twelve manufacturers and suppliers had made no change and one manufacturer/supplier was not prepared to comment. The main reason identified by manufacturers and suppliers for not introducing any change to the advice/training that they provided was that they were waiting for the new Regulations to come out before deciding whether to make any changes. Two manufacturers also stated that they
were not making changes to the advice/training that they provided because they believed that the new Regulations would not significantly affect their current approach.

Table 6.2 Manufacturers/suppliers’ sales of work at height equipment

<table>
<thead>
<tr>
<th>Manufacturer and/or Supplier</th>
<th>Current sales of fall arrest/prevention work equipment</th>
<th>Predicted sales of fall arrest/prevention work equipment over the next 12 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Approx £500K</td>
<td>Approximately £550K</td>
</tr>
<tr>
<td>2</td>
<td>Approx £25K</td>
<td>Approximately £31,250: 25 % growth</td>
</tr>
<tr>
<td>3</td>
<td>Approx £3 million</td>
<td>Approximately 3.3-3.45 million: 10-15% growth</td>
</tr>
<tr>
<td>4</td>
<td>Approx £16 million</td>
<td>Approximately £18-19 million: 13 -19% growth</td>
</tr>
<tr>
<td>5</td>
<td>Approx £6 million</td>
<td>Ladders/stepladders: 30-50% fall; mobile access: 10% growth; Permanent access: remain static</td>
</tr>
<tr>
<td>6</td>
<td>Approx £700K</td>
<td>Approx £850K: 20% growth</td>
</tr>
<tr>
<td>7</td>
<td>Approx £250K</td>
<td>Can't give a figure; foresees a potential increase with construction/window cleaning companies, due to lifetime of product being 6/7 years so won't see much repeat business</td>
</tr>
<tr>
<td>8</td>
<td>Approx £750K</td>
<td>Believe it will remain the same</td>
</tr>
<tr>
<td>9</td>
<td>Only started producing fall arrest equipment in November 04</td>
<td>Unable to quantify, certainly expecting an increase</td>
</tr>
<tr>
<td>10</td>
<td>Approx £1 million</td>
<td>Unable to quantify</td>
</tr>
<tr>
<td>11</td>
<td>Approx £56 million</td>
<td>Approximately £61 million: 9% growth</td>
</tr>
<tr>
<td>12</td>
<td>Approx £1.2 million</td>
<td>Expect an increase, but unable to quantify. Increase will be due to extended range of products available to clients, e.g. scissor lifts &amp; cherry pickers, and the impact of the new WAH Regulations.</td>
</tr>
</tbody>
</table>

As shown in Table 6.3, the manufacturers and suppliers obtained information on changes in health and safety legislation affecting their businesses from a variety of sources. In general, the manufacturers and suppliers did not rely on one principal source to obtain adequate health and safety information but on several sources. The most popular sources of health and safety information were trade associations/bodies and the HSE website. Other sources of health and safety information involved talking to other manufacturers/suppliers and employing the help of health and safety consultants.
Table 6.3 Sources of health and safety information

<table>
<thead>
<tr>
<th>Sources of health and safety information</th>
<th>Manufacturers/Suppliers responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSE website</td>
<td>18</td>
</tr>
<tr>
<td>Trade Associations or bodies</td>
<td>14</td>
</tr>
<tr>
<td>Talking to other manufacturers/suppliers</td>
<td>6</td>
</tr>
<tr>
<td>Health &amp; safety consultant</td>
<td>4</td>
</tr>
</tbody>
</table>

All 19 manufacturers and suppliers were aware of the forthcoming Work at Height Regulations. Table 6.4 shows the effect that the manufacturers/suppliers expected the new Regulations to have on their business. Sixteen manufacturers/suppliers thought that the Regulations would have a positive effect.

It was difficult to determine any correlation between any particular responses to the new Regulations and a particular type of fall arrest/prevention equipment manufacturer or supplier because that most manufacturers and suppliers supplied more than one type of equipment. However some general comments were that the Regulations would result in a decrease in sales of ladders but an increase in the sales of work platforms and fall arrest equipment.

Table 6.4 Effect of the new Work at Height Regulations on manufacturers/suppliers’ businesses

<table>
<thead>
<tr>
<th>Effect of the new Work at Height Regulations</th>
<th>Manufacturers/suppliers responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant positive impact</td>
<td>7</td>
</tr>
<tr>
<td>Slight positive impact</td>
<td>9</td>
</tr>
<tr>
<td>None</td>
<td>1</td>
</tr>
<tr>
<td>Slight negative impact</td>
<td>1</td>
</tr>
<tr>
<td>Not sure</td>
<td>1</td>
</tr>
</tbody>
</table>

Eight of the 19 manufacturers and suppliers supplied their products to other European countries. However none of these eight manufacturers/suppliers were aware of whether any new Regulations affecting work at height were being implemented in these countries.

6.2 HSE AND LA INSPECTORS

Key messages

The key findings from the telephone interviews with 24 HSE and 6 LA inspectors are summarised below. Unless otherwise specified, the findings apply to both groups of inspectors.

- Most of the inspectors spent less than 20% of their time dealing with work at height issues.
- A wide range of agents were reported to be involved in falls from height, however the biggest single agent was portable ladders.
• The main underlying cause identified by inspectors for falls from height was the failure to ensure that a safe system of work was used. Inspectors also identified failure to use appropriate equipment as an important underlying cause, and the HSE inspectors also identified failure to provide suitable equipment as an important cause.

• The inspectors reported that most falls from height were the result of multiple failings.

• The majority of actions taken by inspectors on work at height issues consisted of providing verbal or written advice.

• Most (71%) HSE inspectors were ‘not very confident’ or ‘not at all confident’ that duty holders understood the risks and controls required for work at height.

• All except one of the LA inspectors were ‘not very confident’ that duty holders understood the risks and controls for work at height. One was unsure.

• The inspectors’ views of how well duty holders complied with legal requirements were very varied, although the HSE inspectors reported the lowest level of compliance in the construction sector (N.B. the sample size was small [5]).

• The inspectors’ views of whether duty holders carried out suitable and sufficient risk assessments also varied, with the HSE inspectors reporting the lowest confidence levels in manufacturing, construction and multi-groups.

• Most (73%) inspectors thought that existing legislation was adequate or mostly adequate to control work at height. The two main suggestions for further reducing falls from height were better guidance on work at height for duty holders and stronger enforcement by the HSE.

• 54% of the HSE inspectors thought that the new Work at Height Regulations would have a positive effect on reducing falls because they would raise awareness, but that the effects may be limited as duty holders were not complying with current legislation. 21% thought they would have no effect.

• The LA inspectors thought that the new Regulations would either have no effect or they were unsure what effects they would have.

• The inspectors identified accident investigations, general inspections and media coverage of prosecutions as the most effective communication methods for duty holders. The HSE inspectors also identified topic inspections as an effective method of communication.

**Detailed findings**

24 HSE inspectors and six Local Authority (LA) inspectors were interviewed as part of this study. The HSE inspectors worked in the following HSE sectors: five in Construction, five in General Manufacturing, two in the Hazardous Installations Directorate (HID), one in Railways, six in Multi-Groups (who cover both General Manufacturing and Health Services) and five in Health Services.

The range of work experience of HSE inspectors in their current work sectors varied from 0.5 to 8.5 years, with the average work experience being 3.4 years. For LA inspectors, the range of work experience varied from 4 to 15 years, with the average work experience being 7.7 years.

Work at height was identified as an important issue for duty holders in their work sector by 23 of the 24 HSE inspectors. Of these, 11 HSE inspectors identified work at height as being a very significant issue and 12 inspectors identified work at height as being a significant issue. The six LA inspectors also identified work at height as being an important work issue for the duty holders they dealt with.
All HSE inspectors identified the HSE Revitalising Programme as the main work programme aimed at reducing falls from heights. In addition, the inspectors reported that there were a number of local sector initiatives aimed at reducing falls from height, such as ladder, fragile roof, scaffolding, outdoor advertising and steelwork projects. The majority of LA inspectors interviewed also identified the HSE Revitalising Programme as the main work programme aimed at reducing falls from heights. The only additional local authority local initiatives reported by LA inspectors aimed at reducing falls from height were window cleaning projects.

The experience of the HSE and LA inspectors of dealing with work at height issues (within their work sectors/jobs) varied. Fourteen HSE inspectors had extensive experience of dealing with work at height issues, i.e. more than 12 months experience. Eight HSE inspectors had some experience, i.e. between 6 and 12 months, and two inspectors had little experience, i.e. between 0 to 6 months experience of dealing work at height issues. Four LA inspectors had extensive experience and two LA inspectors had some experience of dealing with work at height issues.

The average time spent by HSE inspectors dealing with work at height issues within their sectors/jobs also varied. This is shown in Figure 6.1 below.

In general, HSE inspectors in the construction sector spent more time dealing with work at height issues than HSE inspectors in the manufacturing and service sectors. This probably reflects the fact that more work at height activity is carried out in the construction sector than the manufacturing and service sectors.

Five of the six LA inspectors spent 1-2 hours per inspection day addressing work at height issues. This is equivalent to 13 - 25% of an inspection day and is approximately equivalent to the average time spent by the majority of HSE inspectors on work at height issues.

HSE and LA inspectors identified a variety of agents as being involved in falls from height. They also estimated the percentage each of these agents contributed to falls from height. The most common agents identified by HSE inspectors were portable ladders, work platforms and
roofs. Each agent and the average percentage awarded by all the HSE inspectors are shown in Table 6.5 below.

**Table 6.5** Common agents involved in falls from height, as identified by HSE inspectors

<table>
<thead>
<tr>
<th>Main agents involved in falls from height</th>
<th>Average of HSE inspectors’ responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable ladders</td>
<td>25%</td>
</tr>
<tr>
<td>Work platforms</td>
<td>10%</td>
</tr>
<tr>
<td>Fragile roofs/skylights</td>
<td>9%</td>
</tr>
<tr>
<td>Vehicles</td>
<td>7%</td>
</tr>
<tr>
<td>Roof edges</td>
<td>7%</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>7%</td>
</tr>
<tr>
<td>Stairs</td>
<td>5%</td>
</tr>
<tr>
<td>Fixed ladders</td>
<td>2%</td>
</tr>
</tbody>
</table>

The most common agents identified by LA inspectors were portable ladders, stairs, mezzanine floors and window ledges. This is shown in Table 6.6 below.

The LA inspectors identified a wider range of agents than the HSE inspectors, including more agents that indicate incorrect working methods, such as window ledges and climbing on racking. These differences between the agents identified by the two types of inspectors probably reflect the fact that the work activities carried out in HSE enforced work premises (for example construction and manufacturing) are different from those carried out in LA enforced work premises, for example offices and retail).

**Table 6.6** Common agents involved in falls from height, as identified by LA inspectors

<table>
<thead>
<tr>
<th>Main agents involved in falls from height</th>
<th>Average of LA inspectors’ responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable ladders</td>
<td>18%</td>
</tr>
<tr>
<td>Stairs</td>
<td>14%</td>
</tr>
<tr>
<td>Mezzanine floors</td>
<td>13%</td>
</tr>
<tr>
<td>Window ledges</td>
<td>12%</td>
</tr>
<tr>
<td>Fragile roofs/skylights</td>
<td>11%</td>
</tr>
<tr>
<td>Work platforms</td>
<td>6%</td>
</tr>
<tr>
<td>Trap doors</td>
<td>6%</td>
</tr>
<tr>
<td>Falls from lifts</td>
<td>6%</td>
</tr>
<tr>
<td>Vehicles</td>
<td>4%</td>
</tr>
<tr>
<td>Roof edges</td>
<td>4%</td>
</tr>
<tr>
<td>Climbing on racking</td>
<td>4%</td>
</tr>
<tr>
<td>Fixed ladders</td>
<td>2%</td>
</tr>
</tbody>
</table>
The most common underlying cause of falls from height accidents identified by HSE inspectors was the failure to have a safe system of work. The inspectors were then asked to estimate the percentage of falls from height that each cause contributed. The results are shown in Table 6.7.

**Table 6.7** Most common underlying causes of falls from height, as identified by HSE inspectors

<table>
<thead>
<tr>
<th>Underlying causes of falls from height</th>
<th>Average of HSE inspectors’ responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to ensure that safe systems of work are used</td>
<td>45%</td>
</tr>
<tr>
<td>Failure to provide suitable work equipment</td>
<td>17%</td>
</tr>
<tr>
<td>Failure to use appropriate equipment</td>
<td>13%</td>
</tr>
<tr>
<td>Failure to provide adequate training</td>
<td>10%</td>
</tr>
<tr>
<td>Inadequate communication</td>
<td>8%</td>
</tr>
<tr>
<td>Failure to provide information and guidance</td>
<td>6%</td>
</tr>
</tbody>
</table>

Other common causes identified were the failure by duty holders to provide suitable work equipment and failure to use appropriate work equipment. LA inspectors also identified the failure to provide a safe system of work as the most common cause of falls from height accidents, as shown in Table 6.8.

**Table 6.8** Most common underlying causes of falls from height, as identified by LA inspectors

<table>
<thead>
<tr>
<th>Underlying causes of falls from height</th>
<th>Average of LA inspectors’ responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to ensure that safe systems of work are used</td>
<td>52%</td>
</tr>
<tr>
<td>Failure to use appropriate equipment</td>
<td>27%</td>
</tr>
<tr>
<td>Failure to provide adequate training</td>
<td>17%</td>
</tr>
<tr>
<td>Failure to provide information and guidance</td>
<td>10%</td>
</tr>
<tr>
<td>Failure to provide suitable work equipment</td>
<td>9%</td>
</tr>
<tr>
<td>Inadequate communication</td>
<td>7%</td>
</tr>
</tbody>
</table>

The majority of HSE and LA inspectors commented on the fact that most falls from height accidents are the result of multiple failings and this is reflected by the fact that the percentages attributed to the various failings in Tables 6.7 and 6.8 exceed 100%. Several HSE and LA inspectors also suggested that some of the underlying causes of falls from height accidents, such as the failure to provide adequate training and failure to provide guidance and information, should be grouped together under a failure to have a safe system of work.

There were five types of enforcement action taken on work at height issues by HSE and LA inspectors. These actions consisted of verbal advice, written advice (consisting of, for example, a letter or instant visit report), Improvement Notices, Prohibition Notices and Prosecution, as shown in Table 6.9. The vast majority of enforcement action taken on work at height issues...
consisted of verbal and written advice. Inspectors sometimes took multiple enforcement actions, e.g. both verbal and written advice was given to a duty holder. This accounts for the fact that the different enforcement actions shown in Table 6.9 exceed 100%. A wide range of responses were given and the average percentages are included in Table 6.9.

Table 6.9 Types of enforcement action taken by HSE inspectors

<table>
<thead>
<tr>
<th>Type of enforcement action</th>
<th>Average of HSE inspectors’ Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal advice</td>
<td>44%</td>
</tr>
<tr>
<td>Sent letter/instant visit report</td>
<td>33%</td>
</tr>
<tr>
<td>Prohibition Notice</td>
<td>17%</td>
</tr>
<tr>
<td>Prosecution</td>
<td>11%</td>
</tr>
<tr>
<td>Improvement Notice</td>
<td>9%</td>
</tr>
</tbody>
</table>

19 of the 24 HSE inspectors stated that they had investigated work at heights accidents in the last 12 months. These accidents had resulted in 7 fatalities, 71 major injuries, 48 over-3-day accidents and 9 minor accidents. Five LA inspectors had investigated work at heights accidents in the last 12 months. These accidents had resulted in four fatalities, 18 major injuries and 16 over-3-day accidents.

The HSE inspectors had varying amounts of confidence that the duty holders understood the risks and control measures required for work at height. 17 out of 25 were ‘not very’ or ‘not at all’ confident. These are shown in Figure 6.2 below.

![Confidence levels of HSE inspectors that duty holders understood the risks and control measures for work at height](image)

**Figure 6.2** Confidence levels of HSE inspectors that duty holders understood the risks and control measures for work at height

The majority of the LA inspectors were not very confident that the duty holders understood the risks and control measures for work at height. One was unsure. This is shown in Figure 6.3 below.
The HSE inspectors’ views on the percentage of duty holders fulfilling their legal obligations varied significantly, ranging from 0-20% to 80-100%. These views appear to be related to an inspector’s work sector, with inspectors in the construction having the least confidence, i.e. 0-20% of duty holders fulfilling their legal obligations.

Two LA inspectors thought that only 0-20% of duty holders were fulfilling their legal obligations to ensure that work at height was safe. Four LA inspectors thought that 40-60% of duty holders were fulfilling their legal obligations.

The HSE inspectors’ views on the percentage of duty holders carrying out suitable and sufficient risk assessments also varied significantly, ranging from 0-20% to 61-80%. These views appear to be related to the inspector’s work sector, with inspectors in the manufacturing, construction and multi-groups identifying the lowest percentage (0-20%) of duty holders who carried out suitable and sufficient risk assessments.

Four of the six LA inspectors thought that only 0-20% of duty holders were carrying out suitable and sufficient risk assessments. The remaining two inspectors thought that higher percentages (21-40% and 41-60%) of duty holders were carrying out suitable risk assessments.

In our opinion, this wide variation in the views of the inspectors may be because in general the duty holders in some sectors of industry, such as the chemicals sector, have to deal with high risks and therefore have the resources and expertise to ensure that their legal duties for all risks, including work at height, and their requirement to carry out suitable and sufficient risk assessments are met. However in other industry sectors, such as manufacturing and construction, the resources and expertise may not be as readily available.

The HSE inspectors identified the Health and Safety at Work Act 1974, the Workplace Regulations 1992, the Construction (Health, Safety and Welfare) Regulations 1996 and
Management of Health and Safety Regulations 1999 as being the main legislation relevant to the management of work at height activities in their sectors.

LA inspectors also identified the Health and Safety at Work Act 1974, the Workplace Regulations 1992 and Management of Health and Safety Regulations 1999 as being the main legislation relevant to the management of work at height activities in their sectors.

The main differences between the legislation identified by the HSE and LA inspectors were probably due to the fact that they enforce different types of work premises.

Thirteen HSE inspectors thought that the existing legislation was adequate to control work at height. A further ten HSE inspectors thought that the existing legislation was mostly or partly adequate. One HSE inspector was unsure.

HSE inspectors suggested two main measures to further reduce falls from height. These involved providing better guidance on work at height to duty holders and stronger enforcement of the legislation.

Three LA inspectors thought that the existing legislation was adequate to control work at height. A further three LA inspectors thought that the existing legislation was mostly or partly adequate.

All HSE inspectors were aware of the forthcoming Work at Height Regulations. Thirteen HSE inspectors believed that the Regulations would have a positive effect on reducing falls from height in their sectors; five inspectors believed that they would have no effect on reducing falls from height and six inspectors were unsure.

From the inspectors’ comments it was apparent that most inspectors believed that the Regulations would have a positive effect on reducing falls from height because they would raise awareness. However it was also suggested that this positive effect would be limited because existing legislation for work at height was not being complied with by duty holders, therefore the introduction of new legislation would have only a limited impact.

One LA inspector thought that the forthcoming Regulations would have a slight positive effect on reducing falls from heights. Two LA inspectors thought that they would have no effect on reducing falls from heights and three inspectors were unsure of the effect of the Regulations.

The LA inspectors’ comments about the effects that they expected the forthcoming Regulations to have varied. One suggested that there might be a slight positive effect due to increased awareness of the risk of work at height by duty holders. One suggested that the new Regulations would have no effect on reducing falls because they would make duty holders more confused. Two LA inspectors commented that they were not sure of the effect of the new Regulations because they were not aware of the requirements of the Regulations.

The HSE and LA inspectors were asked for their opinions on the effectiveness of a variety of communication measures for getting the message of safe working at height across to duty holders. These communication measures included safety awareness days, trade union involvement, staff consultation, general inspections, topic inspections and media coverage of prosecutions. The results for the HSE inspectors are shown in Figure 6.4 and for LA inspectors in Figure 6.5.

Ten HSE inspectors thought that safety awareness days were either effective or very effective. This was because this group of inspectors thought that safety awareness days created increased
14 HSE inspectors were unsure of their effectiveness, which appeared from their comments to be because they had not been involved in any safety awareness days. However even HSE inspectors who suggested that the safety awareness days were effective suggested that this effect may be limited due to the relatively small number of duty holders who attend such events and because those who attend such events are usually already quite knowledgeable about health and safety issues.

The response of LA inspectors on the effectiveness of safety awareness days was quite varied. Two LA inspectors thought that safety awareness days were effective because they increased awareness of work at height issues, two LA inspectors were unsure because they had not been involved in any safety awareness days and two LA inspectors thought that they were not effective because duty holders had failed to show any interest in attending such events in the past.

**Figure 6.4** HSE inspectors' opinions on the effectiveness of communication measures
The response of HSE inspectors to trade union involvement was also quite varied. Ten inspectors thought that trade union involvement was effective in getting the message of safe working at height across to duty holders because unions had influence and were proactive. Nine HSE inspectors were unsure of the effect of trade union involvement for a variety of reasons, e.g. there was little trade union representation in their work sectors and where trade unions were present they were not always proactive in communicating with duty holders on work at height issues.

Five out of the six LA inspectors were unsure of the effect of trade unions in getting the message of safe working at height across to duty holders. One inspector also thought that trade unions were ineffective. The inspectors’ comments indicated that this was because none of the premises that they visited had unionised staff.

Ten HSE inspectors thought that staff consultation between employers and employees was an effective means of getting the message of safe working at height across to duty holders. However thirteen HSE inspectors were unsure of the effectiveness of staff consultation processes and one inspector stated that the staff consultation was ineffective. The inspectors commented that this was because from their experience effective staff consultation rarely took place.

Two LA inspectors thought that staff consultation was effective and four LA inspectors were unsure. However, generally the inspectors’ comments were that effective staff consultation on work at height issues rarely took place.
The majority of HSE inspectors thought that general inspections were an effective measure in getting the message of safe work at height across to duty holders. 19 stated that general inspections were either effective or very effective. Their comments suggested that this was because they identify the key issues and an inspectors’ presence focuses the duty holders’ attention on the key health and safety issues such as work at height. Five HSE inspectors were unsure of the effectiveness of general inspections because they had not carried any out.

All six LA inspectors thought that the general inspections were either effective or very effective. The inspectors’ comments indicated that this was for the same reasons as mentioned by the HSE inspectors.

The majority of HSE inspectors also thought that topic inspections were an effective measure in getting the message of safe working at height across to duty holders. Sixteen thought that topic inspections were either effective or very effective. The inspectors commented that this was because they focus management attention on the key health and safety issues, including work at height. However seven inspectors were unsure of the effectiveness of topic inspections and one inspector thought topic inspections were ineffective. This was because they focussed on a limited number of work issues, which did not always represent the health and safety issues at a duty holder’s site.

23 out of the 24 HSE inspectors thought that accident investigations were an effective way of getting the message of safe working at height across to duty holders. Their comments indicated that this was because the occurrence of an accident and the presence of an inspector focussed management attention on key work at height issues. However it was suggested by one inspector that accident investigation was ineffective because management did not usually adopt long-term changes to their work procedures because of one accident.

All six LA inspectors thought that accident investigations were an effective measure in getting the message of safe working at height across to duty holders. Again, this was because an accident focussed management attention on key work at height issues.

16 of the HSE inspectors thought that media coverage associated with prosecution action against a duty holder was either an effective or very effective measure in getting the message of safe working at height across to other duty holders. The inspectors’ comments suggested that this was because duty holders who failed to comply with the appropriate Regulations were prosecuted. This group of inspectors also commented that although media coverage can be effective, its effect may be relatively short-term due to other media stories. Five HSE inspectors were unsure of the effect of media coverage, which was because they thought media coverage did not always focus on the key health and safety issues and that there was no real evidence to prove it had a positive effect. Three HSE inspectors thought that media coverage was ineffective because it did not always reach the appropriate duty holders, the time-frame of coverage was too short and media opportunities were not always adequately utilised.

The majority of LA inspectors thought that media coverage associated with prosecution action against a duty holder was an effective measure in getting the message of safe working at height across to other duty holders. Four inspectors stated that media coverage associated with prosecution action was either effective or very effective. This was for similar reasons as identified by the HSE inspectors. One LA inspector was unsure about the effect of media coverage because he thought that media coverage only provided limited publicity. Another inspector thought that the media coverage was ineffective because even when presented with information about appropriate health and safety standards, duty holders failed to act on this information because they did not recognise similar failings in their own health and safety management systems.
6.3 TELEPHONE INTERVIEWS WITH DUTY HOLDERS

Key messages

The key findings from the telephone interviews with 164 duty holders are summarised below.

- All the industry sectors identified training and team meetings/briefings as a way of involving workers in health and safety, and the vast majority had employee representatives.
- A wide range of equipment was used for work at height. All industry sectors used ladders for working at height and the majority used Mobile Elevated Working Platforms (MEWPs).
- Almost 50% of managers reported fall from height accidents and identified portable ladders as the main agent involved followed by stairs, work areas/platforms and vehicles.
- The main underlying causes of work at height accidents identified by managers were operator error, unsafe systems of work, complacency, employees not following procedures and unsafe work equipment.
- All industry sectors reported that they carried out risk assessments for work at height and over 90% of managers stated that they were carried out in their company by a wide range of people from operatives to safety consultants. Those managers who didn’t carry out risk assessments were mainly in the education and arboriculture sectors.
- A wide range of measures were used to prevent fall from height accidents with formal training, appropriate work equipment, avoiding work at height and site inspections being the most common.
- Almost 90% of managers reported that they were confident that they were fulfilling their legal obligations to ensure that work at height was carried out safely. The lowest levels of confidence were in the education and food and drink sectors.
- Over 80% of managers were aware of the new Regulations but less than 30% planned to introduce changes to their work at height activities either before or when the new Regulations came into place. The education sector had by far the lowest percentage (19%) of managers who were aware of the new Regulations.
- A significant number (60%) of the managers who were aware of the new Regulations stated that no changes would be required as they felt they already conformed to appropriate standards and no further action was required.

Detailed findings

We spoke to 164 managers representing companies in the key industry sectors. They were all senior managers or directors, including operations managers, company owners and health and safety managers. A full list of these sectors is given in section 3.1.3 and the numbers of duty holders interviewed from each sector are shown below:

- Construction (22)
- Steeplejacks (9)
- Building maintenance (14)
- Arboriculture (16)
- Window cleaning (9)
- Electricity (7)
- Ship building & aircraft maintenance (15)
- Telecommunications (15)
- Food & drink (15)
- Road haulage (15)
Table 6.10 shows the range and mean management experience of these managers in each industry sector.

**Table 6.10** Range and mean of management experience in each industry sector

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Range (years)</th>
<th>Mean (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>0.3 - 16</td>
<td>4.5</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>8 hours - 28</td>
<td>13.1</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>2 - 10</td>
<td>4.9</td>
</tr>
<tr>
<td>Arboriculture</td>
<td>1 - 25</td>
<td>12.9</td>
</tr>
<tr>
<td>Window cleaning</td>
<td>0.2 - 28</td>
<td>16.9</td>
</tr>
<tr>
<td>Electricity</td>
<td>3.5 - 15</td>
<td>7.2</td>
</tr>
<tr>
<td>Ships and aircraft</td>
<td>0.2 - 42</td>
<td>7.0</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>0.7 - 18</td>
<td>5.5</td>
</tr>
<tr>
<td>Food and drink</td>
<td>0.7 - 14</td>
<td>4.7</td>
</tr>
<tr>
<td>Road haulage</td>
<td>0.2 - 23</td>
<td>9.2</td>
</tr>
<tr>
<td>Education</td>
<td>0.2 - 28</td>
<td>8.2</td>
</tr>
<tr>
<td>Retail</td>
<td>0.23 - 12</td>
<td>4.9</td>
</tr>
</tbody>
</table>

From Table 6.10, it is apparent that the mean management experience was highest in the window cleaning sector (16.9 years) and lowest in the construction sector (4.5 years). The range of management experience in the different sectors was quite varied with the largest being in the aircraft/shipbuilding sector (0.2 – 42 years) and the smallest being in the building sector (2 – 10 years).

The number of sites owned by the companies of the managers that we interviewed varied significantly between sectors as shown in Table 6.11. The retail sector had the largest range of sites (146 – 17,000) compared to the education sector that had the lowest range (1).
Table 6.11  Range and mean of the number of sites occupied in each sector

<table>
<thead>
<tr>
<th>Industry sectors</th>
<th>Range</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>1 - 100</td>
<td>25</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>1 - 5</td>
<td>2</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>1 - 100</td>
<td>14</td>
</tr>
<tr>
<td>Arboriculture</td>
<td>1 - 4</td>
<td>1</td>
</tr>
<tr>
<td>Window cleaning</td>
<td>1 - 200</td>
<td>23</td>
</tr>
<tr>
<td>Electricity</td>
<td>2 - 40</td>
<td>19</td>
</tr>
<tr>
<td>Ships and aircraft</td>
<td>1 - 10</td>
<td>4</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>1 - 6500</td>
<td>485</td>
</tr>
<tr>
<td>Food and drink</td>
<td>2 - 600</td>
<td>64</td>
</tr>
<tr>
<td>Road haulage</td>
<td>1 - 42</td>
<td>7</td>
</tr>
<tr>
<td>Education</td>
<td>1 - 1</td>
<td>1</td>
</tr>
<tr>
<td>Retail</td>
<td>146 - 17,000</td>
<td>2,040</td>
</tr>
</tbody>
</table>

The number of employees employed by the managers’ companies varied significantly between the industry sectors. The retail sector had the largest mean number (45,400 employees) as shown in Table 6.12. The education sector had the smallest mean number (47) of employees.

Table 6.12  Range and mean number of employees in each sector

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Range of employees</th>
<th>Mean number of employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>9 - 33,000</td>
<td>2,133</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>6 - 220</td>
<td>63</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>1 - 1,200</td>
<td>284</td>
</tr>
<tr>
<td>Arboriculture</td>
<td>1 - 700</td>
<td>63</td>
</tr>
<tr>
<td>Window cleaning</td>
<td>10 - 37,000</td>
<td>4,690</td>
</tr>
<tr>
<td>Electricity</td>
<td>310 - 9,000</td>
<td>3,697</td>
</tr>
<tr>
<td>Ships and aircraft</td>
<td>12 - 6500</td>
<td>1,420</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>1 - 90,000</td>
<td>9,013</td>
</tr>
<tr>
<td>Food and drink</td>
<td>800 - 6,000</td>
<td>2,280</td>
</tr>
<tr>
<td>Road haulage</td>
<td>6 - 1,400</td>
<td>384</td>
</tr>
<tr>
<td>Education</td>
<td>10 - 100</td>
<td>47</td>
</tr>
<tr>
<td>Retail</td>
<td>5,000 - 150,000</td>
<td>45,400</td>
</tr>
</tbody>
</table>

The managers reported that they involved employees in health and safety matters in a variety of ways. Those means of involvement that were stated in excess of two times by the managers are shown in Table 6.13 on the next page. They are presented in order of total frequency with the most frequently mentioned means of involvement first.
The main differences between the sectors were that the education sector did not use toolbox talks and 63% of the education sector interviewed had regular team meetings or briefings about health and safety rather than health and safety committees. Risk assessments were used to involve workers in health and safety for a number of sectors. The sectors where no one reported using this as a means of involving workers in health and safety were electricity, telecommunications and retail. The intranet was used most in the retail sector with 91% of these managers stating they used it to involve workers. It was also used by 43% of managers in the electricity sector.

The work activities reported by managers involving work at height varied significantly and were very much sector related. For example, in the education sector the main work activity involving work at height involved displaying students’ work. However in the construction sector, the main activities involving work at height were roof work, general building, bridge work and steel/concrete construction.

The number of workers identified by managers as being involved in work at height activities varied from sector to sector. The construction sector had the largest number of employees involved in work at height and the education sector had the least number of employees involved in work at height. The numbers of employees working at height across the sectors is shown in Table 6.14.
Table 6.13  Ways of involving workers in health and safety

<table>
<thead>
<tr>
<th>Involvement of employees in health and safety</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Arboriculture</th>
<th>Window cleaning</th>
<th>Electricity</th>
<th>Ship/aircraft maintenance</th>
<th>Telecoms</th>
<th>Food/drink</th>
<th>Road haulage</th>
<th>Education</th>
<th>Retail</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>10</td>
<td>9</td>
<td>10</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>14</td>
<td>11</td>
<td>14</td>
<td>11</td>
<td>4</td>
<td>9</td>
<td>102</td>
</tr>
<tr>
<td>Health and safety committee</td>
<td>12</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>10</td>
<td>6</td>
<td>11</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>72</td>
</tr>
<tr>
<td>Regular team meetings/briefings</td>
<td>9</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>9</td>
<td>4</td>
<td>10</td>
<td>8</td>
<td>59</td>
</tr>
<tr>
<td>Toolbox talks</td>
<td>17</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>Employee representatives</td>
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Table 6.14  Number of employees working at height for each sector

<table>
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<tr>
<th>Number of employees</th>
<th>Construction n=22</th>
<th>Steeplejacks n=9</th>
<th>Building maintenance n=14</th>
<th>Arboriculture n=16</th>
<th>Window cleaning n=9</th>
<th>Electricity n=7</th>
<th>Ships &amp; aircraft n=15</th>
<th>Telecoms n=15</th>
<th>Food &amp; drink n=15</th>
<th>Road haulage n=15</th>
<th>Education n=16</th>
<th>Retail n=11</th>
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<td>69</td>
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<td>11-20</td>
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<td>22</td>
<td>14</td>
<td>6</td>
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<td>13</td>
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<td>7</td>
<td>13</td>
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<td>Above 200</td>
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<td>20</td>
<td>13</td>
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<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

(n = no of managers in each sector)
The managers identified a range of work equipment provided for work at height used within their industry. Equipment that was mentioned by more than one manager is shown in Table 6.15 on the next page. As can be seen, there was some variation in the use of this equipment between the sectors. Education, arboriculture, telecommunications and window cleaning sectors used scaffolding, guardrails and edge protection the least out of all the sectors. Over 90% of those questioned in the steeplejack, aircraft or ship maintenance and electricity sectors used fall arrest equipment. Ladders are used across all sectors whilst stepladders were most commonly used in the education sector. Mobile elevating work platforms (MEWPS) were again popular across the sectors except in the education, road haulage and electricity sectors. Safety harnesses were used most in the arboriculture, telecommunications and aircraft/ship maintenance sectors. The reach and wash equipment was solely used in the window cleaning sector.

81 of the 164 managers reported that their companies had had falls from height accidents. These managers identified a range of agents involved in the accidents within their companies and these are shown in Table 6.16.

<table>
<thead>
<tr>
<th>Agents involved in accidents</th>
<th>Number of responses</th>
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<tbody>
<tr>
<td>Portable ladders</td>
<td>39</td>
</tr>
<tr>
<td>Stairs</td>
<td>12</td>
</tr>
<tr>
<td>Work areas/platforms</td>
<td>12</td>
</tr>
<tr>
<td>Vehicles</td>
<td>11</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
</tr>
<tr>
<td>Fixed ladders</td>
<td>5</td>
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<tr>
<td>Don’t know</td>
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<tr>
<td>Step ladders</td>
<td>3</td>
</tr>
<tr>
<td>Roof edges</td>
<td>2</td>
</tr>
<tr>
<td>Kick stools</td>
<td>2</td>
</tr>
<tr>
<td>Fragile roofs</td>
<td>1</td>
</tr>
<tr>
<td>Chairs</td>
<td>1</td>
</tr>
<tr>
<td>Pole</td>
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</table>
Table 6.15 Work equipment provided for work at height by sector (percentage)

<table>
<thead>
<tr>
<th>Table 6.15 Work equipment provided for work at height by sector (percentage)</th>
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</thead>
<tbody>
<tr>
<td>Fall arrest equipment</td>
</tr>
<tr>
<td>Work platforms</td>
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<tr>
<td>Portable ladders</td>
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<tr>
<td>Scaffolding</td>
</tr>
<tr>
<td>Guardrails</td>
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<tr>
<td>Edge protection</td>
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<tr>
<td>MEWPs</td>
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<tr>
<td>Safety harnesses</td>
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<td>Stepladders</td>
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<tr>
<td>Ropes</td>
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<td>Tower scaffolds</td>
</tr>
<tr>
<td>Fixed ladders</td>
</tr>
<tr>
<td>Gantries</td>
</tr>
<tr>
<td>Kick stools</td>
</tr>
<tr>
<td>Fork lift truck cage</td>
</tr>
<tr>
<td>Flight ladders</td>
</tr>
<tr>
<td>Long Ladders</td>
</tr>
<tr>
<td>Nets</td>
</tr>
<tr>
<td>Reach and wash</td>
</tr>
<tr>
<td>Cradle</td>
</tr>
<tr>
<td>Cranes</td>
</tr>
<tr>
<td>Climbing poles</td>
</tr>
<tr>
<td>Lifting cage</td>
</tr>
<tr>
<td>Mobile stair platforms</td>
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</table>
The managers were then asked about the main underlying causes of these falls from height accidents and the results are shown in Table 6.17 below.

**Table 6.17 Main underlying causes of falls from height**

<table>
<thead>
<tr>
<th>Underlying causes of accidents</th>
<th>Number of responses</th>
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</thead>
<tbody>
<tr>
<td>Operator error</td>
<td>28</td>
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<tr>
<td>Unsafe system of work</td>
<td>17</td>
</tr>
<tr>
<td>Complacency</td>
<td>17</td>
</tr>
<tr>
<td>Not following procedure</td>
<td>17</td>
</tr>
<tr>
<td>Unsafe work equipment</td>
<td>12</td>
</tr>
<tr>
<td>Inadequate information and guidance</td>
<td>5</td>
</tr>
<tr>
<td>Incorrect use of equipment</td>
<td>4</td>
</tr>
<tr>
<td>Inadequate communication</td>
<td>3</td>
</tr>
<tr>
<td>Don’t know</td>
<td>3</td>
</tr>
<tr>
<td>Pressure of the work</td>
<td>2</td>
</tr>
<tr>
<td>Inadequate supervision</td>
<td>1</td>
</tr>
<tr>
<td>Not using common sense</td>
<td>1</td>
</tr>
<tr>
<td>Nature of work, layout of site</td>
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<tr>
<td>No information</td>
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</tbody>
</table>

148 of the 164 managers interviewed reported that risk assessments were carried out for work at height activities. There was some variation between industry sectors on the percentage of managers who reported that risk assessments were carried out for work at height activities as shown in Table 6.18.

**Table 6.18 The percentage of managers who reported that risk assessments were carried out for work at height activities**

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Construction</td>
<td>100%</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>100%</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>93%</td>
</tr>
<tr>
<td>Arboriculture</td>
<td>75%</td>
</tr>
<tr>
<td>Window cleaning</td>
<td>100%</td>
</tr>
<tr>
<td>Electricity</td>
<td>100%</td>
</tr>
<tr>
<td>Ships and aircraft</td>
<td>100%</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>87%</td>
</tr>
<tr>
<td>Food and drink</td>
<td>87%</td>
</tr>
<tr>
<td>Road haulage</td>
<td>87%</td>
</tr>
<tr>
<td>Education</td>
<td>69%</td>
</tr>
<tr>
<td>Retail</td>
<td>100%</td>
</tr>
</tbody>
</table>
The education sector had the lowest percentage of managers (69%) who reported that risk assessments were carried out for work at height activities, followed by arboriculture (75%). The window cleaning, steeplejack, construction and retail industry sectors had the highest percentage of managers (100%) reporting that risk assessments were carried out for work at height activities. These managers also reported that risk assessments were carried out by the health and safety team/senior management, supervisors, operatives, or external consultants.

The managers commented that a very wide range of measures were used to prevent falls from height. The most common measures identified were: formal training, provision of appropriate work equipment, risk assessments, avoidance of work at height and site inspections.

147 of the 164 managers (89.6%) reported that they were either confident or very confident that they were fulfilling their legal duties to ensure that work at height was carried out safely. The results are shown in Table 6.19 below.

There was some variation between industry sectors. The education sector had the lowest percentage of managers (69%) reporting that they were either confident or very confident that they were fulfilling their legal duties to ensure that work at height activities were carried out safely. In our opinion, this may be due to the fact that there is a lack of awareness of work at height issues in this sector. The food and drink sector had the next lowest confidence level with 73% being confident or very confident.

<table>
<thead>
<tr>
<th>Confidence</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Very confident</td>
<td>45</td>
</tr>
<tr>
<td>Confident</td>
<td>45</td>
</tr>
<tr>
<td>Not very confident</td>
<td>4</td>
</tr>
<tr>
<td>Not at all</td>
<td>1</td>
</tr>
<tr>
<td>Not sure</td>
<td>2</td>
</tr>
<tr>
<td>No information given</td>
<td>2</td>
</tr>
</tbody>
</table>

In all the other sectors, most or all (86 to 100%) of managers reported that they were either confident or very confident that they were fulfilling their legal duties to ensure that work at height was carried out safely.

136 of the 164 (83%) managers reported that they were aware of the forthcoming Work at Height Regulations. There was some variation between industry sectors in the percentage of managers who reported that they were aware of the Regulations and this is shown in Table 6.20 below.

The education sector had much the lowest percentage of managers who reported that they were aware of the new Regulations. In the retail, food and drink, and electricity sectors 100% of the managers interviewed reported that they were aware of the new Regulations. This variation between the various industry sectors may be due to the amount of publicity that the new Regulations have received in different sectors.
Table 6.20  Awareness of managers in each sector with regard to the forthcoming Regulations

<table>
<thead>
<tr>
<th>Sector</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
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<tbody>
<tr>
<td>Construction n=22</td>
<td>95</td>
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</tr>
<tr>
<td>Steeplejacks n=9</td>
<td>89</td>
<td>11</td>
</tr>
<tr>
<td>Building maintenance n=14</td>
<td>93</td>
<td>7</td>
</tr>
<tr>
<td>Arboriculture n=16</td>
<td>94</td>
<td>6</td>
</tr>
<tr>
<td>Window cleaning n=9</td>
<td>78</td>
<td>22</td>
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<tr>
<td>Electricity n=7</td>
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<tr>
<td>Ships/aircraft n=15</td>
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<td>Telecommunications n=15</td>
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<td>20</td>
</tr>
<tr>
<td>Food &amp; drink n=15</td>
<td>100</td>
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<tr>
<td>Road haulage n=15</td>
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<td>20</td>
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<tr>
<td>Education n=16</td>
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<td>81</td>
</tr>
<tr>
<td>Retail n=11</td>
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<td>0</td>
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</tbody>
</table>

Only 44 of the 136 (26.8%) managers who reported that they were aware of the new Regulations stated that their companies were planning to introduce changes to their work at height activities either before or when the new Regulations came into place. The changes reported by managers that were introduced prior to the new Regulations being introduced were company specific, with very few managers stating the same measures. Changes included the avoidance of the use of portable ladders and stepladders, greater use of stability devices on ladders, updated work procedures and risk assessments for work at height, and increased use of work platforms. The changes reported by managers that were to be introduced after the new Regulations came into place included: monitoring the use of steps; increased use of work platforms; and increased use of risk assessments for work below two metres.

81 of the 136 managers who reported that they were aware of the new Regulations stated that their companies were not planning to introduce any changes to their work at height activities because of the new Regulations. These managers reported that this was for a variety of reasons; the main one was that the duty holder already conformed to the appropriate standards and no further action was required.

6.4  SITE VISITS

In this section of the report, we describe the results of our visits to duty holders in the key industry sectors. We visited 25 of the managers with whom we had conducted telephone interviews, as detailed in section 6.3. The number of sites visited in each sector is listed below.

- Construction (2)
- Steeplejacks (1)
- Building maintenance (1)
- Arboriculture (2)
- Window cleaning (2)
• Electricity (3)
• Shipbuilding and aircraft maintenance (3)
• Telecommunications (4)
• Food and drink (2)
• Road haulage (2)
• Education (1)
• Retail (2).

Our visits included three activities
• more detailed interviews with managers
• interviews with employees involved in work at height
• observations of work at height, equipment, etc, to examine the precautions used.

We have reported each of these three elements of the visits separately in the rest of this section.

6.4.1 Interviews with duty holders

Key messages
The key findings from the site visits with 25 duty holders across the range of industry sectors are summarised below.

• 50% of managers defined work at height as work ‘above ground level’ and 30% as ‘above two metres’. Both definitions were used across a wide range of industry sectors.
• The majority of managers had general health and safety policies covering work at height activities with only a few having specific working at height policies. Almost all policies were rated as average, good or excellent in quality. The one from the education sector was rated as very poor.
• All managers confirmed that risk assessments were carried out for working at height activities and the vast majority of assessments were rated from average to excellent. The one from the education sector was rated as very poor.
• Over 50% of managers said that supervision was used to ensure the employees and contractors worked safely at height, with auditing and written work guidelines as the next most popular measures.
• The majority of managers across most industry sectors said that training was the key criteria when ensuring that employees could work at height safely. The exceptions were managers in the education, road haulage and steeplejack sectors.
• Over 85% of managers provided employees with training, mainly as part of induction training, for working at height issues. The managers who did not provide training worked in the retail, education and road haulage sectors.
• Most of the industry sectors used very similar work at height equipment with ladders and fall/work arrest equipment being the most popular.
• Only 16% of managers said that no inspection records were kept for work at height equipment.
• The vast majority (92%) of managers were aware of the new Regulations and 83% of these felt that the Regulations would have very little impact due to the adequate systems already in place, although two managers believed it would have a positive impact on work practices.
Managers from the arboriculture and window cleaning sectors felt that the new Regulations would have a negative impact, resulting in an extra financial burden and making work at height more difficult.

Fewer than 20% of managers had made any changes to work practices in anticipation of the new Regulations.

About 50% of managers reported fall from height accidents or near misses in their companies.

**Detailed findings**

We spoke to 25 managers or supervisors responsible for managing work at height in the key industry sectors. The range of experience of these managers varied from 0.2 to 35 years, with the mean management experience being 8.8 years.

The managers defined work at height in a number of different ways, as listed below.

- Twelve defined it as any activity above ground level.
- Eight defined it as any work activity above two metres.
- Three defined it as any activity where there was a risk of falling.
- One manager defined work at height as any work activity requiring an aid to obtain the required height.
- One manager commented that work at height was not defined.

There was no correlation between the definitions provided and the sector that the manager worked in.

The range in the number of employees involved in work at height was 6 – 30,000, with the mean number of employees being 1,664.

Four of the 25 managers had specific policies for work at height activities. The other 21 had general health and safety policies covering work at height. All of the managers said that the effectiveness of these policies for work at height was monitored by regular inspections and/or internal audits. Both management and employees had responsibility for ensuring that all work at height policies were correctly implemented. The analysis of these policies using the criteria included in the blank questionnaire in Appendix 1, number 5, resulted in 23 of the 25 policy documents being classed as average, good or excellent. Only one policy document was classed as very poor and this was from the education sector.

The managers commented on a variety of measures used to communicate safety information on work at height activities to workers. The most common methods used to communicate this information were toolbox talks, safety boards, health and safety bulletins, as shown in Table 6.21.

19 of the 25 managers had a health and safety committee. All committees were composed of representatives from both management and employees. The other six managers did not have a health and safety committee. All of these said that this was because their companies were small and therefore health and safety information was conveyed informally.

All 25 managers stated that risk assessments were carried out for work at height activities. The analysis of these risk assessments using the criteria included in the questionnaire in appendix 1, number 5, resulted in 23 of the 25 risk assessments being classed as either average, good or excellent. Only one risk assessment was classed as poor and this was from the steeplejack sector. The one in education sector was very poor. Although it was described
by the manager as a risk assessment, it was actually an inspection report. 11 managers stated that these risk assessments were completed by the health and safety departments or teams.

Table 6.21  Methods of communicating health and safety information to workers

<table>
<thead>
<tr>
<th>Methods</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toolbox talks</td>
<td>17</td>
</tr>
<tr>
<td>Safety notice-boards</td>
<td>9</td>
</tr>
<tr>
<td>H&amp;S Training courses</td>
<td>6</td>
</tr>
<tr>
<td>H&amp;S bulletins</td>
<td>9</td>
</tr>
<tr>
<td>Induction training</td>
<td>5</td>
</tr>
<tr>
<td>H&amp;S meetings</td>
<td>6</td>
</tr>
<tr>
<td>Intranet</td>
<td>2</td>
</tr>
<tr>
<td>Safety Representatives</td>
<td>1</td>
</tr>
<tr>
<td>Site inspections</td>
<td>1</td>
</tr>
</tbody>
</table>

The managers reported on the measures taken to ensure that employers and contractors work at height safely. The most common measures taken were supervision, the provision of written work guidelines and auditing as shown in Table 6.22.

Table 6.22  Measures taken to ensure workers carry out work at height safely

<table>
<thead>
<tr>
<th>Safety measures</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision</td>
<td>13</td>
</tr>
<tr>
<td>Permit to work</td>
<td>6</td>
</tr>
<tr>
<td>Training</td>
<td>5</td>
</tr>
<tr>
<td>Written work guidelines</td>
<td>7</td>
</tr>
<tr>
<td>Auditing</td>
<td>7</td>
</tr>
</tbody>
</table>

Managers decided who could work at height safely based on a number of criteria. The results are shown in Table 6.23 below.

The manager who answered that he did not know the criteria was from the food sector, and the managers who used competency of staff were from the food and building maintenance sectors. Education, road haulage and steeplejacks were the only sectors not to mention training.
Table 6.23  Criteria for who can work safely at height

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>16</td>
</tr>
<tr>
<td>Management decides</td>
<td>4</td>
</tr>
<tr>
<td>Staff assessment procedures</td>
<td>4</td>
</tr>
<tr>
<td>Competent staff</td>
<td>2</td>
</tr>
<tr>
<td>Don't know</td>
<td>1</td>
</tr>
</tbody>
</table>

The managers reported that the competence of workers to work at height was dependent on a number of factors. These are shown in Table 6.24 below.

Table 6.24  Factors making a person competent to work at height

<table>
<thead>
<tr>
<th>Factors</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>15</td>
</tr>
<tr>
<td>Experience</td>
<td>15</td>
</tr>
<tr>
<td>Physical/Mental fitness</td>
<td>7</td>
</tr>
<tr>
<td>Common sense</td>
<td>4</td>
</tr>
<tr>
<td>Head for heights</td>
<td>3</td>
</tr>
<tr>
<td>Understanding the risks</td>
<td>2</td>
</tr>
<tr>
<td>Intelligence</td>
<td>1</td>
</tr>
<tr>
<td>Team worker</td>
<td>1</td>
</tr>
<tr>
<td>Good communication skills</td>
<td>1</td>
</tr>
</tbody>
</table>

The only sectors not to mention training were building maintenance and steeplejacks and the only sectors not to use experience as a factor were arboriculture, road haulage and steeplejacks.

22 of the 25 managers provided training on work at height issues to employees. The three who did not provide training on work at height were from the retail, education and road haulage sectors. This training was mainly provided during induction training, which incorporated the use of fall arrest/prevention work equipment. 18 of the 22 managers who provided training reported that it incorporated rescue training for those injured at height. Four managers reported that rescue training was not provided, because it was not relevant for the type of fall prevention equipment used. All 22 managers stated that their companies kept training records for employees involved in work at height. The analysis of these training records using the criteria included in the blank questionnaire in appendix 1, number 5 resulted in 24 of the 25 training records from the companies being classed as either good or average. One training record from the education sector was classed as very poor.

The commonly used types of work equipment used for work at height are shown in Table 6.25 below.
Table 6.25  Equipment used for work at height

<table>
<thead>
<tr>
<th>Factors</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladders</td>
<td>25</td>
</tr>
<tr>
<td>Fall/work arrest equipment</td>
<td>23</td>
</tr>
<tr>
<td>Work platforms</td>
<td>15</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>15</td>
</tr>
<tr>
<td>Edge protection</td>
<td>11</td>
</tr>
<tr>
<td>Mobile steps</td>
<td>3</td>
</tr>
<tr>
<td>Man baskets with cranes</td>
<td>2</td>
</tr>
<tr>
<td>Water fed poles</td>
<td>1</td>
</tr>
<tr>
<td>Clothes poles</td>
<td>1</td>
</tr>
</tbody>
</table>

There was no significant distinction between sectors between types of equipment except for the water fed poles and clothes poles used by window cleaners and retail companies respectively.

21 of the 25 managers kept inspection records for fall prevention/arrest equipment. Four of the 25 managers either kept no inspection records or were not sure if inspection records were kept.

23 of the 25 managers were aware of the forthcoming Work at Height Regulations. The two managers who were not aware were from the retail and education sectors. 19 of the 23 managers thought that the new Regulations would have a negligible effect, because their companies already had adequate systems in place for the work at height activities. Two managers thought that the new Regulations would have a positive effect, because they would raise the standards for work at height activity and provide a tool to resource extra health and safety funding. The other two of the 23 managers who were aware of the Regulations thought that they would have a negative or very negative effect. These two managers were from the arboriculture sector and the window cleaning sectors. They both said that they thought that the new Regulations would be an extra financial burden that would make them more uncompetitive and that the new Regulations would make some work at height activities more difficult.

10 of the 23 managers reported that their company had made no changes to their work procedures in anticipation of the new Regulations. One manager reported that their company was waiting for further guidance before taking any action. Nine managers provided no comment. Four of the 23 managers reported that changes had been made to their work practices in anticipation of the new Regulations. These changes involved modifying work procedures, resulting in new work equipment to minimise falls from height. The managers reported that the cost of these changes varied from several hundred pounds (a window cleaning company) to one in excess of £100,000 (a company from the food sector). Nine managers provided no comment.

Other comments made by managers on the new Regulations were that further guidance on the Regulations was required and that better training of staff would prevent falls from heights accidents. One manager also thought that the new Regulations would place an unfair burden on ladder users.
12 managers stated that their company had had falls from height accidents or near misses. The managers who said that they had had no accidents were from the electricity, construction, building maintenance and education sectors.

Some managers described the cause of the accidents. These are shown below.

- An operator slipped whilst working on a tree and hit his nose (Arboriculture)
- Working on a ladder and stepped onto an electrical box which fell off (Food)
- One fatality (Food)
- One fatality because he didn’t set up the equipment according to instruction (Steeplejacks)
- Fell off a stepladder (Retail)
- Fell off a ladder (Telecommunications)
- Fell off a stabiliser over 50ft. Fall arrest equipment caused bruising (Aircraft/ship maintenance)
- Seven serious accidents all involving sheeting (Road haulage).

All 12 managers reported that these accidents or near misses had been thoroughly investigated by management.

6.4.2 Interviews with employees

Key messages

The key findings from the interviews with 50 employees that were held during the site visits are summarised below.

- Over 85% of employees confirmed that risk assessments were carried out by their companies with only employees from the education and transport sector stating they either risk assessments were not carried out or they were unsure.
- Employees reported a similar range of equipment to the managers. Only employees from the education sector stated that unsuitable work equipment was used for work at height activities (e.g. chairs, tables, etc.).
- Over 85% of employees received training in work at height activities. Those that didn’t came from the education sector.
- The majority of employees felt that portable ladders were the main agent involved in falls from height.
- The key underlying causes of falls from height were reported by the employees to be unsafe work practices, pressure to work too quickly and unsafe work equipment.
- The most important influences on employees’ behaviour when working at height were work experience, the consequences of an accident, compliance with the law, training and pressure to meet work deadlines. Most employees were not influenced by financial rewards or supervision.
- 90% of employees questioned felt that their companies were either good or excellent at protecting employees who worked at height, although three of those in the education sector felt they were either poor or very poor.
- Approximately 30% of employees felt that their companies could make working at height safer through improved training, equipment or work procedures.
- The majority of employees had not been provided with information on the new Regulations.
**Detailed findings**

We spoke to 50 employees involved in work at height in the key industry sectors. This included:

- Construction (4)
- Steeplejacks (2)
- Building maintenance (2)
- Arboriculture (4)
- Window cleaning (1)
- Electricity (5)
- Shipbuilding and aircraft maintenance (6)
- Telecommunications (9)
- Food and drink (4)
- Road haulage (3)
- Education (6)
- Retail (4).

The range of work experience of these employees was from 0.2 to 45 years. The mean work experience of these employees was 9.7 years.

The average time spent by employees on the work at height activities varied, as shown in Figure 6.6.

![Figure 6.6 Percentage of work involving work at height](image)

43 of the 50 employees stated that risk assessments were completed for work at height performed by employees. Three said that no risk assessments were completed for work at height activities. The other four were not sure. Of these seven who were not sure or did not have risk assessments, six were from the education sector and one was from the transport sector.
The employees identified a range of equipment that they had used for work at height. The most common types of equipment were fall arrest equipment, ladders and work platforms, as shown in Table 6.26.

### Table 6.26 Equipment used by employees

<table>
<thead>
<tr>
<th>Types of work equipment</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladders</td>
<td>27</td>
</tr>
<tr>
<td>Fall arrest equipment</td>
<td>26</td>
</tr>
<tr>
<td>Work platforms</td>
<td>21</td>
</tr>
<tr>
<td>Guardrails</td>
<td>15</td>
</tr>
<tr>
<td>Edge protection</td>
<td>14</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>14</td>
</tr>
<tr>
<td>Other equipment (e.g. tables)</td>
<td>5</td>
</tr>
</tbody>
</table>

The five employees who stated that they used forms of unsuitable equipment for work at height were all from the education sector. These included chairs, tables, cupboards, etc.

43 of the 50 employees stated that training on work at height was provided to employees. This was mainly covered during induction training, however refresher training courses were provided to employees who used work platform, scaffold and fall arrest/rope access equipment. Six employees stated that no training on work at height had been provided, all of whom were from the education sector. One employee, from the food sector, was not sure whether such training was provided.

Employees identified a variety of agents as being involved in falls from height. Portable ladders were by far the most common agent, as shown in Table 6.27.

### Table 6.27 Agents involved in falls from height

<table>
<thead>
<tr>
<th>Agents involved in falls from heights</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable ladders</td>
<td>16</td>
</tr>
<tr>
<td>Fragile roofs</td>
<td>4</td>
</tr>
<tr>
<td>Roof edges</td>
<td>4</td>
</tr>
<tr>
<td>Fixed ladders</td>
<td>3</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>3</td>
</tr>
<tr>
<td>Work areas/platforms</td>
<td>2</td>
</tr>
<tr>
<td>Vehicles</td>
<td>2</td>
</tr>
<tr>
<td>None</td>
<td>2</td>
</tr>
<tr>
<td>Stairs</td>
<td>1</td>
</tr>
</tbody>
</table>

Employees were asked about the underlying causes of falls from height accidents. They said that the most common were the failure to have a safe system of work and the pressure to work quickly, as shown in Table 6.28.
Table 6.28 Underlying causes of falls from height

<table>
<thead>
<tr>
<th>Underlying causes of falls from height</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsafe work practices</td>
<td>10</td>
</tr>
<tr>
<td>Pressure to work too quickly</td>
<td>10</td>
</tr>
<tr>
<td>Unsafe work equipment</td>
<td>6</td>
</tr>
<tr>
<td>Poor training</td>
<td>4</td>
</tr>
<tr>
<td>Lack of supervision</td>
<td>4</td>
</tr>
</tbody>
</table>

Employees were asked about a number of factors that influenced their work at height behaviour, as shown in Figures 6.7 to 6.13.
Figure 6.9 Supervision of work activities

Figure 6.10 Training in work at height

Figure 6.11 Work experience
The data relates to each sector as explained below.

- Those who believed the pressure of work was not an important factor at all were from the retail, building maintenance, road haulage and telecommunication sectors.

- The financial rewards were very important to the employees in window cleaning and were important to electricity suppliers, an employee in arboriculture, and a telecommunications worker.

- Those who thought that supervision was a very important factor in influencing behaviour when working at height were from the telecommunication, electricity, steeplejack, construction, arboriculture and education sectors.

- The majority of those believing training in work at height to be not at all important were in the education sector along with one employee from the retail sector and one from the telecommunications sector.

- Those employees stating that work experience was not very important or not at all important were from the construction, steeplejack, telecommunication and education sectors.
• The majority of employees believing that compliance with health and safety laws was not very important or not at all important, or they weren’t sure, were from the education sector. The remaining employees were from the steeplejack and aircraft/ship maintenance sectors.

• The consequences of accidents were not deemed very important, or were not at all important, by some employees of the education sector and one employee of the retail sector. The employee who was not sure about this factor was from an electricity company.

Employees commented on how good they thought their company was at protecting employees who worked at height. 45 employees of the 50 employees thought that their companies were either good or excellent. In general, employees said that this was because their companies provided good training, safe and suitable work equipment and good work procedures. Two employees, from the aircraft/ship maintenance and construction sectors, thought that their companies were average. One employee from the education sector thought that their organisation was poor and two employees from the same sector thought it was very poor.

Most employees (35 of the 50 employees = 70%) commented that they did not believe that their companies could do anything further to make work at height safer. In comparison, 90% of employers reported that they were confident or very confident that they were fulfilling their legal duties to ensure that work at height is carried out safely. It would appear therefore that managers were more confident than employees that the company was doing enough to ensure that work at height activities were carried out safely. However, most (71%) HSE inspectors were ‘not very confident’ or ‘not at all confident’ that duty holders understood the risks and controls required for work at height, which does not concur with the higher confidence levels of managers.

14 employees commented that they believed that their companies could take a variety of actions to make work at height activities safer. These 14 employees came from telecommunications, steeplejacks, aircraft/ship maintenance, retail, road haulage, food and education sectors. The actions they believed would make working at height safer included: better training; better work equipment; and better work procedures.

39 of the 50 employees commented that they had not been provided with any information on the forthcoming Work at Height Regulations. One employee commented that they were not sure if they had received any information. The other ten said that they had received information on the new Regulations from their companies and these ten were from the construction, building maintenance, electricity, window cleaning, aircraft/ship maintenance, steeplejacks and telecommunications sectors. These ten employees were asked about their degree of confidence in the new Regulations to make work at height safer. Three were either confident or very confident that the new Regulations would make work at height safer. Three were not confident. The other four were not sure.

6.4.3 Observations of work at height

Key messages

The key findings from our observations made during 25 site visits are summarised below.

• At the majority of sites (83%) where we observed work at height, the practices and equipment seen appeared to be adequate for the risks involved. These sites appeared to be broadly complying with the current legal requirements. This contradicts the views of inspectors, as most (71%) reported that they were ‘not very confident’ or ‘not at all
confident’ that duty holders understood the risks and controls required for work at height. However, as we were invited by the managers to visit, it is likely that work at height issues were better managed than in other companies, which would explain the difference between our observations and the views of the inspectors.

- At one construction site, there was a problem due to the difficulty of ensuring that contractors were working at height safely, due to the varied nature of work and the sheer numbers of contractors on site.
- We observed inadequate working practices at one arboriculturist, which indicated that they were not fully complying with the relevant current legislation.
- The school that we visited was not complying with the relevant current legislation, as they were using unsuitable equipment and unsafe working practices, and there was a lack of training and risk assessment.
- Water fed poles were increasingly being used in the window cleaning sector to avoid work at height, however these were creating problems due to the weight and difficulty of handling the longer poles (increasing the risk of musculoskeletal disorders) and with clients who were not convinced that this cleaning method was adequate.
- Stepladders in the construction sector were increasingly being replaced with small work platforms apparently in response to the new Regulations.

**Detailed findings**

In this section, we present our general observations of work at height, which were made during site visits to organisations in each of the key industry sectors listed below in Table 6.29. This shows the number of visits made in each sector.

**Table 6.29 Number of visits made in each sector**

<table>
<thead>
<tr>
<th>Sector</th>
<th>No of visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>2</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>1</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>1</td>
</tr>
<tr>
<td>Arboriculture</td>
<td>2</td>
</tr>
<tr>
<td>Window cleaning</td>
<td>2</td>
</tr>
<tr>
<td>Electricity</td>
<td>3</td>
</tr>
<tr>
<td>Shipbuilding/aircraft maintenance</td>
<td>3</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>4</td>
</tr>
<tr>
<td>Food and drink</td>
<td>2</td>
</tr>
<tr>
<td>Road haulage</td>
<td>2</td>
</tr>
<tr>
<td>Education</td>
<td>1</td>
</tr>
<tr>
<td>Retail</td>
<td>2</td>
</tr>
</tbody>
</table>

**Construction**

There was a wide range of work at height being carried out at the two construction sites visited. One was constructing residential properties (houses and flats). The other was carrying out a major refurbishment of both the exterior and interior of a school, including building an extension. The work at height included brickwork, roof work, joinery and the erection of steelwork and scaffolding. Figure 6.14 shows one of the sites visited.
A range of equipment for work at height was used on the construction sites, including scaffolding systems with guardrails and toe boards, safety netting, podium steps, mobile elevated work platforms, cranes, temporary work platforms and safety bags. Examples of the types of equipment used on these sites are shown in Figures 6.15 and 6.16.

Figure 6.14 General view of construction site

Figure 6.15 Scaffolding with guardrails and toe boards
The type of small work platform shown in Figure 6.16 was increasingly being used to replace the use of stepladders. We were informed that this was partly in response to the forthcoming Work at Height Regulations.

At both companies, risk assessments, policy documents and training records were available for work at height and to the workers involved in work at height. All of these documents were assessed as average to good and as complying with the legal requirements, as reported in section 6.4.1. At one site, the practices and equipment that we observed appeared to be adequate for the risks involved and therefore complied with the relevant legal requirements.

A common problem observed during one visit was the management of contractors. The varied nature of the work and the number of contractors working on site resulted in management not always being able to ensure that those involved in working at height activities were working safely. A particular example of this was the failure at this site of a contractor to use an appropriate work platform to gain access to a work area located over two metres above ground level. Although their documentation and most of the precautions taken for work at height were adequate, the problems with supervising contractors meant that they were not complying fully with the relevant legislation.

**Steeplejacks**

We made one site visit to an industrial climbing company. The work at height carried out at this company included construction, masonry repairs and the installation of lightning conductors and fall arrest equipment.

The equipment provided for work at height including rope access, work positioning and fall arrest equipment and scaffolding. The company provided good work equipment and consulted with employees prior to purchasing any new equipment. An example of the type of work equipment used is shown in Figure 6.17. Employees said that they were provided with
adequate personal protective equipment and work equipment and that management were very keen on ensuring good health and safety standards for work activities.

The company provided sample policy, risk assessment and training records, which we assessed. In the main, the documentation was good but the risk assessments were rated poor. Despite this, the work practices we observed appeared to be good and the company complied with legislation in most areas.

![Image](image.png)

**Figure 6.17** Scaffolding and work positioning equipment

**Building maintenance**

We conducted one site visit to a scaffolding company who provided scaffolding for maintenance work on electrical power generation equipment. The main work at height activity involved providing worker access routes to power generation equipment located at height, for maintenance activities. The equipment they used included scaffolding and mobile elevating work platforms, as shown in Figure 6.18. The company provided sample risk assessments of work at height activities, policy statements and training records and these were assessed as average to good. In general, it was observed that these activities and the documentation complied with the relevant legislation.
We visited the operating sites of two arboricultural companies. The main work at height carried out at both of these sites were tree trimming operations for local authorities in public areas. Due to the public access issues, the areas around the trees being trimmed were barriered off and access was prohibited for members of the public by ground crew. Both companies used rope access and work positioning techniques and starting climbing from ground level. They both used chainsaws to cut the trees. Figure 6.19 shows a typical example of the work involved.

At one site, as shown in Figure 6.19, the arboriculturists only used a single line while working at height, including when using chainsaws. The other company used double lines.

Daily and weekly checks were carried out in both companies on all climbing equipment used. The company using single line techniques said that there was no central system for purchasing the climbing equipment and workers were given money to purchase the type of work equipment that they preferred. This approach to the purchase of work equipment may result in unsafe or inappropriate equipment being purchased.

The risk assessments, health and safety policies, and training records of both companies were assessed as average and as complying with the legal requirements, as reported in section 6.3.1, although one company did not keep written records of the checks they made on climbing equipment. The working practices of one of the companies appeared to be good and compliant with legal requirements. However, the working practices of the other company did not appear to be as good. Although they appeared to be working reasonably safely, the way PPE was purchased indicated that they were not fully complying with all the relevant legislation.
We visited two window cleaning companies. The main work activities involved window cleaning for private and commercial clients, including local authorities. Most of the work was cleaning the outside of windows, starting from the ground rather than using cradles. A wide range of work equipment was used, including portable extending ladders with stabilisers, water fed poles and cherry pickers. Examples of the window cleaning equipment are shown in Figures 6.20 and 6.21.

Managers from both of the cleaning companies commented that they were increasing their use of water fed poles to avoid working at height. However the use of water fed poles had created its own problems, because some clients were not convinced that these devices cleaned windows as efficiently as the traditional methods. Also the larger water fed poles devices, which are capable of reaching up to several metres, were heavy and difficult to handle and could increase the risk of musculoskeletal disorders to the operator if used for long periods of time.
Sample risk assessments of work at height, policy statements and training records were provided by the companies. They were assessed as ranging from average to good, as reported in section 6.4.1. Unfortunately, we were not able to see any work at height being carried out at either site. Both of the managers that we liaised with said that this was because the window cleaners that they had expected to be present were not available. We are therefore unable to comment on the working practices of either company, although the work equipment we saw appeared to be satisfactory and in good condition.

**Electricity**

We made site visits to three companies who worked in the electricity sector. All three were contractors. One replaced overhead power lines, including working on one line while others
on the same pylon were still live. This entailed using a lift attached to electricity pylons, which lifted the workers to the position that they worked from. They then used the lift, which had adequate edge protection, as a working platform. We were unable to take any photographs of this work.

The other two companies painted electricity pylons, as shown in Figures 6.22 and 6.23. They both climbed from ground level using fall arrest equipment. They encountered problems with the anti-climbing devices fitted to the legs of pylons, which can be seen in Figure 6.23. They had to move these out of the way, however they could still get snagged on them.

![Electricity pylons](image1)

**Figures 6.22 & 6.23** Electricity pylons

Sample risk assessments of work at height activities, policy statements and training records were provided by the companies. They were all assessed as being average or good.

The company that engaged all of these contractors was very proactive in ensuring that adequate standards of health and safety for work at height were maintained by the contractors, both in terms of providing training for the contractors and supervising their work activities. All of the working practices and equipment that we observed appeared to be good and fully compliant with legal requirements.

**Shipbuilding/aircraft maintenance**

We made three site visits in this sector: one in shipbuilding repair and two in aircraft maintenance. The shipbuilding company repaired a wide range of large ships. The two aircraft maintenance companies maintained all parts of aircraft and worked on airfields and in hangers. A wide range of equipment was used by these companies including work platforms, scaffolding, edge protection, fall arrest equipment and ladders. For instance, in aircraft maintenance companies a number of different work platforms were used for access to the planes, as shown in Figures 6.24 and 6.25.
In the shipbuilding repair company, we observed that the main work at height activities had sufficient control measures in place such as suitable scaffolding and work platforms. Some activities required better control measures, which the company was in the process of addressing. This included unloading containers as shown in Figure 6.26.
Both aircraft maintenance companies that we visited had average or good risk assessments although one was still in the process of completing their management system so policies and procedures were not available. One issue that was raised was the lack of industry specific work equipment, which resulted in equipment needing to be sourced overseas and tailored specifically for their industry. One of the companies felt that the new Work at Height Regulations would be a positive step in securing resources to purchase new equipment required.

Generally, the aircraft maintenance companies were complying with health and safety legislation in their work practices although tighter control of documentation was required. The shipbuilding repair company had good control measures in place for most work at height activities and was actively working to address some non-compliance issues.

**Telecommunications**

We made four visits to telecommunications companies. One company installed satellite dishes, one company installed cable telecommunications equipment and the other two companies were involved in the installation and maintenance of mobile phone towers. The company that installed satellite dishes on domestic premises used portable ladders. An example of one of their installations on a house is shown in Figure 6.27.

The company that installed cabling to commercial properties mainly used extending ladders, as shown in Figure 6.28, which includes a stabilising device at the top and a strap at the bottom, which was attached to a bolt in the wall, as shown in Figure 6.29.
A site that was to be used for a mobile phone mast is shown in Figure 6.30. As can be seen, the edge protection is not complete. The company installing the masts negotiated with property owners to be allowed to install masts on their building. They did carry out an assessment of the location as part of the contract negotiations. If the edge protection was not adequate, as in Figure 6.30, the installation company did not ask the property owner to improve it. The usual process was for the owners of the property to assign control of the area where the mast was to be erected to the installation company.
Sample policy, risk assessments and training records provided by these companies were assessed. We assessed these documents as either good or excellent. Generally, the telecommunications companies that we visited appeared to be complying with the current legislation for ensuring the safety of people working at height. They were following good industry standards. For instance, dynamic risk assessments had to be carried out before starting work such as installing cabling.

**Food and drink**

Two visits were made to companies involved in food manufacturing. One company made bread. The second company made and packaged fresh salads. Both companies carried out a variety of activities that involved aspects of working at height, including maintenance tasks to roofs, lighting and machinery. A range of fall arrest/prevention work equipment was being used at both sites, including ladders, work platforms, scaffolding, fall arrest equipment and edge protection. We were not able to take any photographs at either of these sites.

Sample policy, risk assessments and training records provided by these companies, were assessed as ranging in quality from average to good. We observed that one of the companies adequately controlled the high level working at height activities but failed to provide working platforms with suitable handrails for lower level activities. One of the companies had had a fatality in the past, which had resulted in all their working at height procedures being reviewed. Although a number of their main activities did not involve working at height, the documentation for any working at height activity was thorough and this was well communicated to all employees. Particular attention was paid to the safe use of stepladders and portable ladders.

In general, it was observed that the majority of practices complied with health and safety legislation.

**Road haulage**

Two site visits were made to companies involved in road haulage. One company was involved in bagging and transporting fertilizer. The work at height carried out at the site involved the sheeting of fertilizer bags on flat bed vehicles for distribution across the UK.
The second company was a manufacturer of fertilizer and was also involved in bagging and distribution operations, which involved the sheeting of vehicles and therefore work at height.

Both companies had invested in fixed gantry platforms to ensure the safe sheeting of flat bed lorries and top-loading of chemicals. During the visit it was clear that the system was effective in controlling the risks associated with this activity. An example of the gantries used for sheeting lorries are shown in Figures 6.31 and 6.32, and an example of one for the top-loading of chemicals in Figure 6.33.

Sample policy, risk assessments and training records provided by these companies were assessed as ranging in quality from average to excellent. Both management and employees were very keen to ensure that the appropriate standards of health and safety were maintained.

Although working at height activities were not a primary part of either companies’ activities, we observed that these activities were well controlled, including the equipment provided, safe systems of work and training for both employees and contractors. This resulted in good compliance with health and safety legislation.

Figure 6.31 Gantries used for sheeting flat bed lorries

Figure 6.32 Gantry being used for sheeting a flat bed lorry
Education

We made one site visit to a primary school. The work at height at the school mainly involved displaying students work and opening and closing windows, however it also included putting up lighting for school productions. Figure 6.34 shows a display area and Figure 6.35 shows the lighting in the hall.

A range of inappropriate equipment was used to reach display areas and windows, such as chairs, tables, cupboards etc. Stepladders were available for reaching the higher display areas, however these had to be fetched from another area when required and teachers only used them when they couldn’t reach display areas using the equipment that was already in the classrooms. An example of a window being opened by someone standing on a desk is shown in Figure 6.36. The windows were designed to be opened and closed with window poles, however none were available.
Stepladders or a work platform were used when access to higher areas was required, such as to set up the lighting for school productions. No policies or risk assessments were available for work at height activities and no specific work at height training was provided. The school was clearly not complying with the existing requirements for preventing falls from height, because of the unsuitable equipment used, the unsafe working practices, and the lack of training and risk assessments.

**Retail**

We visited the retail outlets of two retail companies. The main work at height at both of these sites involved stock replenishment, in shopping areas and stockrooms, and putting up displays. Figure 6.37 shows the racking in one of the stockrooms. Both companies used different sizes of stepladders, such as shown in Figure 6.38 and step stools. Stock replenishing usually involved two people, one operative being responsible for passing the goods to a second person positioned on a stepladder. At one site, the staff used long hooks to hang and get down garments on coat hangers, reducing the amount of work at height that was required.

At one site, the staff also put up and took down suspended advertising signs located in shopping areas. This was again using stepladders. As for replenishing stock, this was done while the shop was open and there were members of the public in the area. Positioning the signs involved having to reach out from the stepladder, presenting a risk of dropping the signs.
Sample risk assessments of work at height activities, policy statements and training records were provided by the companies and were assessed as ranging from average to good. At one site, the staff development programme including working at height. The work we observed appeared to be well controlled and therefore compliant with legal requirements. The other site (where the work at height included hanging signs) did not provide the same level of training and were probably not fully complying with the relevant legislation.

6.5 INFORMATION FROM TRADE UNIONS

Key messages
The key findings from the 42 completed questionnaires from trade union safety representatives are summarised below.

- Only 52% of trade union representatives reported that training (including induction and toolbox talks) was provided to staff who worked at height.
- The majority (76%) of trade union representatives reported that risk assessments for working at height were completed and shown to relevant staff.
- Trade union representatives reported a similar range of equipment to employees and managers, except that ladders were less frequently reported.
- 62% of trade union representatives reported that their companies were good or excellent at protecting workers when working at height, 28% reported that they were average and 10% that they were poor or very poor.
- Over 70% of trade union safety representatives reported that their companies had had no falls from height within the last 12 months.
- The trade union safety representatives who said that their companies had had an accident within the last 12 months reported that the main agents involved with falls from height
were portable ladders, work platforms and vehicles. They also reported that the main underlying causes of accidents were unsafe work practices and the pressure to work too quickly.

- Trade union representatives reported that the most important influences on employees’ behaviour when working at height were work experience, pressure to meet work deadlines, training and the consequences of an accident. They rated financial rewards and supervision as more influential than the employees did (section 6.3.2) and compliance with the law less influential than the employees.

- 43% of representatives reported that their companies should take further measures to make working at height safer, with the main focus on improved training.

- 50% of trade union representatives were aware of the relevant legislation for working at height but only 26% had been provided with information on the new Regulations.

**Detailed findings**

We received 42 completed questionnaires from trade union safety representatives from the following sectors:

- Construction (10)
- Communications (2)
- Manufacturing (25)
- Retail (5).

As these questionnaires had been disseminated through trades unions, it was not possible to link them directly to the key industry sectors used in the rest of this project. Where differences between the four sectors listed above were found, they have been included in this section.

The experience of the trade union safety representatives ranged from 0.17 – 26 years, with the mean experience being 4.4 years.

The number of employees that the trade union safety representatives represented ranged from 10 to 1,000 employees, with the mean number of employees represented being 140.

Figure 6.39 shows the percentage of time that the workers, represented by the trade union safety representatives, spent working at height. 21 out of 42 trade union safety representatives reported that work at height activity accounted for 0-20 % of the work activity of the workers that they represent. Only 3 out of 42 trade union safety representatives reported that work at height activity accounted for 80-100 % of the work activity of the workers that they represent. Two of these three were from the manufacturing sector and the third was from the retail sector.

The trade union safety representatives reported that a variety of training, guidance and information was provided to the workers to enable them to work at height safely. These are shown in Table 6.30 below.

The trade union safety representatives reported on the risk assessments carried out for work at height. 32 of the 42 trade union safety representatives reported that risk assessments were produced for work at height and these assessments were shown to relevant staff. Four trade union safety representatives reported that no risk assessments were carried out for the work at height activities of the workers that they represented. Two of these representatives were from the construction sector and two were from the manufacturing sector. Six (three from the manufacturing sector and three from the retail sector) were unsure whether risk assessments were carried out for work at height.
Figure 6.39 Percentage of time workers, represented by the trade union safety representative, spent working at height

Table 6.30 Training, guidance and information provided to workers

<table>
<thead>
<tr>
<th>Method of training, guidance or information</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>12</td>
</tr>
<tr>
<td>Induction</td>
<td>5</td>
</tr>
<tr>
<td>Toolbox talks</td>
<td>5</td>
</tr>
<tr>
<td>Method statements</td>
<td>2</td>
</tr>
<tr>
<td>Instruction</td>
<td>2</td>
</tr>
<tr>
<td>Permit to work system</td>
<td>1</td>
</tr>
<tr>
<td>Safety checks</td>
<td>1</td>
</tr>
<tr>
<td>Health and safety regulations</td>
<td>1</td>
</tr>
<tr>
<td>Risk assessment notices</td>
<td>1</td>
</tr>
<tr>
<td>Safety policy working groups</td>
<td>1</td>
</tr>
<tr>
<td>Intranet</td>
<td>1</td>
</tr>
<tr>
<td>None</td>
<td>4</td>
</tr>
</tbody>
</table>

The trade unions safety representatives reported that the main types of equipment used by workers were work platforms, scaffolding, fall arrest equipment, edge protection and ladders, as shown in Figure 6.40.
As would be expected, employers used several different types of equipment for work at height, presumably because of the varied suitability of different fall arrest/prevention equipment for different work at height activities.

The trade union safety representatives gave their views on the effectiveness of their companies in protecting workers who work at height, as shown in Table 6.31.

31 of the 42 trade union safety representatives reported that their companies had had no falls from height within the last 12 months. Seven trade union representatives reported that their companies had had one accident over the last 12 months. The other four said that their companies had had two accidents within the last 12 months.

### Table 6.31 Effectiveness at protecting workers who work at height

<table>
<thead>
<tr>
<th>Company Effectiveness</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very poor</td>
<td>1</td>
</tr>
<tr>
<td>Poor</td>
<td>3</td>
</tr>
<tr>
<td>Average</td>
<td>11</td>
</tr>
<tr>
<td>Good</td>
<td>18</td>
</tr>
<tr>
<td>Excellent</td>
<td>6</td>
</tr>
</tbody>
</table>

The eleven trade union safety representatives that had reported falls from height accidents within the previous 12 months stated that portable ladders, work platforms and vehicles were the main agents involved in these accidents, as shown in Figure 6.41.
The trade union representatives reported that the main underlying cause of these accidents was unsafe work practices, as shown in Table 6.32. These falls from height accidents are usually the result of several underlying causes and this is illustrated in Table 6.32 by the fact that the total number of underlying causes reported exceeded the number of accidents reported.

Table 6.32 Underlying causes of falls from height accidents

<table>
<thead>
<tr>
<th>Underlying causes</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsafe work practices i.e. no adequate safe system of work</td>
<td>5</td>
</tr>
<tr>
<td>Pressure to work too quickly</td>
<td>5</td>
</tr>
<tr>
<td>Poor training</td>
<td>3</td>
</tr>
<tr>
<td>Unsafe work equipment</td>
<td>2</td>
</tr>
<tr>
<td>Lack of supervision</td>
<td>2</td>
</tr>
<tr>
<td>Operator error</td>
<td>1</td>
</tr>
</tbody>
</table>

The trade union safety representatives reported on several factors that influenced the behaviour of workers involved in work at height activities and these are shown in Figures 6.42 to 6.48. Not all the 42 trade union safety representatives commented on all of these factors.

As can be seen from the graphs, the views of the trade union safety representatives varied. 28 out of the 33 trade union safety representatives that commented on pressure to meet work deadlines reported that it was an important or very important factor influencing the behaviour of workers involved in work at height activities. This was because workers felt under pressure to get the job done as soon as possible due to financial considerations.
12 out of the 21 trade union safety representatives that reported on financial rewards such as bonuses said that they were either an important or very important factor influencing work at height activities.

13 out of 25 trade union safety representatives reported that supervision of work at height activities was either important or very important. They said that workers thought that supervision was important because without it workers might be tempted to take shortcuts resulting in possible accidents.
Of the 27 trade unions safety representatives that commented on training, 19 reported that it was either an important or very important factor influencing the behaviour of workers involved in work at height. They said that workers thought that training was important because it would be difficult for workers to fully understand the risks of working at height without it.

The majority of trade union safety representatives, 21 out of 25, reported that work experience was either important or very important.
Only 9 out of 17 representatives reported that compliance with health and safety laws was either an important or very important factor affecting workers’ behaviour when working at height.

11 out of 17 trade union safety representatives reported that the potential consequences of an accident were either an important or very important factor affecting the behaviour of people working at height.
18 out of the 42 trade union safety representatives reported that further measures should be taken by their companies to make work at height safer. All of the representatives from the retail sector believed further measures by their company should be taken whilst those from the construction and manufacturing were more satisfied, with 30% stating their company should take measures to make work at height safer. The main recommendation, reported by seven of these trade union safety representatives, was to provide better training for staff.

The trade union safety representatives reported on the relevant legislation for work at activities at the time that this study was conducted. 21 of the 42 trade union safety representatives reported that they were aware of the relevant legislation for work at height activities. The main legislations identified by these representatives were the Health and Safety at Work Act, Management of Health and Safety at Work Regulations and the Construction (Health, Safety and Welfare) Regulations. The remaining trade union representatives, 21 of the 42, were either not aware of the relevant legislation or did not answer this question.

Only 11 of the 42 trade union safety representatives had been provided with any information on the forthcoming Work at Height Regulations. This information was provided mainly by employers or trade unions, however other sources of information were the Institution of Occupational Safety and Health (IOSH) and the HSE.
7 RESULTS – STAGE 2 WORK AT HEIGHT STUDY

The chapter presents the results from the second stage of the main Work at Height study. The results from the different groups are presented in five separate sections. At the start of each section, there is a summary of the key messages.

7.1 EQUIPMENT MANUFACTURERS AND SUPPLIERS

Key messages
The key findings from the telephone interviews with 18 equipment manufacturers and suppliers are summarised below.

- As in Stage 1, the majority of manufacturers and suppliers sold equipment to many different industry sectors, rather than specialising in specific sectors.
- 6 out of the 18 companies reported an increase in the demand for access equipment. Most of these said that the WAH Regulations had contributed to this change, due to the hierarchy of control for the selection of equipment. The decrease in the demand for ladders was also cited as a reason for the change. A number of managers reported that they had started to provide new access equipment in the last year since the introduction of the Regulations, which supports the increase in demand reported by manufacturers/suppliers.
- 4 companies reported a decrease in the demand for ladders. Two of these said that this was caused by confusion over whether ladders were banned or not.
- All the increase in demand for some equipment and the decrease in demand for ladders had been predicted by the manufacturers/suppliers in Stage 1 of this study.
- Several companies had not seen a change in demand for the type of equipment they sold, but they had seen an increase in demand from public sector organisations.
- Only 5 companies had changed the range of the equipment they manufactured or supplied; all of these had increased their range. This appeared to be mostly due to customer demand and the “Temporary Work at Height Directive”.
- 12 of the 18 companies had seen an increase in sales, averaging 17.5%. This was similar to the average increase predicted in Stage 1, although the range was bigger (5 to 50% instead of 9 to 25%). This suggests that the WAH Regulations may have had more of an impact than the manufacturers/suppliers expected. However, one company doubled in size every year and was unable to separate natural growth from the impact of the Regulations.
- Two companies reported a decline in sales; one felt this was due to a reduction in the construction of new homes and one to the confusion over whether ladders had been banned.
- 12 companies reported that they had gained new customers as a result of the WAH Regulations, as had been predicted by the manufacturers/suppliers in Stage 1.
- 15 companies said that their customers had mentioned the WAH Regulations when ordering equipment.
- 14 companies felt that the WAH Regulations were a good selling point, although only 4 used the Regulations in their literature or training courses.
- 12 of the 18 companies had changed their advice on the safe use or training needs for work at height equipment since the Regulations were introduced.
Several companies reported other impacts of the WAH Regulations, including an increase in demand for training, rescue equipment, advice on rescue arrangements and the need for further product development.

**Detailed findings**

We interviewed 18 senior managers from a range of work at height access/safety equipment manufacturers and suppliers. 8 of the companies were manufacturers (who also supplied and distributed equipment), 9 companies were suppliers only and 1 was a hire-company that rented out a range of equipment for use when working at height. These 18 managers were the same ones that we interviewed for Stage 1 of the study.

The amount of management experience of the managers interviewed ranged from 6 months to 24 years, with the average being 7.5 years.

The 18 manufacturers/suppliers involved in the study supplied a wide range of equipment, as shown in Table 7.1. Many supplied a range of equipment, with the exception of two companies who specialised in only one type of equipment, namely scaffolding and air safety matting. The 5 companies that manufactured/supplied general PPE sold it in addition to other fall arrest/prevention equipment.

### Table 7.1 Range of equipment manufactured/supplied

<table>
<thead>
<tr>
<th>Item of equipment</th>
<th>Number manufacturing/supplying item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall arrest equipment</td>
<td>11</td>
</tr>
<tr>
<td>Work restraint equipment</td>
<td>11</td>
</tr>
<tr>
<td>Ladders</td>
<td>8</td>
</tr>
<tr>
<td>Work platforms</td>
<td>7</td>
</tr>
<tr>
<td>Barriers (e.g. guardrails)</td>
<td>5</td>
</tr>
<tr>
<td>Dead weight anchor systems and eyebolts</td>
<td>5</td>
</tr>
<tr>
<td>General PPE</td>
<td>5</td>
</tr>
<tr>
<td>Work suspension equipment</td>
<td>2</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>1</td>
</tr>
<tr>
<td>Air safety matting</td>
<td>1</td>
</tr>
</tbody>
</table>

The manufacturers/suppliers sold equipment to many different industry sectors, including construction, manufacturing, services, retail and agriculture, as well as public sector organisations. Many supplied equipment to a range of sectors, with the exception of 3 companies who supplied equipment to the construction sector only.

More than half (10) of the companies interviewed reported that they had seen a change in demand in the last year for the type of equipment they manufacture/supply, most noticeably an increase in demand for access equipment (6 companies). This included an increase in low-level access equipment (1), podium steps (2), electrically operated work platforms (1) and mobile/scaffold towers (1). One company also reported an increase in demand for fall arrest equipment (1). Several (4) companies reported a decrease in demand for ladders. This has led one company to discount the cost of ladders due to a surplus stock. In Stage 1 of the study, manufacturers predicted that the Work at Height Regulations would result in a decrease in the demand for ladders and an increase in demand for work platforms and fall arrest equipment; it appears that they were correct.
Companies who reported an increase in demand for access equipment (6 companies) gave a range of reasons for the change. Most companies reported that the WAH Regulations had contributed to this change in demand, as the Regulations require employers to follow the hierarchy when selecting equipment for work at height. Some also reported that the change was a direct result of a decrease in demand for ladders.

Of the companies (4) who reported a decrease in demand for ladders, half (2) reported that this was caused, prior to the introduction of the Work at Height Regulations, by confusion by the HSE and industry over whether or not ladders were banned. Comments from equipment manufacturers/suppliers included:

“Reps from the HSE were originally leading people to believe that ladders would be banned and as a result a number of large contractors did this, which has had a terrible effect on our business”; and

“Our customers have told us how people in the building industry have created confusion and chaos…. the Regulations don’t ban ladders but a lot of the main contractors seem to have adopted that approach”.

Several companies reported that they had not seen a change in demand for the type of equipment they manufacture/supply but that they had seen an increase in demand from public sector organisations.

When asked if the range of equipment manufactured/supplied had changed in the last year, fewer then one-third (5) of companies said yes. All changes involved manufacturing/supplying additional types of equipment, rather than stopping the manufacture/supply of any equipment. Of these (5) companies, one reported that they continually developed new products, but that this was not due to the WAH Regulations. The type of equipment now manufactured/supplied by companies included scissor lifts, podium steps, telescopic booms, rescue products and work platforms (fixed structures and electronically operated platforms). Most companies commented that they had started to manufacture/supply this additional equipment in response to customer demand, as well as the “Temporary Work at Height Directive”.

Of the (13) companies who reported that they had not made any changes in the last year to the range of equipment they manufacture/supply, one company reported they had upgraded some of their equipment to meet the requirements of BS 8437: 2005 Code of practice for selection, use and maintenance of personal fall protection systems and equipment for use in the workplace.

Most (14) of the equipment manufacturers/suppliers interviewed reported that they had seen a change in the volume of sales in the last year, with the majority (12) reporting an increase in sales. The increase in sales ranged from 5 to 50%, with the average being 17.5%. All companies with the exception of one reported that the increase was undoubtedly due to the Work at Height Regulations. In Stage 1 of the study, most manufacturers predicted an increase of 9 to 25%. The average predicted increase was similar to the reported increase, but the range was wider than expected, suggesting that the Work at Height Regulations may have had more of an impact than expected by the manufacturers/suppliers.

The increase in demand and sales for access equipment was supported by a number of managers, who reported that they had provided new access equipment in the last year since the introduction of the Work at Height Regulations.
One company was unsure if the Work at Height Regulations had caused an increase in sales and commented:

“We double in size every year. We can’t separate what is natural growth from the impact of the WAH Regulations”.

Two companies reported a decline in sales, due to a reduction in the number of ladders and air safety matting sold. Both companies supplied equipment to the construction industry. One company commented that:

“We have seen a decline in the volume of sales to the construction sector due to new houses being built but not sold, so many companies have reduced the amount of construction work they do”.

Another equipment manufacturer/supplier commented that many of their customers mistakenly believed ladders that had been banned and that ladders sales had fallen as a result because:

“The regulations have created a mist”.

The majority (15) of equipment manufacturers/suppliers interviewed reported that they had gained or lost customers in the last year. All but two companies commented that this was due to the Work at Height Regulations.

Two-thirds (12) of equipment manufacturers/suppliers reported that they had gained new customers in the last year as a result of the Work at Height Regulations. Manufacturers in Stage 1 of the study forecast such a positive impact.

One company reported that they had lost customers; and this was due to a reduction in the number of construction-related customers buying ladders.

Two companies reported that they had both gained and lost customers, with the losses being attributed to a reduction in the demand for ladders, as well as companies “shopping around more”.

Two companies reported no change; both of which are suppliers of a wide range of work at height equipment, including fall arrest, work restraint and general PPE.

Most (15) equipment manufacturers/suppliers reported that their customers had mentioned the Work at Height Regulations when ordering equipment.

When asked if the Work at Height Regulations are a good selling point, most (14) equipment manufacturers/suppliers reported that yes, they were a good selling point. Comments included:

“Yes, we looked at the Regulations and tried to address the points raised and the requirements through our equipment”; and

“Yes, it’s ok if they [the Regulations] are used properly but some companies are using scare tactics”.

However, when asked if the Regulations were used in such a way, only a small number (4) reported that they did use the Regulations as a selling point, by mentioning them in their company literature and training courses (3 companies) and targeting specific industry types (1 company): “our sales teams are targeting smaller industries”.

95
Two-thirds (12) of companies reported that their advice on the safe use or training needs for using work at height equipment had changed since the Work at Height Regulations were introduced. All reported that their instructions/advice for use now specifically referenced the Work at Height Regulations. Several companies also reported that they had removed any reference to the two metre rule. Comments included:

“User instructions and training courses have been revised to include WAH Regulations info and any reference to the two metre rule has been removed”; and

“We can no longer say they don’t need guard rails etc under two metres”.

5 companies reported that they had not made any changes to their advice on the safe use training needs for work at height equipment, stating that:

“Our information was always extensive”; and

“No… the Management Regulations were already in place”.

Several companies reported other impacts since the introduction of the Work at Height Regulations, including an increase in demand for training, rescue equipment, advice on rescue arrangements and the need for further product development. Comments included:

“The need for rescue has been highlighted and we are getting more enquiries regarding products and training for rescue plans”; and

“We have had much more demand on the training side of things”; and

“We are now looking for replacement products for stepladders. In the past companies would buy stepladders from us at £50 a time and now they are having to spend £200-300 on a podium. This can be tough for our customers. So we are looking at other options”.

Other comments about the Work at Height Regulations included:

“People have become more safety conscious”; and

“Most customers are already aware of work at height risks and the introduction of the Work at Height Regulations has had no real impact”; and

“We have positive feedback on the Work at Height Regulations. It’s a common sense approach in that the Regulations say you should avoid the risk of working at height in the first instance”; and

“I think that the Work at Height Regulations are diluted and hard to interpret. I don’t think that they were what we expected. I tend to use BS 8437, which I am more excited by. I believe that the BS is what the Work at Height Regulations should have been”.

7.2 HSE AND LA INSPECTORS

Key messages

The key findings from the telephone interviews with 16 HSE and 10 LA inspectors are summarised below. Unless otherwise specified, the findings apply to both groups of inspectors.
• As in Stage 1, most of the inspectors spent less than 20% of their time dealing with work at height issues.
• Only 3 HSE inspectors reported that the time they spent dealing with work at height issues had changed since the introduction of the Regulations. All 3 said that this time had increased by 5%.
• 7 out of 10 LA inspectors said that the time they spent dealing with work at height issues had increased in the last year, due to an increased awareness of the risks involved.
• The wide range of agents involved in falls from heights had not changed since the WAH Regulations were introduced. The biggest single agent was still portable ladders.
• Although there were slight differences in the most common underlying causes of falls from height identified by inspectors in Stage 2 from those identified in Stage 1, many inspectors commented that some of the underlying causes were linked (e.g. the failure to assess risks involved other issues, including a failure to provide a safe system of work and failure to provide suitable equipment). In addition, the sample sizes were small so it is not possible to determine whether the WAH Regulations have affected the underlying causes of falls from height.
• All inspectors reported that they had not seen any change in the number or type of falls from height in the last year, except one LA inspector who had identified a slight reduction. This did not agree with the predictions made by inspectors in Stage 1, when 54% of the HSE inspectors believed that the WAH Regulations would reduce the number of falls from height.
• Only 6 inspectors had changed the enforcement action that they took as a result of the WAH Regulations, reporting that they had issued more verbal advice and enforcement notices.
• Some inspectors who had not changed the type of enforcement action that they took did comment that the WAH Regulations had made it easier to enforce work at height issues.
• Most HSE inspectors were confident that duty holders were aware of the WAH Regulations, however most LA inspectors were not confident.
• More inspectors reported that duty holders understood the risks and control measures required for work at height in Stage 2 (45%) than in Stage 1 (20%).
• A number of HSE inspectors in the manufacturing and construction sectors reported that some duty holders did not have a good understanding of the requirements of the WAH Regulations. Some commented that the wording of the Regulations made it difficult for duty holders to fully understand what the main requirements were.
• Most LA inspectors reported that duty holders did not have a good understanding of the main requirements of the Regulations.
• Most HSE inspectors reported that duty holders’ compliance with the WAH Regulations was average or above, however most LA inspectors reported that the level of compliance was average or below. Views were more varied in Stage 1, suggesting that the Regulations may have increased compliance more in HSE-enforced sectors than LA-enforced sectors.
• Most inspectors reported that larger companies were more aware and better at complying with the Regulations than smaller companies.
• Some inspectors felt that duty holders failed to consider contractors who work at height.
• Many inspectors who considered compliance levels to be low associated this with a lack of an Approved Code of Practice on the WAH Regulations.
• More HSE inspectors than LA inspectors reported a change in how duty holders managed work at height in the last year, however many inspectors reported that they had not seen any changes.
• 17 out of 26 inspectors reported benefits to duty holders due to the WAH Regulations. The rest of the inspectors said that it was too soon for any real benefits to have emerged.

• About half the inspectors reported that they believed the WAH Regulations had resulted in an increase in financial and resource costs for duty holders. The other half believed that there were no associated costs to duty holders.

• Some inspectors reported that the Regulations had caused some problems, mainly due to the confusion of some duty holders over whether ladders were banned.

**Detailed findings**

We interviewed 16 HSE and 10 Local Authority (LA) inspectors as part of the study. The 16 HSE inspectors worked in the following sectors:

- General manufacturing (8)
- Construction (5)
- Services (1)
- Railways (1)
- Chemical (1).

The range of work experience of the HSE inspectors in their current work sectors ranged from 2 to 26 years, with the average being 8.9 years. For the LA inspectors interviewed, their work experience ranged from 5 to 22 years, with the average work experience being 10.7 years.

All HSE and LA inspectors had extensive experience in dealing with the risks from working at height. HSE inspectors had an average of 9.6 years of experience in dealing with the risks from working at height, compared with LA inspectors who had 9.3 years experience.

The average time spent by HSE and LA inspectors dealing with work at height during a typical inspection workday is presented in Figure 7.1.

![Figure 7.1](image)

**Figure 7.1** Average time spent dealing with work at height issues during a typical inspection workday

Most HSE and LA inspectors spent less than 20% of a typical inspection workday dealing with the risks from working at height. A number (5 HSE and 1 LA) of inspectors reported that they typically spent between 21 and 40% dealing with work at height issues, most noticeably in the construction and railway sectors. This is likely to reflect the fact that more
work at height activity is carried out in these sectors than in the manufacturing, chemical and service sectors. Many inspectors were unable to quantify the time spent dealing with work at height issues, reporting that it was variable and depended on the type of premises they were inspecting. Comments included:

“Cannot put a figure on it. For some sites, work at height is the biggest issue and we will spend nearly all the time talking about it. For other sites, slips/trips or workplace transport is the biggest issue and work at height is not discussed”.

When asked if the amount of time spent dealing with work at height issues during a typical inspection workday had changed in the last year since the introduction of the Work at Height Regulations, most (13) HSE inspectors answered no, there had been no change, commenting that:

“The Regulations have not changed anything as the rules have always been there and are still the same”.

Only a small number (3) of HSE inspectors reported that the time they spent on dealing with the risks from working at height had increased since the introduction of the Regulations. These 3 HSE inspectors commented that they now spent more time dealing with work at height issues (all reported a 5% increase).

Whilst the majority of HSE inspectors reported no change, most (7) LA inspectors reported that there in fact been a change in the time they spent dealing with work at height issues since the introduction of the Work at Height Regulations. In all instances they reported that the Regulations had resulted in an increase in the time they spent dealing with work at height due to an increased awareness of the risks involved.

HSE and LA inspectors identified a variety of agents as being involved in falls from height in their sector, as detailed in Tables 7.2 and 7.3.

Table 7.2 Common agents involved in falls from height, as identified by HSE inspectors

<table>
<thead>
<tr>
<th>Item of equipment</th>
<th>Number of HSE inspectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable ladders</td>
<td>13</td>
</tr>
<tr>
<td>Work areas/platforms</td>
<td>1</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>1</td>
</tr>
<tr>
<td>Fragile roofs</td>
<td>1</td>
</tr>
</tbody>
</table>

The most common agent identified by HSE inspectors was portable ladders. Work areas/platforms, scaffolding and fragile roofs were also reported as main agents involved in falls from height.
Table 7.3 Common agents involved in falls from height, as identified by LA inspectors

<table>
<thead>
<tr>
<th>Item of equipment</th>
<th>Number of LA inspectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable ladders</td>
<td>6</td>
</tr>
<tr>
<td>Window ledge</td>
<td>1</td>
</tr>
<tr>
<td>Roof edge</td>
<td>1</td>
</tr>
<tr>
<td>Racking (in warehouse)</td>
<td>1</td>
</tr>
<tr>
<td>Don’t know</td>
<td>1</td>
</tr>
</tbody>
</table>

Portable ladders were also reported to be the main agent involved in falls from height by LA inspectors. Falls from a window and roof edge, as well as racking in a warehouse were also reported as main agents. These agents differ from those identified by HSE inspectors. However, they are not surprising given the types of premises LA inspectors enforce (i.e. office and retail). One LA inspector was unsure of what the main agent was as he had never investigated a fall from height incident.

Other common agents reported by HSE and LA inspectors were vehicles, fragile roofs, mezzanine floors and unguarded roof or building edges.

The most common agents identified by inspectors in Stage 1 are the same as those identified in Stage 2. That is, the agents involved in fall from height accidents have not changed since the introduction of the Work at Height Regulations.

HSE and LA inspectors identified a range of underlying causes of fall from height accidents, with the most common underlying causes presented in Tables 7.4 and 7.5.

Table 7.4 Most common underlying cause of falls from height, as identified by HSE inspectors

<table>
<thead>
<tr>
<th>Cause</th>
<th>Number of HSE inspectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to adequately risk assess &amp; plan</td>
<td>5</td>
</tr>
<tr>
<td>Unsafe/incorrect use of equipment</td>
<td>4</td>
</tr>
<tr>
<td>Failure to provide suitable work equipment</td>
<td>2</td>
</tr>
<tr>
<td>Lack of/poor maintenance</td>
<td>2</td>
</tr>
<tr>
<td>Failure to use suitable/appropriate equipment</td>
<td>1</td>
</tr>
<tr>
<td>Complacency</td>
<td>1</td>
</tr>
<tr>
<td>Lack of awareness</td>
<td>1</td>
</tr>
</tbody>
</table>

A failure to conduct a suitable and sufficient risk assessment and plan work at height activities was cited by HSE inspectors as the most common underlying cause of falls from height. Individuals incorrectly or unsafely using equipment (most commonly stretching and reaching to the side when using ladders) was also reported by HSE inspectors to be a common underlying cause of falls from height accidents. Other underlying causes included failure to provide and use suitable work equipment, a lack of or poor maintenance of equipment, complacency and a lack of awareness of the risks of working at height.
Table 7.5 Most common underlying cause of falls from height, as identified by LA inspectors

<table>
<thead>
<tr>
<th>Cause</th>
<th>Number of LA inspectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsafe/incorrect use of equipment</td>
<td>3</td>
</tr>
<tr>
<td>Failure to provide suitable work equipment</td>
<td>1</td>
</tr>
<tr>
<td>Failure to provide adequate training</td>
<td>1</td>
</tr>
<tr>
<td>Failure to adequately risk assess &amp; plan</td>
<td>1</td>
</tr>
<tr>
<td>Lack of/poor maintenance</td>
<td>1</td>
</tr>
<tr>
<td>Failure of safe system of work</td>
<td>1</td>
</tr>
<tr>
<td>Lack of awareness</td>
<td>1</td>
</tr>
<tr>
<td>Don’t know</td>
<td>1</td>
</tr>
</tbody>
</table>

Similar common underlying causes of falls from height were reported by LA inspectors, with most reporting unsafe or incorrect use of equipment (which was the second most common cause reported by HSE inspectors). Trade union safety representatives also reported that unsafe work practices was the most common underlying cause of work at height accidents. Other common underlying causes reported by LA inspectors included failing to provide suitable work equipment and adequate training, failing to risk assess and plan work at height activities, as well as a lack of maintenance, a lack of awareness and failing to have a safe system of work.

The underlying causes of falls from height identified by inspectors in Stage 2 differ slightly from those identified in Stage 1. In Stage 1 (prior to the introduction of the Work at Height Regulations) the most common reported underlying causes of falls from height were a failure to ensure that safe systems of work were used or provided and a failure to use or provide suitable equipment. Whereas in Stage 2, the most common causes were a failure to conduct a risk assessment or operator misuse or error when using equipment. These findings suggest that the Work at Height Regulations may have had an impact in terms of the equipment provided, as failure to provide suitable equipment was lower in the list of common causes in Stage 2 than in Stage 1. These findings suggest that companies may be providing more suitable equipment, but are not providing training (in terms of safe use) or conducting risk assessments, as required by the Work at Height Regulations. Most managers and employees interviewed in Stage 2 reported that training was provided for work at height but that this had not changed in the last year since the introduction of the Regulations. This may help explain the differences between the underlying causes of accidents in Stage 1 and Stage 2.

However, whilst these slight differences in common underlying causes were reported, it was commented by many inspectors that some of the underlying causes, such as a failure to risk assess involve other issues, including a failure to provide a safe system of work and a failure to provide suitable equipment. Therefore, care should be taken when making comparisons, especially considering the small sample sizes.

No HSE inspectors reported that they had seen any change in the number or type of fall from height accidents or unsafe practices in the last year since the introduction of the Work at Height Regulations. However, one LA inspector reported a slight reduction. These findings do not mirror the expectations of the inspectors in the Stage 1 findings. In Stage 1, 43% (13) of inspectors believed that the Work at Height Regulations would have a positive effect on reducing falls from height. In reality, only one inspector reported that the Work at Height Regulations had reduced falls from height. This suggests that the Regulations have not had as
much of an impact as predicted. However, many inspectors reported that it was too soon to
tell whether the Regulations had reduced falls from height accidents or near misses.
However, the HSE consider that the number of major injuries due to high falls is lower now
than five years ago and the number of work at height related fatalities is lower now than in the
early 1990s. Additionally, a small number (15%) of managers reported that they had seen a
reduction in the number of work at height accidents in the last year since the introduction of
the Work at Height Regulations, most noticeably in the construction and electricity sectors.

Inspectors were asked if the type of enforcement action taken had changed in the last year
since the introduction of the Work at Height Regulations. The majority of HSE and LA
inspectors reported that there had been no changes, commenting that:

“I still serve the same number of notices, now under the Work at Height Regulations rather
than the Workplace Regulations”.

Additionally, a number of inspectors commented that:

“The Work at Height Regulations have not changed the type of enforcement but they have
made it easier to enforce work at height issues”.

Only a small number of HSE (5) and LA (1) inspectors reported that the type of enforcement
action had changed in the last year as a result of the Work at Height Regulations, most
noticeably in the manufacturing and construction sector. Most inspectors reported that they
had issued more verbal advice, as well as improvement and prohibition notices. Comments
included:

“The issue of improvement notices and verbal prohibitions for ladders has increased”; and

“There has been an increase in enforcement to employees as individuals. Regulation 14 of
the Work at Height Regulations allows employees to be held responsible if they have been
trained, instructed and provided with suitable equipment to work at height safely but don’t
follow instructions, use equipment etc. Inspectors always had this power under section 7 of
the Health and Safety at Work Act but the Work at Height Regulations make it easier for
inspectors”.

Figure 7.2 shows how confident HSE and LA inspectors are that duty holders are aware of the
Work at Height Regulations.
Figure 7.2 Confidence levels of HSE & LA inspectors that duty holders are aware of the Work at Height Regulations

As shown, most HSE inspectors are confident that duty holders are aware of the Work at Height Regulations. A small number of HSE inspectors were not confident that duty holders were aware and in all instances these were inspectors in the manufacturing sector.

Most LA inspectors were not confident that duty holders are aware. This suggests that there is a difference in awareness across industry sectors, with duty holders in LA-enforced sectors (i.e. office and retail) being less aware than those in HSE-enforced sectors (i.e. construction, manufacturing, services, chemical etc).

Many HSE inspectors reported that whilst they were confident that many duty holders were aware of the Work at Height Regulations, they commented that larger companies were often more aware than smaller companies as larger companies typically employed a health and safety adviser/manager etc.

HSE and LA inspectors were asked how well they thought that duty holders understood the main requirements of the Work at Height Regulations, and the findings are presented in Figure 7.3.
The responses given by HSE inspectors varied, with most (45%) reporting that duty holders had either a good or average understanding of the main requirements of the Work at Height Regulations. In Stage 1 of the research, most inspectors reported that they were not confident that duty holders understood the risks and control measures required for work at height. It appears therefore that the Work at Height Regulations have increased awareness of work at height issues and requirements, with 45% of inspectors now reporting a good understanding, compared with 20% in Stage 1.

A number reported that some duty holders did not have a good understanding, most noticeably in the manufacturing and construction sectors.

Comments included:

“Generally, those duty holders that have heard of the Work at Height Regulations do understand the main requirements but some don't understand or correctly interpret the more detailed requirements. For example, some are aware of the hierarchy of control but do not choose the most suitable option i.e. wrong/unsuitable fall arrest system for work being done”; and

“Most duty holders understand the main requirements, but it is the application of managing work at height that is problematic as managers often fail to communicate the dangers of work at height, safe systems of work etc to middle level staff who are responsible for work at height activities”.

Most LA inspectors reported that duty holders did not have a good understanding of the main requirements and this is hardly surprising given that most inspectors were not confident that duty holders were even aware of the Work at Height Regulations.

In terms of complying with the main requirements, it was reported by most HSE inspectors that the level of compliance was average or above, as can be seen in Figure 7.4. However, most LA inspectors reported that the level of compliance was average or below. Comments included:
“Those that do know comply very well - but some don’t even consider the first step in the hierarchy to avoid work at height. They don’t think about the work or plan it - they just grab stepladders and use them”; and

“Any compliance is accidental. Duty holders take sensible precautions, which mean they comply but the control measures are not a result of the Regulations”.

![Figure 7.4](image.png)

**Figure 7.4** Levels of duty holders’ compliance with the main requirements of the Work at Height Regulations

As with awareness, most inspectors reported that larger companies were better at complying than smaller companies, because they had the expertise and resources required, unlike many smaller companies who lacked both knowledge and resources.

A number of HSE inspectors commented that whilst duty holders exhibit good levels of compliance for their staff and work at height activities, many often fail to consider contractors.

Additionally, many inspectors (both HSE and LA) who reported that compliance levels were low associated this with the fact that there is no Approved Code of Practice giving duty holders practical guidance on the Work at Height Regulations.

In Stage 1 of the study, the inspectors’ views on whether they were confident that holders were fulfilling their legal obligations was varied. However, in Stage 2, most HSE inspectors reported that the level of compliance was average or above and most LA inspectors reported that the level of compliance was average or below. These findings suggest that the Work at Height Regulations may have increased compliance in HSE-enforced companies to a greater extent than that of LA-enforced companies.

HSE and LA inspectors were asked if they had seen any changes in the way that duty holders manage work at height in the last year and the responses are presented in Figure 7.5.
As can be seen, a larger number of HSE inspectors than LA inspectors reported a change in the way that duty holders manage work at height since the introduction of the Regulations. Changes included updating and revising risk assessments, providing more suitable work equipment (including replacing ladders with cherry pickers) and implementing inspection and maintenance programmes.

However, some inspectors reported that they had not seen any management changes, commenting that:

“If companies previously managed work at height then they continue to do so and have made no changes. Companies who didn’t control work at height issues prior to the Regulations still don’t”.

A number of HSE inspectors in the construction sector reported that the Work at Height Regulations had resulted in a wider range of equipment being available and that this gives companies a greater choice when selecting more suitable equipment.

Of the 26 HSE and LA inspectors interviewed, the majority (17 = 65%) reported that the Work at Height Regulations have brought benefits to duty holders. Such benefits included an increased awareness of the risks involved when working at height, safer working practices, and a reduction in the number of accidents and resultant cost-savings, and reduced insurance premiums. Many reported that the Work at Height Regulations provide a focus for safely and effectively managing work at height. Comments included:

“The Work at Height Regulations spell it out more clearly and it’s easier to explain to duty holders what is required”; and

“The Regulations specify requirements in one place - providing a focus. Duty holders now have Regulations specifically for work at height, that were previously dispersed in other Regulations”.

In comparison, only a third of managers reported that the Work at Height Regulations had brought any benefits to their company (compared with 65% of inspectors).
Whilst most inspectors were in agreement that the Work at Height Regulations provided a focus for work at height activities and made work at height issues easier to enforce, a number of HSE inspectors commented that some of the wording of the Work at Height Regulations made it difficult for duty holders to fully understand what the main requirements are. It was reported that the working was clearer in the Workplace Regulations than in the Work at Height Regulations.

The HSE and LA inspectors who reported that they had not seen any benefits reported that it was too soon for any real benefits to have emerged.

Inspectors were asked if they had seen any costs or problems to duty holders since the introduction of the Work at Height Regulations and the responses are shown in Figure 7.6.

![Figure 7.6 Costs to duty holders, as witnessed by inspectors](image)

For both HSE and LA inspectors, responses were relatively even with around half reporting that they believed the Work at Height Regulations had resulted in an increase in costs and half saying there were no associated costs. Inspectors commented that the Regulations had resulted in both financial costs (for new, more suitable equipment, training for staff etc), as well as resource costs (in the form of management time to conduct risk assessments, developing and maintaining inspection records etc). However, most inspectors reported that these costs were balanced against long-term savings as a result of fewer accidents due to safer work practices. Comments included:

“There are costs attached with providing more appropriate equipment - but this is balanced against the savings made by avoiding accidents”.

Additionally, a number of inspectors, both HSE and LA, reported that the Regulations had caused some problems, mainly relating to ladders and the perception by duty holders that ladders have been banned for work at height activities.

Around half of the inspectors interviewed reported that duty holders did not incur any costs as a result of the Work at Height Regulations, commenting that:

“The costs are no more than for complying with other Regulations, which they should have been doing anyway”.
A slightly higher number of managers (60%) than inspectors (50%) reported that they had seen any costs or problems to duty holders due to the Work at Height Regulations.

7.3 TELEPHONE INTERVIEWS WITH DUTY HOLDERS

Key messages

The key findings from the telephone interviews with 156 duty holders are summarised below:

- All managers, with the exception of one in the education sector, were aware of the Work at Height Regulations.
- Only 46 managers (30%) correctly defined work at height.
- Very few managers understood the detailed requirements of the Work at Height Regulations, with most only knowing about one or two. The requirements that most managers were aware of were Regulation 6 (avoidance of risks from work at height) [51%], Regulation 7 (selection of suitable work equipment) [26%] and Regulation 5 (competence) [16%].
- It was reported that a lack of guidance or an approved code of practice for the Work at Height Regulations makes it very difficult for some duty holders to comply.
- Only 11 (7%) managers (from the road haulage, window cleaning, construction, retail and education sectors) reported that the type of work at height their companies carried out had changed in the last year. A number of these managers reported that work at height activities are now avoided, for example, a number of window cleaners now use water fed poles and construction companies now prefabricate structures at ground level.
- Only 5 managers (3%) reported that the number of employees involved in work at height had changed since the introduction of the Work at Height Regulations, most noticeably in the construction, retail and road haulage sectors. This concurs with the reports from these sectors that some work was now avoided.
- 112 (72%) managers reported that there had been changes made to the way work at height is managed in the last year, with the highest percentages in the shipbuilding and aircraft building/maintenance (93%), electricity (88%), food and drink (85%), building maintenance (83%) and construction (83%) sectors.
- The most common changes made to the way work at height is managed were the provision of new access/safety equipment and revising or conducting risk assessments. These changes reflect that Regulations 6 and 7 were the ones most commonly known by most managers.
- 25 (16%) managers reported that their employees had raised issues or objections to work at height arrangements, most commonly about ladder use (e.g. why they had been banned). These objections may be associated with lack of training or appreciation as to why certain changes have been made, particularly as most (83%) employees did not have an understanding about the specific requirements of the Regulations.
- A number of managers (and trade union safety representatives) reported that many contractors did not appear to be aware of work at height risks and that they had observed contractors misusing equipment.
- The issue of design was raised by a number of managers (as well as trade union safety representatives) who commented that work at height issues need to be considered during the design process for machines, workplaces and vehicles, in order to provide safe access.
- 36 (23%) managers reported that there had been one or more work at height accidents or near misses in their company since the introduction of the Work at Height Regulations.
Managers in the retail, construction and road haulage sectors reported the highest mean number of accidents, mostly involving falls from ladders and vehicles.

- In Stage I of the study, 49% of managers reported that their companies had had falls from height. There is a possibility that the Work at Height Regulations may have resulted in a reduction in the number of work at height accidents as only 23% reported falls from height in Stage 2.

- A third of managers (32) reported that the Work at Height Regulations had brought benefits or savings to their company, most commonly: an increase in awareness of the risks; more efficient and safer working; increased staff morale; a reduced number of unsafe practices and accidents; increased customer satisfaction; and improved company reputation.

- A larger number of managers (96 = 60%) reported that the Work at Height Regulations had resulted in the company incurring costs or problems, most commonly: costs associated with purchasing or hiring equipment for work at height: management time and effort; lost or higher production costs; and training, inspection and supervision costs.

- 147 (94%) managers were either very confident or confident that they were complying with the requirements of the WAH Regulations.

- Managers in the road haulage sector appeared to be the least confident that their companies were complying with the Regulations. This is not surprising as managers in this sector reported a higher number of accidents than managers in most other sectors, with the exception of construction and retail.

- In Stage 1 of the study, 89% of managers reported that they were very confident or confident that they were fulfilling their legal duties to ensure that work at height was carried out safely. There appears therefore to have been an increase in confidence levels in the last year, suggesting that the Work at Height Regulations may have had a positive impact.

- Managers appear to be more confident than inspectors, employees and trade union representatives that their companies are complying with the Work at Height Regulations, as most HSE Inspectors, 50% of employees and 63% of trade union safety representatives reported that their company could do more to make work at height safer.

**Detailed findings**

We interviewed 156 managers representing companies in the 12 key industry sectors. They were all senior managers or directors, including operations managers, company owners, and health and safety managers. The number of managers interviewed in each sector is shown below:

- Construction (29)
- Steeplejacks (14)
- Building maintenance (12)
- Arboriculture (11)
- Window cleaning (11)
- Electricity (9)
- Shipbuilding & aircraft building/maintenance (14)
- Telecommunications (9)
- Food & drink (13)
- Road haulage (13)
- Education (12)
- Retail (9)
Table 7.6 shows the range and mean management experience of these managers in each industry sector.

**Table 7.6** Range and mean of management experience in each industry sector

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Range (years)</th>
<th>Mean (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arboriculture</td>
<td>1.5 - 26</td>
<td>8</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>0.5 - 25</td>
<td>5.8</td>
</tr>
<tr>
<td>Construction</td>
<td>1.5 - 14</td>
<td>5.9</td>
</tr>
<tr>
<td>Education</td>
<td>0.25 - 30</td>
<td>10.3</td>
</tr>
<tr>
<td>Electricity</td>
<td>4 - 15</td>
<td>6.9</td>
</tr>
<tr>
<td>Food &amp; drink</td>
<td>0.25 - 13</td>
<td>4.4</td>
</tr>
<tr>
<td>Retail</td>
<td>0.1 – 13.5</td>
<td>3.9</td>
</tr>
<tr>
<td>Road haulage</td>
<td>0.5 - 28</td>
<td>10.6</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft building/maintenance</td>
<td>1 - 34</td>
<td>6.1</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>1 - 40</td>
<td>14.1</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>0.75 - 20</td>
<td>9.2</td>
</tr>
<tr>
<td>Window cleaning</td>
<td>2 - 26</td>
<td>13</td>
</tr>
</tbody>
</table>

As can be seen, the mean management experience was highest in the steeplejacks sector (14.1 years) and lowest in the retail sector (3.9 years). The range of management experience in the different sectors was varied with the largest being in the steeplejack sector (1 to 40 years) and the smallest being in the electricity sector (4 to 15 years).

The number of sites owned by the companies of the managers that we interviewed varied significantly between sectors, as shown in Table 7.7.
Table 7.7  Range and mean of the number of sites occupied in each sector

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Range</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>3 – 1200</td>
<td>153</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>1 – 40</td>
<td>16</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>1 – 140</td>
<td>20</td>
</tr>
<tr>
<td>Arboriculture</td>
<td>1 – 6</td>
<td>2</td>
</tr>
<tr>
<td>Window cleaning</td>
<td>1- 20000</td>
<td>2090</td>
</tr>
<tr>
<td>Electricity</td>
<td>2 – 800</td>
<td>137</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft building/maintenance</td>
<td>1 – 10</td>
<td>3</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>1 - 30000</td>
<td>5480</td>
</tr>
<tr>
<td>Food &amp; drink</td>
<td>1 – 32</td>
<td>12</td>
</tr>
<tr>
<td>Road haulage</td>
<td>1 – 28</td>
<td>6</td>
</tr>
<tr>
<td>Education</td>
<td>1 – 2</td>
<td>1</td>
</tr>
<tr>
<td>Retail</td>
<td>200 - 1700</td>
<td>613</td>
</tr>
</tbody>
</table>

The telecommunications sector had the largest range and mean of sites, compared with the education sector that had the lowest.

The number of employees employed by the manager’s companies is presented in Table 7.8.

Table 7.8  Range and mean number of employees in each sector

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Range</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>12 - 20000</td>
<td>2040</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>7 - 200</td>
<td>54</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>6 - 1500</td>
<td>77</td>
</tr>
<tr>
<td>Arboriculture</td>
<td>1 - 60</td>
<td>19</td>
</tr>
<tr>
<td>Window cleaning</td>
<td>1 - 37000</td>
<td>3694</td>
</tr>
<tr>
<td>Electricity</td>
<td>300 – 30000</td>
<td>6646</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft building/maintenance</td>
<td>14 - 6000</td>
<td>1509</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>3 - 11000</td>
<td>2005</td>
</tr>
<tr>
<td>Food &amp; drink</td>
<td>400 - 6000</td>
<td>2761</td>
</tr>
<tr>
<td>Road haulage</td>
<td>6 - 15000</td>
<td>1474</td>
</tr>
<tr>
<td>Education</td>
<td>23 - 100</td>
<td>54</td>
</tr>
<tr>
<td>Retail</td>
<td>5000-120000</td>
<td>27166</td>
</tr>
</tbody>
</table>

The retail sector had the largest mean number (27,166 employees). The Arboriculture sector had the smallest mean number (19) of employees.

The work activities reported by managers involving work at height varied significantly and were very much sector related. For example, in the road haulage sector, the main work activity involving work at height was climbing onto or into the back of vehicles. However, in
the arboriculture sector, most work at height involved free- or rope-climbing trees, and in the
construction sector the main activities involved roof work, working on scaffold and ladders.

Managers were asked if the type of work carried out in their company had changed in the last
year. Only 11 (7%) managers reported that the type of work had changed, most noticeably in
the road haulage (4 managers) and window cleaning (3 managers) sectors. Other managers
that reported a change in the type of work were from the construction (2 managers), education
(1 manager) and retail (1 manager) sectors. Details of the changes in the type of work at
height conducted are presented below in Table 7.9.

Table 7.9 Changes in type of work at height in last year, as reported by managers

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Number of managers reporting a change</th>
<th>Details of change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road haulage</td>
<td>4</td>
<td>Ground-operated tankers have been purchased which avoid the need to work at height</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Loads are now sheeted at ground level (previously they were sheeted on the lorry)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No work &gt; 2 metres is done</td>
</tr>
<tr>
<td>Window cleaning</td>
<td>3</td>
<td>Now using water fed poles instead of ladders</td>
</tr>
<tr>
<td>Construction</td>
<td>2</td>
<td>Frames and other structures now prefabricated at ground level</td>
</tr>
<tr>
<td>Education</td>
<td>1</td>
<td>No work &gt; 6 feet is now done</td>
</tr>
<tr>
<td>Retail</td>
<td>1</td>
<td>Now use grab-handles to reach garments instead of a ladder</td>
</tr>
</tbody>
</table>

As can be seen, a number of work at height activities have been avoided in the last year, as a
result of the introduction of the Work at Height Regulations. For example, a number of
window cleaners now use water fed poles and construction companies now prefabricate
structures at ground level.

Two managers (in the education and road haulage sectors) reported that any work above 2
metres or 6 feet is no longer conducted. Based on their comments, it appears that they do not
consider any work below these levels (i.e. 2 metres or 6 feet) to be classed as work at height.
Interestingly, both these managers were unable to correctly define work at height and this is
an issue that is discussed later in this section.

The number of workers identified by managers as being involved in work at height activities
varied from sector to sector. The construction sector had the largest number of employees
involved in work at height and the arboriculture and education sectors had the least number of
employees involved in work at height. The numbers of employees working at height across
the sectors is shown in Table 7.10.

Most managers (131 = 84%) reported that there had been no change in the number of
employees involved in work at height in the last year (which was also reported by most trade
union safety representatives). Only 25 managers reported a change in number. However, of
these, only 5 managers reported that the change was due to the Work at Height Regulations,
most noticeably in the construction, retail and road haulage sectors. This finding is hardly
surprising given that managers in these sectors reported that the type of work had changed,
with some work at height activities now being avoided. This in turn reduced the number of
employees required.
Other reasons for changes in employee numbers, unrelated to the Work at Height Regulations, included new joiners, people leaving, contracts being lost or won, new branches being opened etc.
Table 7.10  Number of employees working at height for each sector

<table>
<thead>
<tr>
<th>Number of employees</th>
<th>Construction n=29</th>
<th>Steeplejacks n=14</th>
<th>Building maintenance n=12</th>
<th>Arboriculture n=11</th>
<th>Window cleaning n=11</th>
<th>Electricity n=9</th>
<th>Ship &amp; aircraft n=14</th>
<th>Tele­comms n=9</th>
<th>Food &amp; drink n=13</th>
<th>Road haulage n=13</th>
<th>Education n=12</th>
<th>Retail n=9</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>11-20</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>21-30</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>31-40</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>41-50</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>51-100</td>
<td>8</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>101-200</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Above 200</td>
<td>10</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>7</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Don’t know</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
All 156 managers interviewed, with the exception of one in the education sector, were aware of the Work at Height Regulations.

Managers were asked how their company defined work at height and the definitions given varied greatly between the sectors. In the Regulations, work at height is defined as “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”. Table 7.11 shows the numbers of managers in each sector that correctly defined work at height.

**Table 7.11**  Number of managers in each industry sector who correctly defined work at height

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>18</td>
<td>62</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>5</td>
<td>36</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Arboriculture</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Window cleaning</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Electricity</td>
<td>6</td>
<td>67</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft building/maintenance</td>
<td>8</td>
<td>57</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>Food &amp; drink</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Road haulage</td>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>Education</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Retail</td>
<td>1</td>
<td>11</td>
</tr>
</tbody>
</table>

Managers in the electricity sector were the most knowledgeable, as a higher percentage of managers in this sector than in any other sector were able to correctly define work at height. A large number of managers in the construction and shipbuilding and aircraft building/maintenance sectors were also able to define work at height. No managers in the education or window cleaning sectors were able to correctly define work at height. The most comprehensive definition of work at height given by a manager (in the shipbuilding and aircraft building/maintenance sector) was:

“working in any place above or below ground where a person could fall a distance that causes a personal injury”.

Only 46 of the 156 managers interviewed (30%) correctly defined work at height. Over two-thirds of managers were therefore unaware of the correct definition. Many managers made reference to a height above which work carried out was classed as work at height. Common ‘heights’ were 6 inches, 1 metre, 2 metres, 6 feet, 11 feet and 5 metres. Other managers gave more vague definitions, reporting that work at height was anything that involved the workers feet being off the ground. Common definitions included:

“Anything over 2 metres”;

“Any work that requires the use of ladders and other equipment”;
“Anything above ground level (i.e. feet off the ground, or involving a step)”; and

“Anything people can’t reach from arms length”.

Very few managers had a good understanding of the main requirements of the Work at Height Regulations, with most only having knowledge of one or two of the main requirements. No one was able to detail all 11 main requirements. One manager in the food and drink sector was able to identify 4 of the main requirements and 5 managers (2 in shipbuilding & aircraft building/maintenance, 1 building maintenance, 1 food & drink and 1 retail) were able to identify 3 of the main requirements. The most comprehensive description of the main requirements of the Work at height Regulations given by a manager was:

“Avoid work at height if possible. Assess risk and use hierarchy of control. Identify all who work at height. Plan and organise any work at height. Use appropriate equipment and consider emergencies. Inspect and maintain all equipment provided for work at height”.

The number of managers in each sector who were aware of each of the 11 requirements of the Work at Height Regulations is shown in Table 7.12.

The requirement that most (79) managers were aware of was Regulation 6 (avoidance of risks from work at height), with most managers reporting the requirement for conducting a suitable and sufficient risk assessment. A number of managers were also aware of Regulation 7 (selection of suitable work equipment) and Regulation 5 (competence). However, very few managers were aware of the other requirements. These findings are similar to those for trade union safety representatives, (see section 7.5) in that the two most commonly known requirements were Regulation 6 and 7.

Many inspectors commented that the lack of guidance or an approved code of practice for the Work at Height Regulations makes it very difficult for some duty holders to comply. This may in part explain why many managers did not have an adequate understanding of the detailed requirements of the Work at Height Regulations.

Managers were asked if there had been any changes to the way work at height is managed in the last year. The majority (112) of managers reported that there had been changes, and these are summarised in Table 7.13, according to industry sector.

The highest number of managers reporting a change in the way work at height is managed were in the shipbuilding and aircraft building/maintenance sector, with 93% (13 managers) reporting a change. A large number of managers in the electricity (88%), food and drink (85%), building maintenance (83%) and construction (83%) sectors also reported changes in the way work at height is managed. The sector reporting the lowest level of change was the arboriculture sector, with only 27% (3 managers) reporting any changes in the management of work at height since the introduction of the Work at Height Regulations.

Many companies who reported little or no change in the way that work at height is managed in the last year reported they were already complying with the requirements of the Work at Height Regulations, commenting that:

“We have been following the same system for ages and using MEWPS”; and

“We have always approached our work as being at height. I don’t want to be having to tell people’s wives that there has been an accident so we are always cautious”.  

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Table 7.12 Understanding of the main requirements of the Work at height Regulations

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Construction n=29</th>
<th>Steeple-jacks n=14</th>
<th>Building maintenance n=12</th>
<th>Arboriculture n=11</th>
<th>Window cleaning n=11</th>
<th>Electricity n=9</th>
<th>Ship &amp; aircraft n=14</th>
<th>Tele-comms n=9</th>
<th>Food &amp; drink n=13</th>
<th>Road haulage n=13</th>
<th>Education n=12</th>
<th>Retail n=9</th>
<th>Total n=156</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Organisation and planning</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Competence</td>
<td>-</td>
<td>3</td>
<td>3</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Avoidance of risks from work at height</td>
<td>13</td>
<td>10</td>
<td>7</td>
<td>5</td>
<td>7</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>11</td>
<td>3</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>Selection of work equipment</td>
<td>9</td>
<td>-</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>6</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Requirements for particular equipment</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>Fragile surfaces</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>Falling objects</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>Danger areas</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>Inspection of work equipment</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>13</td>
<td>Inspection of places of work at height</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>Duties of persons at work</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>3</td>
</tr>
</tbody>
</table>
Table 7.13 Changes made in managing work at height

<table>
<thead>
<tr>
<th>Details of change</th>
<th>Construction n=29</th>
<th>Steeple-jacks n=14</th>
<th>Building maint n=12</th>
<th>Arboriculture n=11</th>
<th>Window cleaning n=11</th>
<th>Electricity n=9</th>
<th>Ship &amp; aircraft n=14</th>
<th>Telecomms n=9</th>
<th>Food &amp; drink n=13</th>
<th>Road haulage n=13</th>
<th>Education n=12</th>
<th>Retail n=9</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>New access/safety equipment</td>
<td>12</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>7</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>47</td>
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</tr>
<tr>
<td>Revise/conduct risk assessments</td>
<td>13</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
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<td>1</td>
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<td>Training</td>
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<td>1</td>
<td>1</td>
<td>29</td>
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<tr>
<td>Revise procedure, SSOW etc</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Restricting ladder use</td>
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<tr>
<td>Fall arrest</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>12</td>
<td></td>
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<tr>
<td>Modifications to equipment (e.g. handrails etc)</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>5</td>
<td>10</td>
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<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Inspection of equipment</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>7</td>
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</tr>
<tr>
<td>Permits to work</td>
<td>3</td>
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<td>1</td>
<td>5</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Avoid work at height</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td></td>
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<td>Consider contractors</td>
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<td>4</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Revise/develop rescue plans/training</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>PPE</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall restraint</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervision</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. managers reporting change (%)</td>
<td>24 (83%)</td>
<td>9 (64%)</td>
<td>10 (83%)</td>
<td>3 (27%)</td>
<td>7 (64%)</td>
<td>8 (88%)</td>
<td>13 (93%)</td>
<td>4 (44%)</td>
<td>11 (85%)</td>
<td>9 (69%)</td>
<td>8 (67%)</td>
<td>6 (67%)</td>
<td></td>
</tr>
</tbody>
</table>
As can be seen in Table 7.13, the change most commonly made in the last year was the provision of new access/safety equipment, including work platforms, ladders, scaffold towers and other specialist access equipment, as reported by 47 managers. The second most common change was risk assessments for work at height activities being conducted or revised (33 managers). These changes are not surprising given that Regulations 6 and 7 were the ones most commonly known by managers. Other common changes in the way work at height is managed were the provision of training (29 managers) and revising or developing procedures or safe systems of work for work at height activities (20 managers).

Managers were asked if employees had raised any issues or objections to work at height arrangements. Only a small number (25 managers = 16%) reported that employees had raised any issues or objections. Details of these issues/objections as reported by managers are summarised in Table 7.14.

The most common issue/objection raised by employees concerned ladder use, with a number of managers reporting that employees had questioned why ladders have been banned or their use restricted. A number of managers reported that their employees raised issues with using mobile work platforms, as these take longer to move than ladders resulting in some activities taking longer. A number of employees were reported to have raised issues with changes to safe systems of work or procedures for work at height, as these changes also resulted in work at height activities taking longer. These objections may result from a lack of understanding or appreciation as to why certain changes have been made, i.e. to make work at height safer. This in turn may stem from a lack of adequate training or information on the Work at Height Regulations, particularly as 33% of trade union safety representatives reported that the workers they represent had not been given any training or information to help them work at height safely. Additionally, most (83%) of the employees interviewed as part of the study did not have an understanding about the specific requirements of the Regulations.

Managers in the education sector were the only ones to report that no employees raised any issues or objections. Interestingly, employees in the education sector were the only ones who did not receive any training for work at height activities. This suggests that employees who have not received training and are therefore unaware of the risks involved with working at height may be less likely to question any work practices or raise any issues or concerns.

Of the 156 managers interviewed, 36 managers (23%) reported that there had been one or more work at height accidents or near misses in their company since the introduction of the Work at Height Regulations. The number of managers reporting these accidents and/or near misses, and the total and mean number of reported per sector as detailed in Table 7.15.

Managers (5) in the retail sector reported the highest mean number of accidents (18), with one manager reporting 13 RIDDOR incidents and another reporting 2 RIDDOR incidents, most commonly falls from ladders. Managers (10) in the construction sector also reported a large number of accidents (total of 30), again mostly involving falls from ladders, as well as falls from scaffolding. Accidents in the road haulage sector were also common, with 4 managers reporting a total of 11 accidents, most of which involved a fall from a vehicle. The agents involved in a large number of these falls (vehicles and ladders) were also reported by trade union safety representatives and inspectors to be common agents.
### Table 7.14 Issues and objections raised by employees who work at height, as reported by managers

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Number of managers reporting issues or objections</th>
<th>Issue/objection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>4</td>
<td>Question why ladders have been banned/use restricted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Question why risk assessments have to be conducted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unhappy that ladders have to be secured</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>4</td>
<td>Harnesses restrict movement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unhappy with changes to safe system of work (SSOW)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Using mobile work platforms wastes time (ladders reported to be quicker)</td>
</tr>
<tr>
<td>Window cleaning</td>
<td>4</td>
<td>Concerns about manual handling of water fed poles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Customer complaints as water fed poles leave smears on windows (unlike traditional squeegee method), cause wet paths, trailing hoses etc</td>
</tr>
<tr>
<td>Ship &amp; aircraft building/maintenance</td>
<td>3</td>
<td>Question why ladders have been banned/use restricted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Concerns about access equipment design</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reluctance to receive rescue training</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>2</td>
<td>Too much paperwork</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Question why ladders have been banned/use restricted</td>
</tr>
<tr>
<td>Electricity</td>
<td>2</td>
<td>Using mobile work platforms wastes time (ladders reported to be quicker)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Initial concern that Work at Height Regulations are “over the top”</td>
</tr>
<tr>
<td>Food &amp; drink</td>
<td>2</td>
<td>Question why ladders have been banned</td>
</tr>
<tr>
<td>Arboriculture</td>
<td>1</td>
<td>Unhappy with changes to SSOW</td>
</tr>
<tr>
<td>Retail</td>
<td>1</td>
<td>Using mobile work platforms wastes time (ladders reported to be quicker)</td>
</tr>
<tr>
<td>Road haulage</td>
<td>1</td>
<td>Concerns about way vehicles are secured on transporter lorry</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>1</td>
<td>Unhappy with changes to SSOW</td>
</tr>
<tr>
<td>Education</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
In Stage 1 of the study, 49% (81 of the 164) of managers reported that their companies had had fall from height accidents in the past 12 months. Given that only 23% (36 of 156) of managers reported that they had had any accidents or near misses in the last year, it would appear that the Work at Height Regulations have resulted in a reduction in the number of work at height accidents and near misses. This is certainly true for a number of companies, as 24 managers (15%) reported that they had seen changes in the number or type of accidents or near misses in the last year since the introduction of the Work at Height Regulations. Three managers reported that they had seen a reduction in the number of accidents in their company, in the construction and electricity sectors. The remaining 19 managers reported that they had witnessed a reduction in the number of unsafe practices, commenting that employees were more aware of the risks associated with working at height because of the Regulations and so typically behaved better and adhered to company procedures for working at height. This suggests that the Work at Height Regulations have had an impact in increasing awareness and reducing work at height accidents and unsafe practices.

However, this is not true for all companies. A few managers commented that they were concerned about the behaviour of some of their contractors or other people permitted to be onsite (e.g. delivery drivers), most noticeably in the construction and road haulage sectors, as many did not appear to be aware of the risks associated with work at height. A number of managers reported that they had observed contractors misusing equipment (e.g. leaning over edge of tail-lift on delivery vehicle or reaching to the side when on a ladder). Additionally, a number of managers reported that they had requested risk assessments from some of their contractors for work at height activities, but that these were not available or had not been conducted. Comments included:

“We have deliveries of goods to our sites but the contractors who deliver often don’t have work at height policies or procedures for the safe loading or unloading of goods from their vehicles. We know we are responsible for contractors on our site but are unsure of what to do – do we allow contractors on site to deliver without work at height procedures even although we know we shouldn’t?”.
The issue of managing contractors is a concern shared by both managers and trade union safety representatives.

Only a third of managers (52) reported that the Work at Height Regulations had brought benefits or savings to their company. A range of benefits and savings were reported, most commonly an increase in awareness of the risks involved in work at height, more efficient and safer working, increased staff morale, a reduced number of unsafe practices and accidents, increased customer satisfaction and improved company reputation. These benefits were also identified by a number of Inspectors. It is interesting to note, however, that 65% of Inspectors reported that the Work at Height Regulations brought benefits to companies, whereas only 33% of managers reported benefits.

A larger number of managers (96 = 60%) reported that the Work at Height Regulations had resulted in the company incurring costs or problems. In comparison, however, slightly fewer Inspectors (50%) reported that they had seen any costs or problems to managers, as a result of the Work at Height Regulations.

Details of these costs/problems reported by managers are presented in Table 7.16 by industry sector.

More managers in the shipbuilding and aircraft building/maintenance sector than in any other reported that the Work at Height Regulations had incurred their company costs or problems, with 83% (12 managers) reporting some. A large number of managers (83% = 10 managers) in the building maintenance sector also reported that their company had incurred costs or problems as a result of the Regulations. Managers in the arboriculture sector reported the least problems/costs.

The most common issue reported by managers was the cost associated with purchasing or hiring equipment for work at height activities. Other costs involved management time and effort, lost or higher production costs, and training, inspection and supervision costs. One manager in the electricity sector also reported problems with design issues, and this is discussed further in section 7.4.

The issue of design was also raised by a number of trade union safety representatives who commented that until work at height is considered during the design process, many companies are left with machines, workplaces and vehicles that are not designed to provide safe access.

Interestingly, the views of managers and inspectors on whether the Work at Height Regulations have brought benefits to companies or incurred them any costs or problems differ. A higher percentage of inspectors (65%) than managers (33%) reported that the Regulations have benefited companies, and fewer inspectors (50%) than managers (60%) reported that the Regulations had resulted in increased costs to companies. The reasons for these differences are not known but managers are obviously in a more informed position to comment on the issue of benefits and costs within their company. Their responses are therefore likely to be more accurate than those of Inspectors, particularly for cost related issues. However, in terms of benefits, many companies may be focusing on the initial costs they have incurred to purchase more suitable access and safety equipment and may not consider the resulting long-term benefits. This is certainly a view held by a number of managers. Comments included:

“During this initial period of investment there has been an outlay on equipment but longer term it is likely to mean that we will save money, have less accidents and win more contracts”.

Managers were asked how confident they were that their company was fulfilling its legal obligations to ensure that work at height is safe. Their responses are summarised in Table 7.17.
As can be seen, the majority (94%) of managers were either very confident or confident that they were complying with the requirements of the Work at Height Regulations. Managers in the window cleaning sector appeared to be the most confident, with the majority reporting that they were very confident. Managers in the road haulage sector appeared to be the least confident as 2 managers reported that they were not very or not at all confident that their company was complying with the Work at Height Regulations. One manager commented:

“So much exposure is on sites that are out of our control”.

The manager reported that his employees deliver liquid fuel and that the driver has to get to the top of the client’s vessel with a hosepipe (measuring 150 feet in length) and attach the pipe to the vessel. It was reported that were often no fixed ladders and that due to the position of the vessel, it was sometimes near impossible for the driver to reach the top without climbing over the vessel or stretching/reaching via a ladder. In addition, this again raises the problem of equipment and plant design and the lack of consideration given to the issue of work at height.

In Stage 1 of the study, 89% of managers reported that they were confident or very confident that they were fulfilling their legal duties to ensure that work at height was carried out safely. There appears to have been an increase in confidence levels as more managers now (since the introduction of the Work at Height Regulations) are confident or very confident (94%). This suggests that the Work at Height Regulations may have had a positive impact, particularly in the education sector as in Stage 1, the education sector had the lowest number of managers (69%) reporting that they were confident or very confident that they were fulfilling their legal duties. However, 96% of managers in the education sector are now confident or very confident (although this was not reflected in what we observed during our visits to two schools, see section 7.4).

These raised confidence levels, however, do not match the views of inspectors, employees or trade safety representatives. It was reported by most HSE inspectors that the level of compliance with the Work at Height Regulations was average or above and most LA inspectors reported that the level of compliance was average or below. Additionally, 50% of employees and 63% of trade union safety representatives reported that their company could do more to make work at height safer. It would appear therefore that managers are more confident than inspectors, employees and trade union representatives that companies are complying with the Work at Height Regulations. However, given that many managers were not aware of the main requirements of the Regulations, their confidence levels should be questioned. If they do not understand what is required, how can they comply?
### Table 7.16 Costs/problem incurred as a result of the Work at Height Regulation

<table>
<thead>
<tr>
<th>Cost/problem</th>
<th>Construction n=29</th>
<th>Steeple-jacks n=14</th>
<th>Building maintenance n=12</th>
<th>Arboriculture n=11</th>
<th>Window cleaning n=11</th>
<th>Electricity n=9</th>
<th>Ship &amp; aircraft n=14</th>
<th>Telecomms n=9</th>
<th>Food &amp; drink n=13</th>
<th>Road haulage n=13</th>
<th>Education n=12</th>
<th>Retail n=9</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment costs</td>
<td>17</td>
<td>7</td>
<td>6</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>9</td>
<td>4</td>
<td>8</td>
<td>9</td>
<td>3</td>
<td>5</td>
<td>76</td>
</tr>
<tr>
<td>Management resources/time</td>
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<td>3</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
<td>2</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Training costs</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td></td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>11</td>
<td></td>
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<tr>
<td>Reduction in job efficiency</td>
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<td>1</td>
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<td></td>
<td></td>
<td></td>
<td>11</td>
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<tr>
<td>Lost business/contract</td>
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<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase in job efficiency</td>
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<td></td>
<td></td>
<td>1</td>
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<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managing contractors</td>
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<td></td>
<td></td>
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<td></td>
<td>2</td>
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<td>1</td>
<td></td>
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<td></td>
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<td></td>
<td>2</td>
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<tr>
<td>Cost for contracting out work at height</td>
<td>1</td>
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<td></td>
<td>1</td>
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<td></td>
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<tr>
<td>Design issues</td>
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<td>1</td>
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<td></td>
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<td></td>
<td>2</td>
<td></td>
<td></td>
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<tr>
<td>Supervision costs</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. managers reporting cost or problem (%)</td>
<td>17 (59%)</td>
<td>10 (71%)</td>
<td>10 (83%)</td>
<td>2 (18%)</td>
<td>6 (54%)</td>
<td>3 (33%)</td>
<td>12 (86%)</td>
<td>5 (56%)</td>
<td>9 (69%)</td>
<td>10 (77%)</td>
<td>4 (33%)</td>
<td>6 (67%)</td>
<td></td>
</tr>
</tbody>
</table>
Table 7.17  Confidence levels of managers with complying with Work at Height Regulations

<table>
<thead>
<tr>
<th>Confidence level</th>
<th>Construction n=29</th>
<th>Steeple-jacks n=14</th>
<th>Building maintenance n=12</th>
<th>Arboriculture n=11</th>
<th>Window cleaning n=11</th>
<th>Electricity n=9</th>
<th>Ship &amp; aircraft n=14</th>
<th>Telecomms n=9</th>
<th>Food &amp; drink n=13</th>
<th>Road haulage n=13</th>
<th>Education n=12</th>
<th>Retail n=9</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very confident</td>
<td>19</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>8</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>72</td>
</tr>
<tr>
<td>Confident</td>
<td>10</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>4</td>
<td>7</td>
<td>9</td>
<td>7</td>
<td>7</td>
<td>75</td>
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<tr>
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<tr>
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<td>0</td>
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<td>0</td>
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<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
7.4 SITE VISITS

In this section of the report, we describe the results of our visits to duty holders in the key industry sectors. We visited 31 managers and, where possible, we visited managers that took part in the first stage of the project. The number of visits in each sector is listed below.

- Construction (4)
- Steeplejacks (4)
- Building maintenance (4)
- Arboriculture (1)
- Window Cleaning (2)
- Electricity (2)
- Ship building and aircraft maintenance (3)
- Telecommunications (3)
- Food and Drink (2)
- Road Haulage (3)
- Education (2)
- Retail (1)

As for the first stage, our visits included three activities:

- detailed interviews with managers
- interviews with employees involved in work at height
- observations of work at height, equipment, etc, to examine the precautions used.

We have reported each of these three elements of the visits separately in the rest of this section.

7.4.1 Interviews with duty holders/managers

Key messages

The key findings from the site visits with 31 duty holders across the range of industry sectors are summarised below.

- 9 (29%) managers reported that some work at height had been avoided in the last year. Some managers also reported that they had changed or stopped using certain equipment.
- All managers said that they carried out risk assessments for work at height, although only 14 (45%) provided copies, whereas 100% provided them in Stage 1. This change may have been because the managers were not confident that their assessments were adequate.
- The quality of the 14 assessments we examined were similar to those we saw in Stage 1.
- Managers in all sectors except building maintenance, education, road haulage and steeplejacks said that their risk assessments had been reviewed in the last year, because of regular review systems or because of the new Regulations.
- Nearly half of the managers reported that they had specific polices for work at height, compared to only a sixth in Stage 1. Most of the rest of the managers (except in food and drink, and education) had general policies that include work at height.
16 (52%) managers provided evidence of the effectiveness of their policies, mainly through auditing and inspections (also the most popular methods in Stage 1). 9 of these managers felt that their policies had been more successful in the last year, because of improved audit scores and fewer accidents.

The four most common measures taken to ensure safe work at height were supervision, written work guidelines, training and permits to work. This was similar to the Stage 1 findings, except that training and permits were reported more regularly.

8 managers had changed the measures taken to ensure safe work at height in the last year, including changes to written procedures, improved training and toolbox talks, more audits and closer supervision.

The same general methods were used to communicate safety information about work at height to workers as in Stage 1, except that there was more focus on training. 9 managers reported changes in the last year, including more informal and formal training, updated written procedures and more information.

As in Stage 1, training was the key criteria used when deciding who could work at height, except in the education sector where it was not mentioned.

All managers provided some form of training on work at height to employees, except in the education sector. This was better than in Stage 1, when retail and road haulage, as well as education, did not provide any training.

The vast majority of training provided had not changed in the last year. Where changes had been made (as reported by 5 managers), this was said to have been due to the WAH Regulations.

Fewer managers than in Stage 1 (81% rather than 100%) reported that they kept training records.

Ladders had dropped from being the most common type of work equipment provided in Stage 1 to the third most common in Stage 2.

10 (32%) managers reported that the type of equipment provided had changed in the last year, including wearing harnesses in MEWPs, more use of tower scaffolds, increased use of handrails and guardrails, and increased use of water fed poles for window cleaning.

Almost all managers felt that the equipment provided was either very effective or effective as long as it was used correctly. The exceptions were in the construction (due to misuse of equipment) and education (due to some unsuitable equipment) sectors.

All managers said that some form of inspection of equipment was carried out. Although the vast majority of managers stated that this had not changed in the last year, only 84% of managers in Stage 1 reported carrying out equipment inspections.

Detailed findings
We spoke to 31 managers or supervisors responsible for managing work at height in the key industry sectors.

We initially asked for examples of work at height activities that had previously been carried out in the last year that had now been avoided. 22 of the 31 managers we visited said that there had been no change.

However, the remaining nine managers confirmed that some activities had been avoided. These included contracting the work out and designing out the need to work at height, for example work was carried out on the ground when it had previously been done at height. Additionally some managers reported that they had changed or stopped using certain equipment, for instance using MEWPs instead of climbing equipment wherever possible. Comments included:
"The cyclone machine was previously cleaned by a person using a ladder but it is now done using a boom that can be used by a person standing on the ground"; and

"We now use water fed poles instead of ladders whenever possible".

As with the first stage, all of the managers stated that risk assessments were carried out for work at height activities although for one of the assessments in the education sector this was actually an inspection checklist. We asked to see risk assessments from all managers but only 14 provided sample copies to review. In comparison, all the managers who took part in the first stage provided copies.

We are unable to determine why fewer managers provided risk assessments than in the first stage of the project. It appeared that managers were more likely to allow us to examine their assessments if they were confident that the assessments were good. It is possible that those managers that were reluctant to provide their assessments were not confident that they were adequate.

Of the 14 risk assessments we were able to examine, the telecommunications sector provided the most detailed assessments which we rated as good to excellent. Nearly all the managers we visited in the shipbuilding and aircraft maintenance and building maintenance sectors provided risk assessments, which varied from average to good. The retail and steeplejacks sectors provided average and above average risk assessments.

As in the first stage, one of the managers we visited in the education sector stated that they had a risk assessment but upon review, it was clear that this was an inspection report. The other education sector manager we visited did provide a risk assessment for work at height, however we rated it as poor. We were unable to review any risk assessments from the construction, electricity, road haulage and window cleaning sectors.

The majority of sectors stated that the risk assessments had been reviewed in the last year. There were three reasons for the review: the new Regulations; part of the company’s annual review; or in some cases, as the risk assessments were job specific, they were reviewed each time before work started.

Some of the managers in the building maintenance, education, road haulage and steeplejack sectors confirmed that their risk assessments had not been reviewed in the last year.

Seven of the managers confirmed that the risk assessments were completed by the health and safety department or teams compared to 11 in the first stage.

Nearly half of the managers visited stated they had specific policies for work at height activities compared to only a sixth of the managers in the first stage. Ten of these fourteen managers confirmed that the policies had been reviewed in the last year, which was due to both the new Work at Height Regulations and their internal company policy of annual review.

As in the first stage of the project, the majority of the remaining managers had general health and safety policies covering work at height. The only sectors where there were no work at height policies were education and food and drink.

16 of the 31 managers interviewed were able to provide evidence of the effectiveness of these policies in reducing falls from height. This was mainly through internal audits and inspections, which was also the most popular method stated in the first stage. Six managers also stated that
accident statistics were a good method of determining the effectiveness of policies. Comments included:

“We have third party auditor that visits twice a month to do a site visit and review of safety systems”.

Of these 16 managers, seven stated that there was no change in the success of these policies in the last year. The remaining managers felt they had been more successful due to increased audit scores and reduced incidence of accidents. Comments included:

“We have been more successful as we’ve had no accidents this year”.

Both management and employees had responsibility for ensuring that all work at height policies were correctly implemented, which in the majority of cases had not changed from last year. The only exceptions were two companies in the arboriculture and window cleaning sectors. The arboriculture manager stated that clients had taken a more active role in ensuring policies were implemented correctly whereas the window cleaning company had put a greater onus on employees in the last year.

Only eight managers we visited provided us with copies of their policies, which we reviewed and rated. Again the telecommunications sector provided the most detailed policy which was rated as excellent. The other companies provided policies which were rated as average or good.

The managers reported on the measures taken to ensure that employers and contractors worked at height safely. The four most common measures taken were supervision, written work guidelines, training and permits to work, which were similar to the findings in Stage 1 except that training and permits to work featured more regularly than before.

Table 7.18 Measures taken to ensure workers carry out work at height safely

<table>
<thead>
<tr>
<th>Safety measures</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision</td>
<td>27</td>
</tr>
<tr>
<td>Written procedures</td>
<td>27</td>
</tr>
<tr>
<td>Training</td>
<td>21</td>
</tr>
<tr>
<td>Permits to Work</td>
<td>19</td>
</tr>
<tr>
<td>Audits</td>
<td>17</td>
</tr>
</tbody>
</table>

Eight managers stated that these measures had changed in the last year, including changes to written procedures, improved training, upgraded toolbox talks, more audits and closer supervision of some higher risk activities. Comments included:

“There is more emphasis on audits”; and

“We now have a dedicated trainer on board”.

Managers were asked to comment on the variety of measures used to communicate safety information about work at height activities to workers. The most common methods were training, meetings, toolbox talks and H&S noticeboards. Compared to our findings in Stage 1, there was more focus on training although the general methods of communication were similar.
Nine of the 31 managers interviewed said the methods of communication had changed in the last year. These changes included more toolbox talks, formal ladder training, updated written procedures in some cases to remove the reference to the two metre rule, more specific information about work at height activities and rescue training.

Table 7.19 below shows methods of communication and the number of responses in each category.

Table 7.19  Methods of communicating work at height to employees

<table>
<thead>
<tr>
<th>Methods</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>23</td>
</tr>
<tr>
<td>Team meetings</td>
<td>22</td>
</tr>
<tr>
<td>Toolbox talks</td>
<td>20</td>
</tr>
<tr>
<td>H&amp;S Noticeboards</td>
<td>19</td>
</tr>
<tr>
<td>H&amp;S Committee</td>
<td>15</td>
</tr>
<tr>
<td>TU/Employee Reps</td>
<td>14</td>
</tr>
<tr>
<td>Inspections</td>
<td>12</td>
</tr>
<tr>
<td>Intranet</td>
<td>9</td>
</tr>
<tr>
<td>Induction</td>
<td>5</td>
</tr>
<tr>
<td>Safety Bulletins</td>
<td>4</td>
</tr>
<tr>
<td>Written procedures</td>
<td>4</td>
</tr>
<tr>
<td>H&amp;S Manual</td>
<td>3</td>
</tr>
<tr>
<td>Magazine articles</td>
<td>1</td>
</tr>
<tr>
<td>Buddy System</td>
<td>1</td>
</tr>
<tr>
<td>Memos</td>
<td>1</td>
</tr>
</tbody>
</table>

Managers based their decision on who could work at height safely on a number of criteria. Training was the key criteria and the only sector not to mention this was education. Physical/mental fitness was rated as the second most frequent answer amongst managers interviewed. The results are shown in Table 7.20 below.
Table 7.20 Criteria for deciding who can work at height safely

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>20</td>
</tr>
<tr>
<td>Physical /Mental fitness</td>
<td>19</td>
</tr>
<tr>
<td>Work experience</td>
<td>11</td>
</tr>
<tr>
<td>Staff assessment procedures</td>
<td>10</td>
</tr>
<tr>
<td>Mgt decision</td>
<td>7</td>
</tr>
<tr>
<td>Supervision</td>
<td>2</td>
</tr>
<tr>
<td>Head for heights – informal</td>
<td>2</td>
</tr>
<tr>
<td>Age</td>
<td>1</td>
</tr>
</tbody>
</table>

All managers, with the exception of those in the education sector, provided some form of training on work at height issues to employees. This was an improvement on the previous year where three sectors had not provided any form of training including education, retail and road haulage.

Training on the variety of equipment for working at height was the most popular training method followed by general induction training which involved work at height activities. Only one sector mentioned risk assessment training for working at height, which was in the construction sector. The vast majority of this training had not changed in the last year.

The five managers who stated that training had changed were in the shipbuilding and aircraft maintenance, arboriculture, building maintenance, construction and electricity sectors. The majority of these changes were reported by the managers as having been brought about by the introduction of the new Regulations. Comments included:

“Our training is now much more formal and specifically contains a section on the new Regulations”; and

“We now provide rescue training”.

18 managers who provided training stated that rescue training was provided to employees. 10 managers reported that it was not applicable for the type of work being carried out. Three managers in the aircraft/shipbuilding maintenance, construction and window cleaning sectors did not provide rescue training and we were unable to ascertain whether this was a problem, as we did not observe any work that required rescue training. Three managers in the building maintenance and road haulage sectors stated that they had only introduced rescue training in the last year.
Six managers who provided training to their employees confirmed that training records were not kept. This was a decrease in numbers compared to last year where all managers had kept some form of training records.

We were able to view 17 training records across the different industry sectors. We rated 14 as good to excellent with only arboriculture and road haulage rated as average. The only one rated as poor was in the retail sector as work at height training was not mentioned and the information was not as detailed.

We reviewed the types of work equipment used for work at height which are shown in Table 7.21 below.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall arrest/harnesses</td>
<td>22</td>
</tr>
<tr>
<td>MEWPs</td>
<td>19</td>
</tr>
<tr>
<td>Ladders</td>
<td>17</td>
</tr>
<tr>
<td>Scaffolds</td>
<td>14</td>
</tr>
<tr>
<td>PPE</td>
<td>8</td>
</tr>
<tr>
<td>Stepladders</td>
<td>7</td>
</tr>
<tr>
<td>Tower scaffolds</td>
<td>5</td>
</tr>
<tr>
<td>Working platforms</td>
<td>4</td>
</tr>
<tr>
<td>Guardrails/handrails</td>
<td>4</td>
</tr>
<tr>
<td>Cranes</td>
<td>3</td>
</tr>
<tr>
<td>FLT &amp; Cage</td>
<td>3</td>
</tr>
<tr>
<td>Cargo steps with handrails</td>
<td>2</td>
</tr>
<tr>
<td>Lifts/hoists</td>
<td>1</td>
</tr>
<tr>
<td>Purpose built gantry</td>
<td>1</td>
</tr>
<tr>
<td>Podium steps</td>
<td>1</td>
</tr>
</tbody>
</table>

In Stage 1, ladders were the most common response to the type of work equipment provided. These were the third most popular answer in the second stage. Ten managers reported that the type of equipment used had changed in the last year. This included the requirement to now wear harnesses in MEWPs (Mobile Elevated Work Platforms), an increase in tower scaffold use, increased use of handrails and guardrails and (in the window cleaning sector) an increase in water fed poles to avoid work at height altogether. A manager in the construction sector commented that this was due to the Work at Height Regulations.

Nearly all managers felt that the equipment provided was either very effective or effective as long as it was used correctly. The two sectors that felt that some equipment was not effective were the construction and education sectors. One of the managers within the construction sector felt that people frequently did not use equipment correctly and therefore the equipment was ineffective. In the education sector, both the managers that we visited felt that some of the
equipment provided was effective but not all of it and they were aware that some needed to be improved or replaced.

All managers stated that some form of inspection of equipment was carried out which varied from annual, six monthly, quarterly, monthly, weekly and every time before use. Ladders and harnesses were the most popular responses for equipment that was checked visually before use. In the main, MEWPs and fall arrest equipment was checked formally every six months. The vast majority of managers stated that this had not changed in the last year.

Three managers from the building maintenance, construction and education sectors confirmed that inspection records were not kept. All of the other managers reported that they kept inspection records.

One manager in the road haulage sector commented that he would like to see HSE guidance or ACOP on specific work at height issues, for instance the use of work platforms.

7.4.2 Interviews with employees

Key messages

The key findings from the interviews with 42 employees that were held during the site visits are summarised below.

- Most (83%) of the employees were aware of the Work at Height Regulations. However, there was a general lack of understanding about the specific requirements of the Regulations.
- The time that the majority of employees spent working at height had not changed in the last year, except for window cleaners who used water fed poles more frequently (as also reported by managers).
- Ladders had dropped from being the most common type of work equipment used in Stage 1 to the fourth most common in Stage 2, which was similar to the managers’ findings.
- For the majority of employees, the equipment used had not generally changed in the last year.
- The employees in the education sector were the only ones to report using unsuitable equipment (e.g. chairs, tables, cupboards) as in Stage 1.
- The vast majority of employees did feel that the equipment provided was either fairly effective, effective or very effective in preventing falls. Most of the employees who said that their equipment was not effective were in the education sector.
- A number of employees in the window cleaning sector were concerned about using water fed poles, in terms of manual handling and complaints from customers.
- The most common measures reported as being used to ensure that employees followed safe procedures were training, supervision and written procedures, which were similar to the managers’ responses. Most (83%) of the employees said that these had not changed in the last year. The only changes that were reported were to written procedures and training.
- 30 (71%) of the employees said that risk assessments were completed for work at height. All 9 of the education sector employees said that risks had not been assessed or they did not know whether they had.
- The responses about whether risk assessments had been reviewed in the last year were similar to the managers’ responses.
All employees had received training on work at height, except for those in the education sector. This was the same as in Stage 1.

The only changes to training in the last year were reported by 11 employees in the aircraft maintenance, building maintenance, steeplejacks and telecommunications sectors. The changes included more and improved training, and revised written guidelines.

**Detailed findings**

We spoke to 42 employees involved in work at height in the key industry sectors. This included:

- Construction (0)
- Steeplejacks (10)
- Building Maintenance (7)
- Arboriculture (2)
- Window Cleaning (2)
- Electricity (2)
- Shipbuilding & aircraft maintenance (4)
- Telecommunications (3)
- Food and Drink (0)
- Road Haulage (1)
- Education (9)
- Retail (2)

We were unable to interview any employees in the food and drink, and construction sectors because either the managers that we visited were reluctant to allow us to or there were no employees available to be interviewed during our visits.

The majority of employees we spoke to were aware of the new Work at Height Regulations. Only seven people out of 42 employees stated that they were unaware. The extent to which they understood the requirements varied considerably.

The only sector which mentioned implementing the hierarchy of controls was electricity. A number of employees mentioned the requirement to carry out risk assessments. One of the employees in the building maintenance sector stated that ladders were now not allowed for extended use and a number of employees across the sectors discussed the requirement to be attached at all times when working off the ground. Generally, there was a lack of understanding about the specific requirements of the new Regulations.

The average time spent by employees on the work at height activities varied, as shown in Figure 7.7 below.
For the majority of people, the amount of time spent at working at height had not changed in the last year, although employees in the window cleaning sector stated that water fed poles were used more frequently. This was reflected in the answers provided by the managers.

A wide variety of access and safety equipment was identified by employees, as shown in Table 7.22. The most popular type of work equipment by far was fall arrest/harnesses followed by MEWPs, general PPE and ladders. This had changed since last year, when ladders were the most popular choice. This again reflected and generally mirrored the responses provided by managers.

As last year, the majority of responses in the education sector cited tables, chairs or cupboards as the main forms of access equipment used. This was because employees in many cases did not have access to other equipment, or it was easier and more practical to use the equipment to hand and, in some cases, they felt it was safer than using stepladders.
Table 7.22  Equipment used for work at height

<table>
<thead>
<tr>
<th>Types of work equipment</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall arrest/harnesses</td>
<td>35</td>
</tr>
<tr>
<td>MEWPs</td>
<td>14</td>
</tr>
<tr>
<td>PPE</td>
<td>13</td>
</tr>
<tr>
<td>Ladders</td>
<td>11</td>
</tr>
<tr>
<td>Stepladders</td>
<td>10</td>
</tr>
<tr>
<td>Tables/desksets</td>
<td>8</td>
</tr>
<tr>
<td>Chairs</td>
<td>6</td>
</tr>
<tr>
<td>Scaffolds</td>
<td>5</td>
</tr>
<tr>
<td>Working platforms</td>
<td>5</td>
</tr>
<tr>
<td>Cranes</td>
<td>2</td>
</tr>
<tr>
<td>Guardrails/handrails</td>
<td>2</td>
</tr>
<tr>
<td>Cargo steps with handrails</td>
<td>2</td>
</tr>
<tr>
<td>Tower scaffolds</td>
<td>2</td>
</tr>
<tr>
<td>Lifts/hoists</td>
<td>1</td>
</tr>
<tr>
<td>Cupboards</td>
<td>1</td>
</tr>
</tbody>
</table>

However, the majority of employees stated the type of equipment had not generally changed since last year. The exceptions were five employees from the arboriculture, building maintenance, education and steeplejack sectors who stated that some equipment had changed. This included wearing harnesses in MEWPs and the introduction of new safer stepladders in the education sector.

The vast majority of employees did feel that the equipment provided was either fairly effective, effective or very effective at preventing falls from height. An employee in the building maintenance sector felt that MEWPs were safer than ladders and all employees in the steeplejacks sector rated the equipment as very effective. Nine employees said that they felt that the equipment was not effective; the majority of these employees were in the education sector.

A number of employees in the window cleaning sector raised concerns about manual handling of water fed poles. Many also reported that they had to deal with customer complaints as water fed poles left smears on windows (unlike traditional squeegee method), they caused wet paths, and the hoses caused a trip hazard as they trailed from the van to the window being cleaned.
A wide variety of measures were reported as ensuring that employees followed safe procedure, as shown in Table 7.23. The most popular responses were training, supervision and written procedures, which again supported the responses that the managers gave. Most employees stated that the measures taken had not changed in the last year with the exception of seven employees across six different sectors. Two employees in the aircraft and electricity sectors stated that written procedures had changed and become more detailed and two employees in the building maintenance and window cleaning sectors stated that training had changed since last year.

Table 7.23 Measures taken to ensure employees follow safe procedures

<table>
<thead>
<tr>
<th>Measures taken to ensure employees follow safe procedures</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>13</td>
</tr>
<tr>
<td>Supervision</td>
<td>13</td>
</tr>
<tr>
<td>Written procedures</td>
<td>12</td>
</tr>
<tr>
<td>PTW</td>
<td>11</td>
</tr>
<tr>
<td>Risk Assessments</td>
<td>11</td>
</tr>
<tr>
<td>Toolbox talks</td>
<td>6</td>
</tr>
<tr>
<td>None</td>
<td>3</td>
</tr>
<tr>
<td>Audits</td>
<td>1</td>
</tr>
<tr>
<td>Don't know</td>
<td>1</td>
</tr>
</tbody>
</table>

30 of the 42 employees stated that risk assessments were completed for work at height performed by employees. 12 employees from the education, retail and building maintenance sectors stated that the risks from working at height had either not been assessed or they did not know whether they had. This included all 9 employees in the education sector, 7 of whom said that the risks had not been assessed and 2 did not know whether they had.

Of the 30 employees who said that risks assessments had been carried out, the majority were not aware whether these assessments had been reviewed in the last year. Of the 11 employees who stated that the assessments had been reviewed, the reasons for the review included the introduction of the new Regulations, standard company annual reviews and that the fact that they were constantly under review due to being site specific. Again, this was similar to the responses provided by managers.

All of the employees stated that training on work at height was provided to employees with the exception of the employees in the education sector who all stated that they had not had any training. The most popular response was equipment training followed by induction and toolbox talks. Most employees stated that the training had not changed in the last year with the exception of 11 employees within aircraft maintenance, building maintenance, steeplejacks and the telecommunications sectors. Employees in the steeplejacks sector stated that more training had been provided generally for working at height and that rescue training had been provided in more depth. Employees in the aircraft maintenance and telecommunications sector stated that written guidelines had changed whereas an employee in the building maintenance sector discussed the fact that scaffolding training had greatly improved and had focused on the height
of the scaffold (reducing it where possible) and ensuring that staff were comfortable working at a specified height.

Employees identified a variety of agents as being involved in falls from height. As in the first stage, ladders were by far the most common agent, as shown in Table 7.24. This was the most popular response in the aircraft maintenance/shipbuilding, building maintenance and education sectors. Nearly all employees stated that their opinion had not changed in the last year.

<table>
<thead>
<tr>
<th>Agents involved in falls from heights</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladders</td>
<td>18</td>
</tr>
<tr>
<td>Work platforms</td>
<td>6</td>
</tr>
<tr>
<td>Fragile roofs</td>
<td>4</td>
</tr>
<tr>
<td>Scaffolds</td>
<td>4</td>
</tr>
<tr>
<td>Roof edges</td>
<td>3</td>
</tr>
<tr>
<td>Harnesses</td>
<td>2</td>
</tr>
<tr>
<td>Vehicles</td>
<td>2</td>
</tr>
<tr>
<td>Tables/desks</td>
<td>2</td>
</tr>
<tr>
<td>Stepladders</td>
<td>1</td>
</tr>
<tr>
<td>Trees</td>
<td>1</td>
</tr>
<tr>
<td>Chairs</td>
<td>1</td>
</tr>
<tr>
<td>No opinion</td>
<td>3</td>
</tr>
<tr>
<td>No accidents</td>
<td>10</td>
</tr>
</tbody>
</table>

Many employees had not experienced or were not aware of any accidents in their company.

Employees were asked about the main causes of falls from height accidents. The response was the same as in Stage 1, as unsafe work practices were identified as the key cause of accidents at height, followed by the pressure to work too quickly then unsafe work equipment (as shown in Table 7.25). The vast majority of employees stated that their opinion had not changed in the last year.
Employees were asked about a number of factors that influenced their work at height behaviour and their responses are shown in Table 7.26.

### Table 7.25 Underlying causes of falls from height

<table>
<thead>
<tr>
<th>Underlying causes of falls from height</th>
<th>Number of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsafe work practices</td>
<td>18</td>
</tr>
<tr>
<td>Pressure to work too quickly</td>
<td>9</td>
</tr>
<tr>
<td>Unsafe equipment</td>
<td>6</td>
</tr>
<tr>
<td>Poor training</td>
<td>3</td>
</tr>
<tr>
<td>Lack of supervision</td>
<td>3</td>
</tr>
<tr>
<td>Tiredness</td>
<td>2</td>
</tr>
<tr>
<td>Unsuitable equipment</td>
<td>2</td>
</tr>
<tr>
<td>Operator error</td>
<td>2</td>
</tr>
<tr>
<td>Complacency</td>
<td>1</td>
</tr>
<tr>
<td>Don't know</td>
<td>4</td>
</tr>
<tr>
<td>Not applicable – no accidents</td>
<td>12</td>
</tr>
</tbody>
</table>

The order of the importance of the factors shown in Table 7.26 varied across the different sectors. For example, four employees in the steeplejacks sector felt that pressure to meet deadlines was the most important factor that influenced them when working at height. However, the remaining six employees interviewed in this sector were split as to what influenced them the most, which included training, experience, consequences of an accident, supervision and financial rewards.
In the education sector, experience and consequences of an accident were by far the most popular factors that influenced employees when working at height.

In the telecommunications sector, training and consequences of an accident were rated as the most influential factors whereas in the electricity sector training, supervision and experience were rated highest.

As can be seen in Table 7.26, the consequences of an accident, experience, pressure to meet deadlines and training were identified as the most common factors affecting the behaviour of those working at height. These four factors were also the top four factors identified by trade union safety representatives.

Most employees stated that their opinion had not changed in the last year. Only three employees from the education, steeplejacks and window cleaning sector said there opinion had changed. In the window cleaning sector the employee felt that training was now more important.

Employees commented on how good they thought their company was at protecting employees who worked at height. 27 of the 42 employees thought that their companies were either good or very good, which was slightly lower than the response to this question last year. The main reasons for this were providing good equipment and training, which was similar to the responses provided last year.

Seven employees from the aircraft maintenance, building maintenance and education sectors felt their employers were fairly average. Six employees from the building maintenance and education sector felt that they were not good. One from the education sector was not sure.

Again, the majority of employees said that their opinion had not changed in the last year.

As with last year, employees commented on whether they believed their company could do anything further to make work at height safer. A larger percentage, almost 50% of employees, felt that they could do more, compared to only 30% the previous year. Some of the comments provided included that they could:

“Be more proactive following near misses”;

“Provide more suitable equipment, training and instruction”;

“Increase awareness including guidelines provided”;

“Improve communication, information and job design”; and

“More specific training on equipment and work at height activities”.

7.4.3 Observations of work at height

Key messages

The key findings from our observations made during 31 site visits are summarised below.

- At the majority of sites we visited (87%) where we observed work at height, the practices and equipment seen appeared to be adequate for the risks involved and the companies were
broadly complying with the Regulations. This is similar to the first stage findings. The exceptions were the education and retail sectors, and one of the aircraft maintenance companies that we visited.

- Overall, the WAH Regulations appeared to have had little impact at the sites we visited. For some companies, this was because they were already broadly complying with the Regulations. Where improvements had been made in the last year, these were mostly not because of the WAH Regulations.
- Although most sites appeared to be adequately managing work at height risks in practice, documentation often needed to be improved.
- Both the schools we visited were not complying with the requirements of the WAH Regulations due to unsuitable equipment and working practices, and a lack of training, risk assessments and other documentation. This was the same as in Stage 1.
- Some companies appeared to have good control over how well contractors complied with the WAH Regulations although the control of contractors was identified as a problem in the construction, food & drink and road haulage sectors.
- One steeplejack company had installed a rescue training scaffolding rig, which they used to train workers. This had been installed in response to the WAH Regulations.
- Two aircraft maintenance companies had invested a significant amount of money in providing suitable equipment for work at height. However these changes would have been made regardless of the new Regulations, although these had helped obtain approval for the new equipment.
- The only sector that appeared to be improving their avoidance of work at height was window cleaning, where the use of water fed poles was continuing to increase. This change had begun before the WAH Regulations came into force.
- Problems with water fed poles were raised by window cleaners, as they were concerned about manual handling and customer acceptability.
- One company in the electricity sector was concerned about plant and equipment design (at other sites) and vehicle design that made it difficult to work at height safely. They commented that the WAH Regulations did not include any requirements for designers and manufacturers to minimise the risks of working at height.

**Detailed findings**

In this section, we present our general observations of work at height. These were made during site visits to organisations in each of the key industry sectors listed below in Table 7.27 which also shows the number of visits made.
Table 7.27  Number of visits made in each sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>No of visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>4</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>4</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>4</td>
</tr>
<tr>
<td>Arboriculture</td>
<td>1</td>
</tr>
<tr>
<td>Window cleaning</td>
<td>2</td>
</tr>
<tr>
<td>Electricity</td>
<td>2</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft maintenance</td>
<td>3</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>3</td>
</tr>
<tr>
<td>Road haulage</td>
<td>3</td>
</tr>
<tr>
<td>Food &amp; drink</td>
<td>2</td>
</tr>
<tr>
<td>Education</td>
<td>2</td>
</tr>
<tr>
<td>Retail</td>
<td>1</td>
</tr>
</tbody>
</table>

**Construction**

We visited four construction companies who carried out a variety of work at height activities. Two were involved in large commercial building projects, carrying out various work at height activities including the erection of steelwork and scaffolding, and brickwork; both were acting as the main contractors. One was a utility company who was involved in a gas replacement project and the fourth was a sub-contractor to the main contractor on site whose main activity was working on scaffolds that were erected and controlled by the main contractor for the site.

A variety of work at height equipment including scaffolds and tower scaffolds, MEWPs, podium steps, stepladders, fall arrest and harnesses as well as general PPE such as boots, high-visibility jackets, hard hats, eye protection and gloves were used across the sites. Examples of the type of equipment used on these sites are show in Figures 7.8 and 7.9. Generally, the types of access equipment had not changed in the last year with the exception of podium steps which had been introduced by one company.
One of the two larger construction companies we visited was carrying out a total refit to a large commercial building and the other was carrying out extensive refurbishment to part of the building. The first of these companies had been visited previously as part of the first stage of this project and the overall general impression was that site safety and the precautions taken when working at height had improved. The edge protection measures, equipment used on site
and precautions taken to prevent falls was of an excellent standard. In the previous year, there had been issues surrounding the working practices of the employees and contractors on site who did not always follow safe working practices (e.g. not wearing PPE at all times), however this seemed to have improved by the time of our second visit.

The second of the larger construction companies ensured that we had a thorough induction before entering site and we were issued with a comprehensive set of PPE including gloves, eye protection and hard hat. The health and safety manager on site highlighted the issue of controlling contractors and was keen to ensure that all company policies were adhered to, regardless of whether it was a direct employee or contractor. During the visit the manager picked up some issues with the lack of equipment not being worn by one or two contractors. Additionally, we did notice some issues with the quality of the access equipment being used as some of the scaffolding had been left incomplete, with ladders left untied and toe boards not properly attached. We also observed one employee or contractor sliding down a scaffolding pole rather than using the ladder provided, as well as not wearing the correct the PPE that he had been issued. Figures 7.10 and 7.11 illustrates the problem with some of equipment.

The company who worked as a sub-contractor mainly used scaffolding erected by the main contractor. This sometimes created a problem, particularly if the sub-contractor was not happy with the state of the scaffolds. They were very dependent on the actions of the main contractor and felt they had little control in how this was managed. The company seemed very aware and conscious of the new Regulations, and as a result had changed their policy from carrying out generic risk assessments completed in the office to only site specific risk assessments being carried out for each job. Two employees had carried out specific risk assessment training in the last year to fulfil this role, which had resulted in better control measures and increased onsite compliance.

The fourth company (the utility) used a variety of equipment including scaffolds, ladders, mesh caged hoist lift and harnesses. However, during the visit their employees were not required to wear harnesses in this particular job as the toe boards and guardrails on the scaffold were deemed sufficient. The employees seemed very aware of the Work at Height Regulations and appeared to follow the various policies and procedures in place. All employees were wearing general PPE including hard hats, hi-visibility jackets and safety boots and were aware of why they were required to wear them.

One issue that was taken very seriously was the weather and wind speed and readings were taken every 30 to 60 minutes. During our visit, the wind was very close to the maximum wind speed tolerance so all employees were instructed to come down to ground level. The portacabin on site had a health and safety noticeboard that contained information on the Work at Height Regulations and information on working safely at height, as well as details of the 'golden rules' that backed up what the H&S Manager had told us.
There seemed to be a recurring issue for some of the companies we visited in effectively managing contractors onsite. It was clear that some practices we observed did not adhere to the requirements of the Regulations even though the company in charge of the site set procedures in
place, i.e. contractors were not following correct procedures. This may have been due to a lack of supervision or enforcement by the onsite manager.

All companies stated that risk assessments were provided for working at height but we were not able to review any of these assessments to determine their quality. Only one company we visited provided us with any formal documentation which included a work at height policy and training records which were rated as average and good respectively.

However, although we were not provided with detailed documentation, the general practices and equipment we observed (apart from those specifically mentioned in this section) appeared to be adequate for the risks involved and there was little change in the way companies were managing work at height compared to what we observed in Stage 1.

**Steeplejacks**

We made four site visits to industrial climbing companies. The type of work at height carried out in these companies included construction, masonry repairs, installation of lightning conductors and fall arrest equipment. One company specialised in painting electrical pylons, anti-climb device replacement and signage. Another was assessing the structural integrity of a power station’s old concrete chimneys; the third was a small firm of specialists who were contracted to fit lightning conductor rods to a large supermarket as part of a major refit. The fourth was carrying out maintenance work on a university building.

All companies that we visited used rope access, work positioning and fall arrest equipment as standard. Other equipment provided for work at height included scaffolds, ladders, (although only one company confirmed that they used ladders) cranes and general PPE. Examples of the equipment used are shown in Figures 7.12 and 7.13, illustrating a full body harness and a MEWP.

![Full body harness and PPE worn before climbing structure](image)

**Figure 7.12** Full body harness and PPE worn before climbing structure
One of the companies, which we also visited in the first stage of this project, provided each employee with their own set of equipment that the individual was responsible for. This included maintaining it and carrying out inspections on it prior to use. They felt that if each employee was issued with their own equipment, they would spend more time ensuring safety checks were carried out and take greater ownership of the equipment. This opinion was backed up by the employees who confirmed that they took better care and paid more attention to the equipment being used, compared to when it was not individually assigned to them.

This company also carried out regular tests of lanyards to destruction to check the maximum loads of fall arrest equipment and had set up their own in-house facility to determine this, as shown in Figure 7.14.
Since the first visit to this company, they had set up their own rescue training scaffold rig in response to the Work at Height Regulations. They had invested a great deal of time and money on training employees on rescue techniques and showing the effects of not setting up equipment correctly by using dummies. They informed us that they wanted to determine whether the written theoretical procedures worked in practice and simulated a number of work situations to determine this. All of the training was filmed and formed part of the training that all current and new employees were required to do. The employees felt that spending a significant amount of time on rescue procedures, training and witnessing the effects of poor working practices was an excellent way of re-iterating the effects and dangers of working at height compared to other training provided in the past. This was particularly prevalent with those employees who had been in the industry for a number of years. The resource allocated to rescue training was partly in response to the Work at Height Regulations. Figures 7.15 and 7.16 show the in-house training rescue rig.

In all the companies we visited, there seemed to be a good level of technical knowledge and experience amongst the employees who seemed to be very aware of the work at height issues and followed good practices. At one of the companies, we observed that they had a tower rescue kit at the base of the pylon they were working on and both employees climbing the structure were trained and qualified to use the kit. The manager took a very ‘hands on’ approach and knew his employees well, and as a result they were only given jobs reflecting the amount of training they had undertaken and their individual ability.

Three of the four companies provided sample risk assessments for review, which we rated as average to good. Two of the companies showed us specific policies for working at height, which were also reviewed and were also rated as good.

One of the companies’ risk assessments (which was rated as average) appeared to be generic and could have been more comprehensive. These risk assessments did not appear to be completed in consultation with employees. However, although the risk assessments could have been better, it was clear that safe working practices and procedures were followed onsite during our visit. In this company, employees seemed to be very aware of what was required of them and spoke positively about the safe working practices at this company.

Three of these four companies stated that they had reviewed their risk assessments in the last year. The reasons for this varied and included the Work at Height Regulations and the company policy to review assessments annually, as well as the requirement to carry out job specific risk assessments.

All companies confirmed that training records were kept for employees and the two records that we were able to review were rated as good due to the amount of information held on file.

All companies felt the Working at Height Regulations had had little impact on the way they managed their work as they felt they were already complying before the Regulations came into force.

For the majority of issues, all the companies complied with most requirements of the Regulations. Although some areas could still be improved, it was clear that they had focused on continual improvement in terms of equipment, training and procedures.
Building maintenance

We visited four companies in the building maintenance sector, three of which worked as contractors and carried out maintenance work for private companies and had engineers permanently onsite. The fourth company we visited had a separate building maintenance department within their business.

The companies used a wide variety of equipment from scaffolds (including tower scaffolds), ladders, stepladders, harnesses and MEWPs, an example of which is shown in Figure 7.18. Two of the companies confirmed that they had made some changes to the working practices in the last year. One stated that they now always wear harnesses when using MEWPs and the other uses more tower scaffolds than last year.

On one of the sites we visited, work at height activities appeared to be well managed despite the fact that the site manager was not aware of the main requirements of the Work at Height Regulations other than to ‘make work at height safer’. We observed one employee using a
MEWP to change a light bulb. He wore general PPE including hard hat and hi-visibility jacket and also a harness and lanyard, which he used to attach himself to the MEWP.

The company had a significant amount of external health and safety support, which the company relied on. This may have contributed to the high levels of compliance with the Regulations, because although documentation including policies and procedures and a health and safety manual were available they did not appear to be used or referred to on a regular basis.

Another company we visited carried out general maintenance repairs on site and had various documentation available including risk assessments that covered maintenance and repair of air conditioning units, various cleaning tasks, ladder use and handling items. The risk assessments were reasonably good and detailed the hazards, risk level and those who were affected as well as what controls were required. These assessments had been reviewed in the last year because of the new Regulations.

The levels of compliance with the Work at Height Regulations were generally good.

The third company we visited who worked as contractor for a large private firm generally had good working practices in place and had reviewed their work at height procedures in the last year. This had been highlighted in an audit carried out by the client. They used a wide variety of work equipment and confirmed that they would shortly be purchasing a 'desk surfer' which is mini-MEWPs to go above desks in the office areas.

Three of the four companies in this sector stated that they had specific work at height policies although we were unable to review these policies. One company confirmed that they had reviewed this in the last year as part of their company annual review.

The fourth company we visited had made a number of changes to work at height practices and the use of tower scaffolds had greatly increased compared to the previous year. Both employees questioned mentioned the fact that training in scaffold use and work at height generally had improved and felt that they could stop working or using equipment which they felt uncomfortable working with, without feeling a ‘backlash’ from their manager or supervisor. Although the manager was aware and understood the main requirements of the Regulations, the employees did not feel that they were aware of the requirements. The use of PPE was mandatory throughout the working practices that we observed.

However, we were unable to review any documentation. We were told that risk assessments and policies were in place, but they had yet to implement formal work at height training records. Generally it was felt by both employees and managers that the Work at Height Regulations had raised awareness and in most cases removed the confusion about what was required by employers and employees.

In general, the work practices we observed in these four companies were of a good standard and most complied with the requirements of the Regulations although it was unclear how well this was backed up by their documentation.
We visited the operating site of one medium sized arboricultural company. The main work at height carried out at this site was tree trimming for local authorities in public areas. The company used rope access and work positioning techniques, and used chainsaws to cut the trees as shown in Figure 7.19.

We observed the felling of a small tree in a copse. A ladder was used to gain access to the lower branches as show in Figure 7.20, and then the tree surgeon attached himself to an anchor point and proceeded to remove branches from the top downwards.

The company had carried out risk assessments for work at height and the manager stated that they had been reviewed in the last year because they had to be reviewed for each new job that they started. We rated the risk assessment as average because the information provided and assessment of the risks were limited. Additionally, they had a specific work at height policy which had been reviewed in light of the new Regulations although were we unable to examine this. We were able to review their training records, which again were rated as average due to the lack of details about the training.

There seemed to very little evidence that the Work at Height Regulations had affected their working practices to a great extent although some documentation had been revised as a result of its introduction.

In general, the safety on site was excellent and although their documentation still needed to be improved, the work activities seemed to be well managed and it was clear, from the safety precautions provided to us as observers, that they had good working practices in place.
Window cleaning

We visited two window cleaning companies. The range of equipment in use varied and included scaffolds, ladders, harnesses and fall arrest equipment, MEWPs and water fed poles. The use of water fed poles had increased in the last year and neither company mentioned any issues with the use of this system. The majority of their work was carried out on commercial buildings although they did some residential cleaning. Figures 7.21, 7.22 and 7.23 show examples of cleaning activities carried out.

In one of the companies, the induction and training was very comprehensive and covered (amongst a wide range of issues) operational procedures, staff responsibilities, cleaning
methods, safe systems of work, using and stabilising ladders, roof work and inspecting equipment.

During the visit, we observed two teams of men working; all seemed to follow the correct procedures and used water fed poles where possible. Staff seemed very aware of the risks of working at height when using ladders. Many risks had already been reduced prior to the introduction of the Work at Height Regulations.

A number of employees raised concerns about manual handling of water fed poles. Many also reported that they had to deal with customer complaints as water fed poles left smears on windows (unlike traditional squeegee method), they caused wet paths, and the hoses caused a trip hazard as they trailed from the van to the window being cleaned.

The other company was a small, London based window cleaning company and we observed them carrying out window cleaning of a block of flats. The work for this job was all carried out using reach and wash poles which they felt was an improvement to using ladders. From the work that we observed there were no unsafe work practices in place.

Both companies confirmed that they carried out risk assessments which had been reviewed in the last year as they are job specific and continually reviewed. We were unable to review the documents, however, so we were unable to rate them. Neither company had specific work at height policies but both had a main health and safety policy and method statements to cover work at height. Additionally, both held training records for their employees although again we were unable to quality review these records.

Both companies carried out regular inspections, particular of ladders, on a weekly and daily basis before they were used, and records of inspections were held. One of the companies stated that the inspection process was much more thorough since last year, but did not identify why it had been changed.

In general, both companies complied with the requirements of the Regulations and where possible tried to avoid the use of working at height by using the water fed pole system. Both followed good work practices and procedure at the sites that we observed.
Electricity

We made site visits to two companies who worked in the electricity sector. One was an electricity supply company and the other refurbished and refitted overhead power lines. They were both involved in work at height on electricity pylons as shown in Figure 7.24.
One of the sites we visited appeared to be very well managed. The policies and procedures that were mentioned by the manager seemed to be in place and were being followed by all the employees that we observed. The manager confirmed that risk assessments were carried out by himself and the health and safety adviser, and that all jobs were risk assessed. He stated that there were two types in use: a daily site risk assessment conducted by the foreman; and a set risk assessment (electronic pro-forma) developed by the company and signed and acknowledged by the site manager prior to the job starting. All employees were wearing general PPE, harnesses and were attached to anchor points. It was clear that employees were aware of the risks of work at height and working with electricity. All employees that we spoke to commented that their company was a good employer and that health and safety, including work at height, was taken very seriously. The majority of employees had worked for the company for many years and were happy with health and safety arrangements.

The other company we visited commented that the Work at Height Regulations had not had a significant impact other than to re-emphasise work at height issues. Employees had been doing 'attached climbing' since the construction Regulations came out as this was considered industry best practice. The manager on site confirmed that the Work at Height Regulations had resulted in them updating documentation to ensure that the Regulations were specifically mentioned. A few training modules had also been updated, for the same reasons. There had been no practical changes in terms of the work that was done or the way that it was done.

During our visit, we observed several employees climbing poles using a choker belt (a belt that was attached to their harness and wrapped around the pole they were climbing or working on) which acted both as a work restraint and a fall arrest system. We talked to several employees who were all aware of the Work at Height Regulations and were confident that their employer was successfully managing work at height activities. Our observations of their activities backed up what the Health and Safety Manager had told us.
The managers reported that their biggest concern was about their employees working at other sites e.g. at substations, domestic premises, etc where it was sometimes difficult to work safely at height. This was in part due to the fact that designers and manufacturers of substation plant and equipment had not considered how it would be maintained or operated, as many inspection points were on top of the equipment, with no anchor points, fixed ladders or work platforms. This resulted in employees often having to climb up a portable ladder to get to the area and then either work from the ladder (including reaching and stretching) or to climb or clamber on top of the plant or equipment without being attached.

Another concern to this company was that of vehicle design, including MEWPS that are rated only for fall restraint and not fall arrest. The company felt that the Work at Height Regulations was good but that they did not include any requirements for equipment designers or manufacturers to consider work at height or the practical implications of managing or actually undertaking work at height.

The company did not have any specific policies for working at height although their general health and safety policy mentioned work at height activities and this had been amended due to the Work at Height Regulations. The companies had good and excellent training records respectively and both carried out rescue training that had not changed in the last year.

From our observations during these visits, it appeared that both companies followed good working practices and conformed to the main requirements of the Regulations.

**Aircraft maintenance/shipbuilding**

We made three site visits in this sector: one in shipbuilding repair and two in aircraft maintenance, all of which we had visited as part of the first stage of this project.

The shipbuilding company carried out ship repair and conversion of a wide range of large ships. The two aircraft maintenance companies maintained all parts of aircraft and worked on airfields and in hangers. Since our last visits, an even wider range of equipment was being used by these companies particularly in the aircraft maintenance companies, including work platforms, scaffolding, edge protection, fall arrest equipment, vertical ladders, stepladders and cranes.

In the aircraft maintenance companies, a significant amount of money had been spent since the introduction of the Work at Height Regulations to provide suitable equipment to access all parts of the planes. However, both companies stated that changes would have been made regardless of the new Regulations, but that these had helped obtain approval for new equipment. Figures 7.25 and 7.26 show examples of old equipment and new equipment (recently purchased) that was specifically designed for the task.

However, in one of the companies it was felt that more equipment needed to be provided to make work at height safer which was an issue raised by one of the employees we interviewed.
In both aircraft maintenance companies, there was a huge array of access equipment and proposals had been put forward to standardise equipment across the entire aircraft maintenance sector to allow a number of companies to share and utilise this equipment.

We reviewed a variety of documentation for the aircraft maintenance companies including risk assessments and policies. Both aircraft companies had reviewed their risk assessments in the last year as part of their annual review. One of the companies had produced comprehensive risk assessments which covered a large number of activities and equipment. The other aircraft company had provided a number of risk assessments but was aware that there was still a significant number that still need to be completed and reviewed in light of the Work at Height Regulations. Both companies had specific work at height policies and one had spent a significant amount of time reviewing these in light of the new Regulations and the document provided was of a good standard. The other aircraft company had some policies that had not been reviewed in the last year.

One company met most legislative requirements and managed the risks of work at height adequately. However, it was clear that the other company still needed to make improvements, which they were actively addressing in order to ensure they fulfilled their legal responsibilities. The progress they had made in the last year had not been as good as they had intended.
The shipbuilding company used a variety of equipment to work at height, which had not changed in the last year. The equipment included scaffolds, ladders, stepladders and MEWPs. Figure 7.27 shows a purpose built scaffold use to carry out maintenance on a ship repair structure. Our observations were similar to those made in Stage 1. The controls they had in place were still adequate although there remained issues of non-compliance for unloading containers, which they were still working on to resolve. Although they did not have specific policies for work at height they had a number of policies which addressed work at height issues and these were in the main of a good standard. There were a variety of risk assessments which mainly assessed the use of work at height equipment rather than individual activities which also met legislative requirements.

![Figure 7.27 Purpose built scaffold to carry out maintenance on ship repair structure](image)

**Telecommunications**

We made three visits to telecommunications companies. One of the companies built masts and towers near to roads and on commercial roofs for the mobile phone industry. The other two companies were involved in the maintenance of cell sites, switch sites, rooftops and general telecommunication structures and antennae, again for the mobile phone industry.

All three companies used harnesses and fall arrest equipment and some fixed and portable ladders. Two of the companies also used scaffolds, cranes, a variety of MEWPs, stepladders and general PPE equipment including masks, gloves, protective clothing and hats. An example of the fall arrest equipment used is shown in Figure 7.28.

One of the companies we visited had particularly high standards in managing work at height and the documentation we reviewed was very comprehensive. They provided us with sample copies of their risk assessments and a specific work at height policy, which had been extensively reviewed in light of the new Work at Height Regulations. The risk assessments were of a good standard and were reviewed by engineers who formed part of a specific work at height group together with senior managers. All documentation was readily available to all employees and
they used their technology well by providing text, email and intranet updates to ensure employees were kept up-to-date with changes in policies, procedures or any legislation affecting their activities. The manager confirmed that free-climbing was a dismissible offence for both employees and contractors, and that information on contractors who did not comply was circulated in the company and industry wide.

They had clearly spent a significant amount of time ensuring that good levels of compliance were met throughout the organisation. This was reflected in the discussions with employees who seemed to be well aware of safe work at height practices both in theory and in the field. Both employees we spoke to rated their company as very good in terms of managing health and safety and felt they had access to some of the best equipment and training within their industry.

Another of the companies we visited was involved in the maintenance of a wide variety of telecommunication structures and antennas, which could be situated in a number of different sites and locations from road sides to field areas. This sometimes made access to the sites fairly difficult and resulted in the use of a wide variety of work equipment, from a variety of MEWPs to cranes, a full arrange of fall arrest, restraint and work positioning equipment, and general PPE which was worn as standard. In the last year, the company had tried to use MEWPs instead of climbing equipment wherever possible as it was deemed safer and easier to use. One of the employees we spoke to spent the majority of his time using MEWPs rather than climbing and carried out risk assessments using generic templates which had to be made site specific for each job.

He confirmed that they always worked as a two-man team whether it was climbing or using MEWPs. He was aware of the new Regulations but felt that the cost of applying the Regulations was not fully considered when they were introduced. He was under the impression, to a certain extent, that the use of ladders had been banned across all sectors and felt that this was not practical as sometimes it was more appropriate to use ladders rather than other equipment, for example a scaffold tower.

We were unable to review any documentation from two of the companies we visited although they both stated that risk assessments were carried out and had been reviewed in the last year, both because of the new Regulations and because it was company policy to annually review all risk assessments. One of these companies had a specific work at height policy, as discussed earlier, and the other had written procedures that covered work at height generally rather than specifically. However, again we were unable to review the latter’s documentation but were told it had been reviewed in the last year.

From the working practices that we witnessed during our site visits, it was apparent that the Regulations were being adhered to and, although it the written documentation could not be checked in all cases, the activities on site seemed to be well managed and employees appeared to follow safe working at height practices.
Food and drink

Two visits were made to companies involved in food manufacturing. One company made bread and the second manufactured snack products.

Both companies used a wide variety of equipment including stepladders, podium steps and ladders. In addition, they both hired in MEWPs and mobile scaffold towers as necessary and employees using this equipment were required to use harnesses. An example of the equipment used is shown in Figure 7.29.

In one of the companies, work at height seemed to be very well managed and employees seemed aware of the risks involved, based on the discussions we had with them. In the past year they had placed greater focus on the control of contractors. As a result, they had permitted and encouraged contractors to use company owned or hired equipment, in particular MEWPs, in preference to the contractors’ own equipment, which were often unsuitable, old or damaged ladders that were difficult to control. The company had installed handrails on their working platforms as shown in Figure 7.30.

We also observed the distribution centre where lorries were loaded with bread to be delivered. All 70 lorries in the fleet had edge protection on their sides and tail lifts as a result of the Work at Height Regulations in order to reduce the risk of a person falling, particularly on client sites. The main issue for this company was ensuring the safety of drivers delivering goods at client sites as the facilities for unloading varied. However, this was not an issue here due to the loading bay that was in place.

The other company we visited did not feel that the Work at Height Regulations had had a significant impact on their company, but had made a few changes including providing and encouraging the use of cargo steps rather than stepladders, and equipping a few machine access platforms with guardrails. One outstanding area of concern was ensuring that good standards for the control of contractors were in place onsite. Contractors were required to work onsite carrying out maintenance on machinery or air conditioning (AC) systems as necessary. The
company was actively investigating this area to ensure that work at height was well managed and to identify areas of improvement.

During our visit, we observed a contractor working on top of an internal flat roof to maintain the AC system. He had used a ladder to gain access to the roof but no other controls were in place. The manager said that reception had signed him in and then he was allowed to start work without following any other controls, which was common practice. As a result, the company wanted more control including the type of equipment being used, which was frequently owned by the contractor and therefore varied in quality and in many cases did not meet their company standards.

Both companies stated that risk assessments were carried out for work at height and that these had been reviewed in the last year due to the Work at Height Regulations. We were able to review a sample of the risk assessments from one company which we rated as average as more detail should have been provided. Neither company had specific work at height policies although one had a general policy in place that covered work at height activities, the other did not have any specific or general policies which covered work at height.

Both companies carried out equipment and induction training on work at height and had training records in place which we were able to review. We rated these as good due to the amount of information provided.

In general, we observed good working practices that met the requirements of the Regulations although some of the documentation did require improvement.

![Podium steps with handrails used to access machinery](image)

**Figure 7.29** Podium steps with handrails used to access machinery
Three site visits were made to companies involved in road haulage. One company was involved in bagging and transporting fertilizer, which we had visited the previous year. The second company transported cars, which involved driving cars onto transporter lorries, securing them, then transporting them across the UK. The third was a large logistics transport company.

At the car transporter company, we observed drivers loading and securing cars at the site which was shared with a large number of other transport firms carrying out similar activities. It was clear that the company we visited had good procedures in place, which included the installation of steel wire side protection (provided several years ago) that many of the other transport companies did not have, i.e. all sides to their lorries were open. Additionally, drivers at this company used fixed ladders to get on and off the lorries in contrast to others who jumped on and off the back of the transporters.

We discussed the side protection posts further with their health and safety manager, because in many cases they actually extended further than allowed resulting in the transporter lorry being wider than is permitted on the roads. This issue is currently being investigated with the relevant authorities to decide if the side protection posts can stay as an exemption to the rule, because the company believed that the posts make work at height safer. During the visit, we spoke to the training manager who was inducting a new recruit in what seemed to be very comprehensive training, including work at height issues. The two employees we spoke to had heard of the Work at Height Regulations and were aware of the risks involved in these activities.

At the logistics transport company, we observed several types of lorries being loaded and unloaded. Most workers seemed to follow a safe system of work to reduce the risk of falling. For loading and unloading a curtain-sided lorry, this required them to not walk backwards and push rather than pull the supermarket-style cage out of the back of the lorry onto the tail-gate, which ensured the driver was kept further inside the lorry. During the unloading of a double-decker lorry, employees were required to wear harnesses attached to the side of the frame as well as using cargo steps to climb onto the lorry (as shown in Figure 7.31). One of the key
issues that faced this company was the control of contractors onsite. They carried out maintenance and repair work on the site’s workshop and although they had responsibility for managing the workshop the company we were visiting had concerns as it was on their site.

We witnessed one contractor standing on the top rung of a stepladder, stretching to carry out hot work whilst positioned close to the edge of the lorry that was located over a garage pit as shown in Figure 7.32. The company were worried about this type of practice and was actively investigating ways to urgently address the issue.

We had visited the fertiliser company as part of the first stage of this study. They had previously installed fixed gantry platforms to ensure the safe sheeting of flat bed lorries and top-loading of chemicals. This was not as a result of the Work at Height Regulations but to ensure compliance with other, previous Regulations. They felt that the Work at Height Regulations had had limited impact on their working practices but did help reinforce some of the systems they had put in place. They still had some concerns about the management of contractors, who carried out sheeting of flat bed lorries on their site and sometimes did not follow the safe systems they had put in place e.g. not always using the fixed gantries. They were actively addressing the issue by carrying out spot checks and had installed cameras to check that contractors complied.

All three companies confirmed that they had carried out risk assessments although one felt that they knew there were areas that still needed to be assessed to ensure full compliance with the regulations. Two of the companies had reviewed their risk assessments in the last year as part of their company policy and one admitted that this was still something that needed to be done. We were not provided with any sample copies to review.

One company had specific work at height policies that had not been reviewed in the last year, and the other two companies had general health and safety policies which included work at height activities. Again, we were not provided with sample copies of these policies to review. The main training that was carried out in the three companies included equipment, induction and general health and safety training. Two of the companies stated that training records were kept which we saw and rated as average and good. There were still some details from one the company’s training records which could have been more comprehensive.

In general, there were good levels of compliance with the Regulations however there appeared to be an issue with the control of contractors, particularly for two of the companies to ensure that their work activities met both company and legal requirements.
Figure 7.31 Access steps

Figure 7.32 Contractor carrying out welding work from a stepladder at the edge of the lorry
Education

We made two site visits to primary schools, one of which we had visited during the first stage of the project. There were a number of areas of non-compliance in both schools and it appeared that the Work at Height Regulations had had little or no impact.

The main work at height activities included putting up displays in classrooms and halls, opening and closing windows, general stockroom activities using stepladders, and reaching ceiling mounted projectors, as well as rigging lights and putting up backdrops for school productions.

In both schools, a range of unsuitable work equipment was being used to carry out these activities including desks or tables, chairs and side cupboards to open and close windows. There had been little or no change in the equipment used in the school that we visited in Stage 1 in the last year.

One of the schools we visited had installed new ceiling mounted data projectors (one in each classroom) since our last visit, which were used for interactive whiteboards. These were reported to require the filters to be cleaned on a monthly basis. Figure 7.33 shows an example of an employee carrying out this activity using a desk to reach the filter. Similar projectors were installed in the second school, however they were not aware of any requirement to clean the filters.

Some new shelving and a small wooden stepladder had been purchased in the stock room to reach items as shown in Figure 7.34 and other additional work equipment had been purchased although this was not a result of the Work at Height Regulations.

One of the schools had stopped using a scaffolding tower, which used to be erected in the hall for hanging and painting backcloths, because of the need to get a scaffolding expert to check it when erected. As a result, the backcloths were painted while they were lying on the floor. They were then hung, rather than the other way round.

The other school we visited also had not experienced any major changes in managing work at height in the last year. Those that had happened appeared to be due to an accident involving a senior teacher and the annual, general health and safety inspections carried out by their Local Education Authority.

Some of the activities included putting up banners and displays in the main hall, as shown in Figure 7.35 by leaning an extending ladder against conduits across the hall which were about 4.5 metres in height. These conduits did not appear to be suitable to take the weight of a ladder and the person using it. In addition, the floor was uneven.

One of the schools had a risk assessment that included work at height activities although this had not been reviewed for two years and was a generic assessment carried out by the Local Education Authority. This was reviewed and rated as poor based on the outlined criteria. However, the head teacher did not appear to be aware of the requirements recorded in the risk assessment. Neither school had specific or general policies that were likely to reduce the likelihood of falls from height nor had they provided training for any of their staff.

As a result neither school was complying with the requirements of the Work at Height Regulations due to unsuitable equipment and working practices, and a lack of training, risk assessments and other documentation.
Figure 7.33  Cleaning filter in new ceiling mounted data projector

Figure 7.34  Small new wooden ladder used in the stockroom
Retail
We visited one retail outlet which stocked fashion and home accessories. Some of the work at height included the use of ladders to access and replenish stock, and to erect and dismantle display units (although this seemed to be very limited). The health and safety manager confirmed that many of their stores were being refurbished and display stands were now lower in level. However, this was as a response to customer feedback not the introduction of the new Regulations. A fork lift truck was also used in the distribution centres to take pallets off and on the racking but this type of equipment was very much limited to the warehouse environment, which we did not observe during this visit.

There were few work at height activities carried out at this site and this was reflected in the answers that employees provided. Many of the high shelves in the store were no longer used for displays and we were unable to observe any activities that required employees to work off the ground. The employees and managers did state that the only equipment they used were ladders and stepladders occasionally. However, the stepladders provided had not been stored properly and employees did not seem very clear about what they were used for or when they were used, which gave the impression that they may have not have been suitable or required.

A risk assessment had been completed and reviewed in the last year which was assessed and given an average rating. They did not have a specific policy for work at height but the manager stated that a general health and safety policy was in place although it was unclear as to whether this addressed any work at height issues.
The manager did state that equipment and induction training were provided to employees and provided sample copies of the training records which were rated as poor.

From the information provided and the observations made, it did not appear that the Work at Height Regulations had had an impact on this company and their general understanding of the requirements seemed fairly limited from both the store manager’s and employees’ responses.

### 7.5 INFORMATION FROM TRADE UNIONS

#### Key messages

The key findings from the 70 completed questionnaires from trade union safety representatives are summarised below.

- **47 (67%)** of trade union safety representatives were aware of the Work at Height Regulations. Of the 23 who were not aware of the Regulations, **15 (65%)** were union representatives in the retail sector.

- Of the union representatives who were aware of the Regulations, **35 (74%)** were able to provide some details of what the main requirements of the Regulations are. Of the **11 main requirements**, most union representatives were aware of only one or two. The requirement that most union representatives were aware of was Regulation 6: the avoidance of risks from work at height.

- Less than half (**27 = 40%)** of the trade union safety representatives interviewed believed that the workers they represent were aware of the Work at Height Regulations.

- Only **34 (48%)** of trade union safety representatives reported that they had been provided with information on the Work at Height Regulations. This may explain why very few had a good understanding of the main requirements of the Work at Height Regulations.

- **38 (54%)** trade union safety representatives reported that a risk assessment for work at height activities carried out by the workers they represent had been conducted.

- Of the **30 union representatives** who reported that risk assessments had not been carried out, **27 (90%)** were from the retail, manufacturing and road haulage sectors.

- Ladders and work platforms were reported to be the most common types of equipment used for work at height. **50 trade union safety representatives (71%)** reported that there had been no change to the type of equipment provided for work at height in the last year.

- **47 (67%)** trade union safety representatives reported that the workers they represent had been given training, information or guidance to help them work at height safely, an increase from the **52%** who reported this in Stage 1. This suggests that the Work at Height Regulations may have had a positive impact on the provision of training.

- Most trade union safety representatives (**45 = 64%)** reported that there had been no accidents or near misses in their company since the introduction of the Work at Height Regulations.

- Of those who reported an accident or near miss, the largest number were reported by union representatives in the road haulage and manufacturing sectors. Work areas/platforms, vehicles and ladders were involved in the largest number of accidents/incidents. In Stage 1 of the study these agents were also reported as being involved, suggesting that there has been no or very little change in the type of fall from height accidents (a view shared by Inspectors and managers who also reported no change).

- Unsafe work practices were the most common cause of the work at height accidents/incidents reported, as in Stage 1.
Training in work at height was the most common factor reported by union representatives affecting workers' behaviour when working at height. The consequence of an accident was the second most common factor reported. In Stage 1 of the study, the consequence of an accident was considered by trade union safety representatives to be one of the least important factors, suggesting that union representatives believe that workers are becoming more aware of the consequences of a fall from height.

35 (50%) of trade union safety representatives reported that their company was good or excellent at protecting employees who worked at height.

Of the trade union safety representatives who reported that their company was poor or very poor (26%), all were from the road haulage, retail, and manufacturing sectors. This is not surprising given that a number of trade union safety representatives in these sectors reported a lack of risk assessments and training, and that there had been one or more accidents or near misses since the introduction of the Work at Height Regulations.

Most trade union safety representatives (44 = 63%) believed that their company could do more to make work at height safer, an increase from Stage 1, when it was 43%. In both Stages, training was the most common suggestion for improvement.

The majority of trade union safety representatives reported that they were very confident or confident that the Work at Height Regulations would make work at height safer for the workers they represent.

**Detailed findings**

We received 70 completed questionnaires from trade union safety representatives from the following 12 sectors:

- Retail (18)
- Manufacturing (17)
- Road haulage (10)
- Food and drink (5)
- Building maintenance (4)
- Warehouse/distribution (4)
- Electricity production/distribution (3)
- Ship building & maintenance (2)
- Construction (2)
- Pharmaceutical (2)
- Waste collection/recycling (2)
- Education (1)

As these questionnaires had been disseminated through trade unions, it was not possible to link them directly to the key industry sectors used in the rest of this project. Where differences between the sectors listed above were found, they have been included in this section.

The experience of the trade union safety representatives ranged from 1 month to 26 years, with an average experience of 6.5 years.

The number of employees that the trade union safety representatives represented ranged from 1 to 1,400, with the average number being 165.

Figure 7.36 shows the percentage of time that the workers, represented by the trade union safety representatives, spent working at height. The majority [28 of 70 (40%)] of trade union safety representatives reported that work at height activity accounted for 0-20% of the work activity of
workers that they represent. Only 4 [of 70 (6%)] trade union safety representatives reported that work at height accounted for 81-100% of work activity of the workers that they represent. Two of these were from the warehouse/distribution sector, one was from the building maintenance sector and one was from the shipbuilding sector. Around a quarter (18 of 70 [26%]) of the trade union safety representatives were unable to provide a percentage of time the workers they represent spend working at height, commenting that:

“It’s changeable due to the job”; and

“Am unable to put an average figure on it - some weeks none, others it can be most of the week”.

![Figure 7.36 Percentage of time workers, represented by trade union safety representatives, spent working at height](image)

The vast majority (67 of the 70) trade union safety representatives reported that the average time the workers they represent spent working at height had not changed in the last year, since the introduction of the Work at Height Regulations. Only 3 trade union safety representatives reported that the time the workers they represent spent working at height had changed; 2 (from the education and warehouse/distribution sectors) reported a decrease in time spent working at height, commenting that:

“It’s because of the new Regulations the Government have brought in”; and

“They spend less time… roof work and cleaning of drains is now carried out by contractors”.

One trade union safety representative reported that the time the workers (in the construction sector) they represent spent working at height was constantly changing due to the nature of the job.

These findings suggest that either work at height cannot be avoided, as required by regulation 6 of the Work at Height Regulations, or that the requirements of this regulation are not known or are not being complied with. This issue is discussed further below.
Of the 70 responses, 47 (67%) trade union safety representatives were aware of the Work at Height Regulations. Of these 23 who were not aware, 15 (65%) were union representatives in the retail sector.

Of the 47 trade union safety representatives that were aware of the Work at Height Regulations, only 35 (74%) were able to provide details of what the main requirements of the Regulations are. We have categorised these 35 descriptions according to the 11 main requirements of the Work at Height Regulations. The responses given varied greatly, with some union representatives having a very limited knowledge and others having a detailed knowledge. The range of knowledge of the trade union safety representatives is presented in Figure 7.37, which shows how many of the main requirements the union representatives knew about.

![Figure 7.37 Number of main requirements known](image)

12 trade union safety representatives did now know any of the main requirements. There was no relationship between this lack of knowledge and industry sector. Very few trade union safety representatives had a good understanding of the main requirements of the Work at Height Regulations, with most only having knowledge of 1 or 2 of the main requirements. No one was able to detail all 11 main requirements. Two trade union safety representatives were able to identify 5 of the main requirements; one in the pharmaceutical sector and one in the education sector. The most comprehensive description of the main requirements of the Work at height Regulations given by a trade union safety representative was:

“… to ensure that work at height is planned, supervised and carried out in a safe manner … proper equipment and use of controls in place to ensure everybody’s safety, training on what hazards are present, choosing the right equipment for the job or task. Minimise and or eliminate the distance and risk of fall from height and equipment falling from height. Training and supervision for all people that manage and work at height.”

The number of trade union safety representatives who were aware of each of the 11 requirements of the Work at Height Regulations is shown in Table 7.28.
The requirement that most (24) trade union safety representatives were aware of was Regulation 6 (avoidance of risks from work at height), with most union representatives reporting the requirement for conducting a suitable and sufficient risk assessment. A number were also aware of the requirement to avoid work at height if reasonably practicable. A large number (14) of trade union safety representatives were also aware of Regulation 7 (selection of suitable work equipment), with many describing the hierarchy for selecting work equipment. Numerous trade union safety representatives were also aware of Regulation 4 (organisation and planning) and Regulation 5 (competence). The requirements for particular equipment (Regulation 8), duties of persons at work (Regulation 14) and falling objects (Regulation 10) were known by only a small number of trade union representatives. No one appeared to be aware of Regulation 9 (fragile surfaces) or 13 (inspection of places of work at height).

As discussed above, the vast majority of trade union safety representatives reported that the average time the workers they represent spent working at height had not changed in the last year, since the introduction of the Work at Height Regulations. Possible reasons for this are that: work at height cannot be avoided (as required by regulation 6 of the Work at Height Regulations); that the requirements of this regulation are not known; or that they are not being complied with. Given that Regulation 6 was the second most common regulation known by trade union representatives and the most common requirement known by managers, it would appear that companies are not complying with the requirement to avoid work at height if reasonably practicable. The findings from our site visits supported this, as very few managers reported any examples of work that was previously done at height but was now avoided.

Less than half (28 of the 70) trade union safety representatives reported that they believed the workers they represent were aware of the Work at Height Regulations. However, only 24 reported that these workers understand what the Regulations require. Trade union safety representatives were asked to explain why they thought the workers were aware of the main requirements of the Regulations and a variety of responses were given. These are summarised in Table 7.29. The most common response given was that staff received information on the Work at Height Regulations via a video, presentation or safety brief. Additionally, a number of trade union safety representatives commented that staff were required to sign a form or training

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Number of trade union safety representatives who were aware</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 – Organisation and planning</td>
<td>10</td>
</tr>
<tr>
<td>5 - Competence</td>
<td>9</td>
</tr>
<tr>
<td>6 – Avoidance of risks from work at height</td>
<td>23</td>
</tr>
<tr>
<td>7 – Selection of work equipment</td>
<td>14</td>
</tr>
<tr>
<td>8 – Requirements for particular equipment</td>
<td>3</td>
</tr>
<tr>
<td>9 – Fragile surfaces</td>
<td>0</td>
</tr>
<tr>
<td>10 – Falling objects</td>
<td>2</td>
</tr>
<tr>
<td>11 – Danger areas</td>
<td>1</td>
</tr>
<tr>
<td>12 – Inspection of work equipment</td>
<td>1</td>
</tr>
<tr>
<td>13 – Inspection of places of work at height</td>
<td>0</td>
</tr>
<tr>
<td>14 – Duties of persons at work</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 7.28 Understanding of the main requirements of the Work at Height Regulations
record sheet as proof that they understood the main requirements. A number of employees were informed via written guidance and company procedures, as well as via job-specific training that also included information on the Regulations. In 8 instances, no explanations were given by trade union safety representatives to support their belief that the workers they represent understood the main requirements of the Regulations. However, 6 reported that the worker’s knowledge was poor, in that they had a basic or limited understanding of the Regulations.

**Table 7.29 Employees’ understanding of the main requirements of the Work at Height Regulations**

<table>
<thead>
<tr>
<th>Mode of informing staff</th>
<th>Number of trade union safety representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video/presentation/safety brief specifically on Regulations</td>
<td>6</td>
</tr>
<tr>
<td>Written guidance/company procedures etc</td>
<td>4</td>
</tr>
<tr>
<td>Job-specific training (including information on Regulations)</td>
<td>4</td>
</tr>
<tr>
<td>Risk assessments</td>
<td>2</td>
</tr>
<tr>
<td>No explanation given</td>
<td>8</td>
</tr>
</tbody>
</table>

Of the 70 trade union safety representatives who responded in Stage 2, 38 (54%) reported that the risks associated with the work at height carried out by the people they represent had been assessed by their employer. Of these, 32 had seen evidence of the risk assessments; the remaining 6 had not seen any evidence but reported that risk assessments were carried out for every job. Many of the trade union safety representatives reported that they had actually been involved in conducting the risk assessments. In 4 instances, safety representatives felt that the risk assessments were inadequate with regards to work at height issues. Comments included:

“I have seen risk assessments but have found that these require a more safety conscious approach”; and

“The assessment that has been done is totally inadequate. Ladders are now being used to climb onto the back of trailers, stock on cages are transferred between trailers over a gap between trailers”.

In 30 instances, it was reported that risk assessments had not been carried out. The vast majority (27) were safety representatives in the retail (12), manufacturing (8) and road haulage (7) sectors. Two trade union safety representatives did not know if risk assessments had been conducted.

25 trade union safety representatives reported that risk assessments had been reviewed or changed in the last year since the introduction of the Work at Height Regulations. Comments included:

“Risk assessments have changed in terms of ‘height’”; and

“They now include training as a control measure”.
In Stage 1 of the study, 76% of trade union safety representatives reported that risk assessments for working at height had been completed. However, in Stage 2, as detailed above, only 54% reported that risk assessments had been carried out. There are several reasons that may explain this difference. A different sample of trade union safety representatives was questioned for Stages 1 and 2. Additionally, the sectors they represent were also different. In Stage 1 the trade union safety representatives were primarily from the construction and manufacturing sectors. Whereas in Stage 2, the range of sectors was much more varied and included other sectors, for example retail. This suggests that more construction and manufacturing sectors conduct risk assessment than other sectors, for example retail.

The 70 trade union safety representatives who participated in Stage 2 of the study reported that a wide range of access and safety equipment was used for work at height, as shown in Table 7.30.

<table>
<thead>
<tr>
<th>Item of equipment</th>
<th>Number of trade union safety representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladders</td>
<td>40</td>
</tr>
<tr>
<td>Work platforms</td>
<td>27</td>
</tr>
<tr>
<td>Fall arrest equipment</td>
<td>18</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>13</td>
</tr>
<tr>
<td>Barriers (e.g. guardrails)</td>
<td>6</td>
</tr>
<tr>
<td>General PPE</td>
<td>5</td>
</tr>
<tr>
<td>Work restraint equipment</td>
<td>4</td>
</tr>
<tr>
<td>Work suspension equipment</td>
<td>2</td>
</tr>
</tbody>
</table>

It was reported that ladders were used by more than half (40) of the 70 trade union respondents. Work platforms including mobile elevated work platforms (MEWPs), cherry pickers and scissor lifts were also commonly used when working at height, as was fall arrest equipment and scaffolding.

Over two-thirds (50) of trade union safety representatives reported that there had been no change to the type of equipment provided for work at height in the last year. Only 18 reported that there had been a change since the introduction of the Work at Height Regulations. This included providing a work platform or scaffold tower instead of working from a ladder (5), providing new graded ladders [in placer of old worn ladders] (2), providing stepladders instead of using a kick stool (2), using harnesses when working on a platform or scaffold (2), providing rescue equipment and training (2), using fall arrest (1) and general PPE (2). The remaining 3 reported a change but did not provide details of the change. Of the 18 who reported a change, there is no pattern with regards to the industry sector; of the 12 sectors represented by the trade union safety representatives who responded, changes were reported in 11 of the sectors.

47 (67%) trade union safety representatives reported that the workers they represent had been given training, information or guidance to help them work at height safely, as shown in Table 7.31. In Stage 1 of the study, only 52% of trade union safety representatives reported that training was provided to staff who worked at height. This increase (67% compared with 52%) shows that the Work at Height Regulations may have had a positive impact on providing training.
However there are still improvements to be made, as 23 trade union safety representatives reported that workers had been given no training, information or guidance, most noticeably in the retail (11), road haulage (4) and manufacturing (4) sectors.

**Table 7.31 Training, information & guidance**

<table>
<thead>
<tr>
<th>Mode of learning</th>
<th>Number of trade union safety representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>34</td>
</tr>
<tr>
<td>Information</td>
<td>8</td>
</tr>
<tr>
<td>Guidance</td>
<td>3</td>
</tr>
<tr>
<td>None provided</td>
<td>23</td>
</tr>
<tr>
<td>Don’t know</td>
<td>2</td>
</tr>
</tbody>
</table>

The most common mode of providing information was via formal training. 23 trade union safety representatives reported that the workers they represent were given formal training to help them work at height safely. A range of training courses were provided including courses accredited by the International Powered Access Federation (IPAF), ladder training, harness use and inspection, general work at height training, conducting risk assessments and driver training.

Information in the form of a poster, video and printed literature was given to workers in 8 of the companies whose trade union safety representative participated in the study. Two safety representatives reported that workers had been given guidance by other colleagues, including being told how to use a harness and being shown how to climb a ladder.

Of the 47 trade union safety representatives who reported that the workers they represent had been given training, information or guidance to help them work at height safely, 13 reported that this had changed in the last year since the introduction of the Work at Height Regulations. Changes included providing rescue training, updating the content of training courses and company literature to include information on the new Regulations and providing training on the use of new equipment that was now provided. One trade union representative reported that they had started to provide basic health and safety training, including information on work at height, following a recent visit by an HSE Inspector.

Trade union safety representatives were asked if they were aware of any work at height accidents or near misses in their company since the Work at Height Regulations were introduced. The majority (45) reported that there had been no accidents or near misses. Six did not know if there had been any, commenting that the company did not have any reporting or recording system in place (3 retail, 1 electricity, 1 building maintenance, 1 waste collection). 16 reported that there had been one or more work at height accidents since the introduction of the Work at Height Regulations and 3 reported near misses; most of these involved a staff member, however two incidents involved a contractor (in the manufacturing industry in both instances). The sectors in which trade union safety representatives reported incidents or near misses are shown in Table 7.32.
Table 7.32 Trade union safety representatives reporting accidents or near misses

<table>
<thead>
<tr>
<th>Sector</th>
<th>Number of trade union safety representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road haulage</td>
<td>6</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>5</td>
</tr>
<tr>
<td>Electricity</td>
<td>2</td>
</tr>
<tr>
<td>Retail</td>
<td>2</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>1</td>
</tr>
<tr>
<td>Food &amp; drink</td>
<td>1</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>1</td>
</tr>
<tr>
<td>Warehouse/distribution</td>
<td>1</td>
</tr>
</tbody>
</table>

As can be seen, the largest number of accidents was reported by trade union safety representatives in the road haulage sector, closely followed by representatives in the manufacturing sector. Two trade union safety representatives in the electricity sector reported a fatality. Based on the details given by these two trade union safety representatives, it is unknown if they have reported the same fatality or if there have been two separate incidents in the electricity sector.

The equipment most commonly involved the accidents/incidents reported by trade union safety representatives are shown in Table 7.33. The numbers of each equipment type do not match the number of trade union safety representatives reporting accidents/incidents (i.e. 19), as in several instances the accident/incident involved more than one equipment type.

Table 7.33 Type of equipment involved in work at height accidents/incidents

<table>
<thead>
<tr>
<th>Item of equipment</th>
<th>Number of trade union safety representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work areas/platforms</td>
<td>8</td>
</tr>
<tr>
<td>Vehicles</td>
<td>8</td>
</tr>
<tr>
<td>Portable ladders</td>
<td>6</td>
</tr>
<tr>
<td>Fixed ladders</td>
<td>2</td>
</tr>
<tr>
<td>Stairs</td>
<td>2</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>1</td>
</tr>
<tr>
<td>Fragile roofs</td>
<td>1</td>
</tr>
<tr>
<td>Climbing irons (for free-climbing)</td>
<td>1</td>
</tr>
</tbody>
</table>

As can be seen, work areas/platforms and vehicles were involved in the largest number of accidents/incidents. Portable and fixed ladders were also involved in a large number of accidents and incidents. In Stage 1 of the study, the same range of agents were reported to be involved, suggesting that there has been no or very little change in the type of fall from height accidents; a view shared by Inspectors and managers who also reported no change.
The main causes of these accidents/incidents, as reported by trade union safety representatives, are shown in Table 7.34. The majority of trade union safety representatives reported more than one main cause, with most reporting three or four main causes. These causes identified in Stage 2 were also the same as those identified in Stage 1.

Table 7.34 Main causes of work at height accidents/incidents

<table>
<thead>
<tr>
<th>Cause</th>
<th>Number of trade union safety representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsafe work practices</td>
<td>12</td>
</tr>
<tr>
<td>Poor training</td>
<td>9</td>
</tr>
<tr>
<td>Pressure to work too quickly</td>
<td>8</td>
</tr>
<tr>
<td>Unsafe work equipment</td>
<td>7</td>
</tr>
<tr>
<td>Lack of supervision</td>
<td>7</td>
</tr>
<tr>
<td>Human error</td>
<td>1</td>
</tr>
</tbody>
</table>

Unsafe work practices were the most common cause of the work at height accidents/incidents reported, with several trade union safety representatives commenting that contractors were often involved. Comments included: “contractors say one thing and do exactly the opposite”.

Poor (or a lack of) training, pressure to work too quickly, unsafe work equipment and lack of supervision were also common causes, with union representatives commenting:

“No matter how well you train your staff, this is negated if other companies/contractors fail to do the same thing”; and

“When assessments have been done managers fail to police the policy”.

Based on consultation with the workers they represent, trade union safety representatives were asked to identify the factors they think most influence workers behaviour when working at height. Their responses are summarised in Table 7.35.
Table 7.35 Factors influencing behaviour when working at height

<table>
<thead>
<tr>
<th>Factor influencing behaviour</th>
<th>Number of trade union safety representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training in work at height</td>
<td>36</td>
</tr>
<tr>
<td>Consequences of an accident</td>
<td>32</td>
</tr>
<tr>
<td>Pressure to meet deadlines</td>
<td>28</td>
</tr>
<tr>
<td>Work experience</td>
<td>27</td>
</tr>
<tr>
<td>Compliance with health and safety laws</td>
<td>21</td>
</tr>
<tr>
<td>Being supervised</td>
<td>13</td>
</tr>
<tr>
<td>Financial rewards</td>
<td>6</td>
</tr>
<tr>
<td>Don’t know</td>
<td>8</td>
</tr>
</tbody>
</table>

Training in work at height was the most common factor affecting workers behaviour when working at height. Training was also identified by trade union safety representatives in Stage 1 as the most common factor influencing behaviour.

Comments included:

"Training gives workers more confidence";

"Engineers are trained in the use of equipment to ensure work is done safely and without risk"; and

"This is vital so that proper procedures can be correctly followed".

However, in 8 instances, trade union safety representatives reported that staff had not been given any training and this therefore influenced the way they behaved.

The consequence of an accident was also reported to be a common factor in influencing behaviour when working at height. Comments included:

"No one wants to get hurt";

"Staff know the consequences and so take care and time when working at height";

"Injury is their biggest fear"; and

"Members are aware that a fall can seriously injure them or someone they work with".

Pressure to meet deadlines was the third most common influencing factor. Based on responses, it appears that both managers and employees are involved with managers failing to plan or allow adequate time for work at height activities and employees cutting corners or rushing to get the job done. Comments included:

"Jobs are given out with time restraints";

"There is no prior planning and no time to get the job done";
“Even when aware of the risk, management want it done”;

“Sometimes employees are willing to take a chance to get things done”; and

“Staff cut corners to get jobs done”.

Work experience was also commonly cited as a factor influencing behaviour, with many trade union safety representatives reporting that the skills and knowledge gained with experience had a positive impact as it increased safety. However, several union representatives reported that work experience could have a detrimental effect, with workers becoming complacent as experience increases. Comments included:

“There is the attitude that ‘I did it last time without the right kit’ so it’ll be OK”; and

“The job has always been done this way”.

Compliance with health and safety laws was reported by a large number of trade union safety representatives as a factor influencing behaviour as:

“It makes work safer”.

Being supervised also appeared to influence behaviour when working at height, with 13 trade union safety representatives reporting this as a factor. Comments included:

“Workers are possibly watched via CCTV at some sites”;

“They do things properly when I see them and they see me”; and

“Staff are always afraid of being caught doing something they shouldn’t be”.

When asked if they thought opinion of the factors influencing behaviour when working at height had changed in the last year, the majority (57) of trade union safety representatives said no, in their opinion there had been no change. Only 8 trade union safety representatives reported that the factors had changed since the introduction of the Work at Height Regulations. This change was due to a variety of reasons including more information/guidance being distributed by management, provision of toolbox talks and training, and safety representatives putting pressure on management to make work at height safer.

Of the 8 who reported a change, 6 rated the consequences of an accident as being either the most important factor or the second most important factor that influenced workers’ behaviour. This explains why this factor was rated higher in Stage 2 than in Stage 1 (where it was considered one of the least important factors). This finding suggests that trade union safety representatives believe that workers are becoming much more aware of the consequences of a fall from height. However, this does not appear to apply to all workers, given that unsafe work practices were reported by trade union safety representatives as being the most common underlying causes of falls from height.

As can seen in Table 7.35, training, the consequences of an accident, pressure to meet deadlines and experience were identified as the most common factors affecting the behaviour of those working at height. These four factors were also the top four factors identified by employees.
Five trade union safety representatives did now know if the factors influencing the behaviour of the workers they represent had changed.

Trade union safety representatives were asked how good they thought their company was at protecting employees who work at height. The responses are summarised in Table 7.36.

<table>
<thead>
<tr>
<th>Response</th>
<th>Number of trade union safety representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>11</td>
</tr>
<tr>
<td>Good</td>
<td>24</td>
</tr>
<tr>
<td>Average</td>
<td>10</td>
</tr>
<tr>
<td>Poor</td>
<td>15</td>
</tr>
<tr>
<td>Very poor</td>
<td>3</td>
</tr>
<tr>
<td>Don’t know</td>
<td>7</td>
</tr>
</tbody>
</table>

Most trade union safety representatives reported that their company was good or excellent at protecting employees who worked at height, with comments including:

“The company always ensures the health and safety of its employees is paramount and ensures safe systems are adhered to at all times”; and

“The site is a top tier COMAH site therefore safety is of a high priority”.

There was no identifiable pattern with regards to industry sectors.

Ten trade union safety representatives reported that their company was average, and 18 reported that the company was poor or very poor. Comments included:

“Because work at height is only a small amount of the working day it takes second place to other things”; and

“They do the bare minimum to comply with the law”.

Of those trade union safety representatives reporting that their company was poor or very poor, all were from the road haulage, retail and manufacturing sectors. This is hardly surprising given that a number of trade union safety representatives in these sectors reported that risk assessments had not been conducted for work at height activities, that staff who work at height had not been provided with any training, and that there had been one or more accidents or near misses in the last year, since the introduction of the Work at Height Regulations.

Seven trade union safety representatives did not know if their company was good at protecting employees who work at height.

The vast majority (57) of trade union safety representatives reported that opinions have not changed in the last year. Only 10 reported that opinions had changed and that their company was now better at protecting employees since the introduction of the Work at Height Regulations, most noticeably in the manufacturing and building maintenance sectors. This was reported to be due to a variety of reasons including: health and safety committees and trade
union safety representatives addressing the issue of work at height; and companies increasing awareness via literature and providing training courses for employees.

Three trade union safety representatives did not know if there had been any change in the protection offered to employees who work at height since the introduction of the Work at Height Regulations.

Trade union safety representatives were asked if they thought their company could do more to make work at height safer. The majority (44, 63%) answered yes. A variety of improvements were suggested and these are presented in Table 7.37.

**Table 7.37** Suggestions for making work at height safer

<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Number of trade union safety representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>21</td>
</tr>
<tr>
<td>Better equipment</td>
<td>11</td>
</tr>
<tr>
<td>Information &amp; guidance (incl. safe systems of work)</td>
<td>9</td>
</tr>
<tr>
<td>Supervision</td>
<td>4</td>
</tr>
<tr>
<td>Risk assessments</td>
<td>4</td>
</tr>
<tr>
<td>Inspections of equipment</td>
<td>2</td>
</tr>
<tr>
<td>Removal of bonus scheme</td>
<td>1</td>
</tr>
<tr>
<td>Planning work at height activities</td>
<td>1</td>
</tr>
</tbody>
</table>

Training was the most common suggestion made by trade union safety representatives for making work at height safer. Providing new or improved equipment was also commonly reported by a number of trade union safety representatives, as was providing staff with information and guidance on working at height, including safe systems of work. A number of trade union safety representatives reported that supervising work at height activities, particularly those involving contractors, and conducting risk assessments for all jobs involving work at height would make work at height in their company safer.

In Stage 1 of the study, only 43% of trade union safety representatives reported that their companies could do more to make work at height safer, which is a lower number than that in Stage 2 (63%). It is likely that this difference is due to the different samples, as well as the difference in sectors represented. As discussed earlier, Stage 1 participants were mainly from the construction and manufacturing sectors, compared with Stage 2 that comprised representatives from mainly the manufacturing, retail and road haulage sectors. It would appear therefore that companies in the manufacturing, retail and road haulage sectors have more of an improvement to make than those in the construction sector, in terms of making work at height safer.

Of the 70 trade union safety representatives who participated in the study, less than half (34) reported that they had been provided with information on the Work at Height Regulations. Of these 34, most (21) received the information from their trade union or via their own personal research (e.g. from HSE website). Only 13 trade union safety representatives received information on the Work at Height Regulations from their employer. This may explain why
very few trade union safety representatives had a good understanding of the main requirements of the Work at Height Regulations.

Trade union safety representatives were asked how confident they were that the Work at Height Regulations will make work at height safer. Responses are presented in Table 7.38.

**Table 7.38** Confidence of trade union safety representatives that the Regulations will make work at height safer

<table>
<thead>
<tr>
<th>Confidence level</th>
<th>Number of trade union safety representatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very confident</td>
<td>11</td>
</tr>
<tr>
<td>Confident</td>
<td>32</td>
</tr>
<tr>
<td>Not very confident</td>
<td>4</td>
</tr>
<tr>
<td>Not at all confident</td>
<td>2</td>
</tr>
<tr>
<td>Don’t know</td>
<td>21</td>
</tr>
</tbody>
</table>

The majority of trade union safety representatives reported that they were confident (32) or very confident (11) that the Work at Height Regulations would make work at height safer for the workers they represent. Comments included:

“As with all regulations, they will only work if all staff comply”;

“Only when word gets out. Representatives and workers need to get training and management need to get some basic health and safety training to understand the issues”;

“In common with other health and safety legislation experiences, it will take time to filter down and for full awareness to become the norm”; and

“It will make working at height safer but only if we get the message/information to the employees/contractors that it effects”.

Only a small number (6) of trade union safety representatives were not very confident or not at all confident that the Work at Height Regulations will make work at height safer, mainly in the road haulage and manufacturing sectors. A number of trade union safety representatives commented that until work at height is considered during the design process, many companies are left with machines, workplaces and vehicles that are not designed to provide safe access.

Comments included:

“Until design is tackled in a way that is at the top of any project/improvement we will always be tackling the effects of poor design”; and

“Companies need to take responsibility for the design of their sites so that our drivers can safely deliver”.

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This chapter contains the results from the first stage of the Two Metre study. The results from the HSE inspectors, telephone interviews with duty holders and from our site visits are presented in three separate sections.

8.1 HSE INSPECTORS

Key messages
The key findings from the telephone interviews with seven HSE inspectors working in the construction sector are summarised below.

- The inspectors reported that duty holders used specific control measures for work above two metres but few, if any, measures for work below this height.
- The inspector’s confidence in duty holders’ compliance with their legal duties for work above and below two metres was very varied. However inspectors were more confident that duty holders’ complied with legal requirements for work activities above two metres than for work below.
- Most (six out of seven) inspectors did not believe that the removal of the two metre rule (and the adoption of a risk based approach) would have any effect in reducing falls from height above two metres.
- Five out of seven inspectors believed that the removal of the two metre rule (and the adoption of a risk based approach) would have a slight negative effect in reducing falls from height below two metres, due to the “unwillingness” of duty holders to comply with the new Regulations.
- Five out of seven of inspectors reported that the work practices of duty holders had not started to change as a result of the removal of the two metre rule.

Detailed findings
Seven HSE inspectors were interviewed as part of this study, all of whom worked in the construction sector. Local Authority inspectors were not interviewed because they are not the enforcing authority for construction work.

The range of work experience of HSE inspectors in their current work sector varied from 0.5 to 6.5 years, with the average work experience being 4.1 years.

All of the seven HSE inspectors identified work at height as being a ‘very significant’ issue in their current job. The majority of HSE inspectors said that this was due to the nature of construction work. One inspector believed it was a significant issue because it was the biggest killer in all industry sectors.

Six out of the seven HSE inspectors interviewed reported that they had extensive experience of dealing with work at height issues within their work sector/job. Extensive experience was classed as having more than twelve months’ experience. The remaining inspector reported having some experience, i.e. between six and twelve months.
Five out of the seven HSE inspectors estimated that their average amount of time spent dealing with work at height issues within their sector/jobs was 41-60%. The remaining two inspectors estimated their average amount of time spent on work at height issues was 21-40%.

All seven HSE inspectors had very similar understandings of the definition of the two metre rule as used in the industry for work at height. The definitions provided by the inspectors are shown below (the numbers in brackets indicate the number of inspectors who made virtually the same comment).

- All work at height activities at or above two metres (4)
- People being stood above two metres for work activities
- Any work above two metres needs to follow specific procedures as stipulated by the schedule, e.g. guard rails and toe boards
- If a person at a construction site is working above two metres.

HSE inspectors had similar experiences of how the two metre rule affected the way that duty holders manage work at height activities, both above and below two metres. It was the general consensus that duty holders used specific control measures above two metres but few measures were in place below this height. Their individual comments are reported below:

- It is commonly accepted by duty holders that above two metres specific control measures are required, however below two metres no specific control measures are adopted (2).
- The rule adversely affects heights up to two metres. Duty holders do not provide anything below two metres because they believe there is negligible risk. Above two metres, some duty holders are unwilling to provide double guardrails and toe-boards.
- Above two metres, duty holders generally have control measures in place to prevent external falls, however internal falls are often overlooked. Risks associated with falling below two metres are not normally identified.
- In general, for work above two metres duty holders know what is expected of them, however for work below two metres duty holders do not take adequate control measures.
- Duty holders tend to prioritise actions for heights at two metres and above. In general, for heights less than two metres no specific control measures are adopted.
- Not a lot of difference. Some duty holders are willing to comply with these Regulations and others are not.

The HSE inspectors generally concurred on the differences they saw due to the two metre rule. Their comments are shown below and, again, the numbers in brackets indicate the number of inspectors who made virtually the same comment.

- For work at and above two metres, specific control measures are implemented, e.g. guardrails and control boards. For work below two metres generally no specific control measures are implemented (4).
- For work at and above two metres, specific control measures are implemented, e.g. guardrails and control boards (3) (each of these 3 inspectors further elaborated on this as shown below).
  - This is partly due to the fact that this issue has not been strongly enforced by the HSE.
  - For work below two metres mainly stepladders are used.
  - For work below two metres mainly stepladders and trestles are used.
The HSE inspectors expressed very varied amounts of confidence in the duty holders’ compliance with their legal requirements to ensure that work below two metres was carried out safely. Figure 8.1 below illustrates this.

![Confidence Level](image)

**Figure 8.1** Confidence in duty holders complying with legal requirements below two metres

This variation in confidence is reflected in some of the comments that the HSE inspectors made on this issue and these are shown below.

- Experience from visits and accident investigations indicate that duty holders are not complying with the requirements.
- Very confident – based on observations at construction sites.
- Compliance varies amongst duty holders; generally smaller duty holders are less willing to comply with the Regulations.
- Most duty holders are aware of the requirements and comply.

The HSE inspectors also expressed varying amounts of confidence in the duty holders complying with their legal requirements to ensure work above two metres was carried out safely. However, no inspector was “not at all confident” for work above two metres and two inspectors were “very confident” that the duty holders were complying above two metres. Therefore the inspectors appeared to have more confidence in duty holders when work was carried above two metres than when it was carried out below two metres. Figure 8.2 below illustrates the results for confidence levels above 2m.

Only one HSE inspector commented on this subject and said “Duty holders’ compliance varies completely and does not necessarily depend on the size of the company”.

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The HSE inspectors were asked for their opinion about the effect of the removal of the two metre rule (and the movement towards a more risk based approach) on duty holders. Each inspector’s comments are shown below:

- I hope it will make duty holders think more about the management of work at height activities. However I expect some duty holders will be very proactive and adopt the risk based approach and some duty holders will continue to use the two metre rule.
- It will cause total confusion because everyone is used to the two metre rule. Most smaller companies do not have the time or the resources to carry out risk assessments. Most construction companies, especially smaller companies, like very prescriptive legislation because they are told what to do, rather than have to assess what is required.
- No significant difference for work at two metres and above, e.g. guardrails and toe boards will still be used. However, for work below two metres a risk assessment will be expected.
- It will be detrimental to the industry because the guidance has not yet been produced.
- It will make duty holders think carefully about how they should control work at height risks. This should mean that they adequately assess the risk. However duty holders may simply claim that for work below two metres there is no significant risk.
- It will cause confusion. Duty holders are not aware of how the new Regulations will be enforced. In practice nothing will happen until new Regulations are enforced by the HSE.
- It will have a positive effect because the awareness of the requirements of work at height will be increased by clearer legislation.

Six out of the seven HSE inspectors interviewed stated that they did not believe the removal of the two metre rule (and the adoption of a risk based approach) would have any effect in reducing falls from height above two metres in the construction industry. They all agreed that duty holders are generally aware of requirements of work at height activities above two metres and therefore the removal of the two metre rule would have a negligible effect on activities above this height. The remaining HSE inspector thought it would have a slight positive effect.
and believed that the removal of the two metre rule would focus the minds of duty holders in
general on work practices above two metres.

When considering the effect of the removal of the two metre rule (and the adoption of a risk
based approach) on reducing falls from height in the construction industry below two metres,
five out of the seven inspectors believed it would have a slightly negative effect. They all
agreed that “duty holders will be aware of the requirements, however a significant number will
be unwilling to comply due to time, training and cost implications”. The remaining two
inspectors did not believe there would be any effect on falls from height below two metres in
the construction industry and agreed that “those duty holders who are already committed to
health and safety will adopt the new measures, however those who are not will continue to
ignore health and safety legislation.”

Five out of the seven inspectors believed that things had not yet started to change in terms of the
removal of the two metre rule. However, two inspectors had identified some sites where the
duty holder had already started to change practices in anticipation of the new Regulations. The
only example that they gave was that one said that some companies were starting to restrict the
use of stepladders.

8.2 TELEPHONE INTERVIEWS WITH DUTY HOLDERS

Key messages
The key findings from the telephone interviews with 64 duty holders are summarised below.

- Managers reported that employees were involved in health and safety issues in a variety of
  ways, mainly through training, toolbox talks, regular team meetings and H&S committees.
  These varied by sector (e.g. toolbox talks were most used in construction and building
  maintenance), however there was no clear pattern.
- A wide variety of equipment was used for work at height. All sectors used portable ladders
  except steeplejacks. Stepladders were most used in building maintenance.
- Telecommunications and building maintenance did not often use scaffolding.
- The most common factor that managers reported that they considered when deciding how
to prevent falls from height were the risks involved in the work. The next most common
factors were height and the skill level of the workers.
- 64% of the managers interviewed were aware of the two metre rule. The rest were either
  unaware that there were any specific requirements relating to height or knew that there was
  a specific height but either did not know what it was or believed it was a height other than
  two metres.
- The highest level of awareness of the two metre rule (71%) was in building maintenance.
  None of the steeplejacks were aware of the rule, presumably because all their work was
  above this height.
- Only 13% of the managers stated that there was a legal requirement to carry out risk
  assessments for work at height.
- The most common precautions that the managers identified as being required above the
  height they believed was in the present legislation were handrails, toe boards and wearing a
  harness.
- Only 9% of the managers said that they used the two metre rule to determine what
  precautions to take to prevent falls. 8% said that they considered the risks involved,
whatever the height was. 8% of managers used the same approach to preventing falls, whatever height was involved.

- 86% of the managers were aware of the forthcoming Work at Height Regulations. 42% of these knew that the two metre rule was to be removed. 41% of those who were aware believed that the Regulations would have no effect on their business.

- Nearly two-thirds of the managers who reported that they were aware of the new regulations did not know the cost implications of the new Regulations. 27% believed that there would be no additional costs.

- All managers reported that the current level of safety on their site for work at height was average or better. The majority (95%) said it was good or very good.

**Detailed findings**

We spoke to 64 site managers (or equivalent) representing companies in the key industry sectors, where a significant quantity of work at height activity took place. Some of the managers contacted in this step were also interviewed for the main project into the evaluation of the impact of the Work at Height Regulations.

The sample consisted of five different industry sectors and the distribution of interviews between these sectors is shown in Table 8.1 below. These sectors were chosen because they carry out work at height that was included in the definition of construction work in the Construction (Health, Safety and Welfare) Regulations 1996 and were therefore required to comply with the two metre rule.

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Number of interviews conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>39</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>5</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>7</td>
</tr>
<tr>
<td>Shipbuilding and aircraft maintenance</td>
<td>6</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>7</td>
</tr>
</tbody>
</table>

The site managers spent the majority of their time on site and had some responsibility for health and safety. Table 8.2 shows the mean and the range of management experience of these site managers in each industry sector.
Table 8.2 Mean and range of management experience of the site managers in each industry sector

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Range (yrs)</th>
<th>Mean (yrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>0.25-20</td>
<td>6</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>4-21</td>
<td>14</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>1.5-28</td>
<td>8</td>
</tr>
<tr>
<td>Shipbuilding and aircraft maintenance</td>
<td>4-42</td>
<td>11</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>3-18</td>
<td>7</td>
</tr>
</tbody>
</table>

From Table 8.2 it is apparent that the mean experience of site managers in that role was highest in the steeplejack industry (14 years) and lowest in the construction sector (6 years). The range of site manager experience within each sector was varied, with the largest being in the shipbuilding sector (4 – 42 years) and the smallest being in the telecommunications sector (3-18 years).

The number of sites owned by the companies that the site managers worked for varied between sectors as shown in Table 8.3. The telecommunications sector had the largest mean number of sites (1,087 sites), due to the fact that one company had 6500 sites (and therefore had the largest range of sites). The steeplejacks sector had the lowest mean number of sites (2) and also had the lowest range (1-4).

Table 8.3 Mean and range of the number of sites occupied in each sector

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Range</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>1-200</td>
<td>36</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>1-4</td>
<td>2</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>1-35</td>
<td>10</td>
</tr>
<tr>
<td>Shipbuilding and aircraft maintenance</td>
<td>1-6</td>
<td>3</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>1-6,500</td>
<td>1,087</td>
</tr>
</tbody>
</table>

The number of employees employed by the site managers’ companies varied greatly between the industry sectors. The telecommunications sector had the largest mean number (16,301 employees) and range of employees (5 – 90,000) as shown in Table 8.4. The building maintenance sector had the smallest mean number (57) and range of employees (10-195).
Table 8.4  Mean and range of the number of employees in each sector

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Range</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>40-5,000</td>
<td>729</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>7-220</td>
<td>58</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>10-195</td>
<td>57</td>
</tr>
<tr>
<td>Shipbuilding and aircraft maintenance</td>
<td>12-5,500</td>
<td>1268</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>5-9,000</td>
<td>16,301</td>
</tr>
</tbody>
</table>

The site managers reported that they involved employees in health and safety matters in a variety of ways. The main means of involvement were through health and safety training, toolbox talks, regular team meetings and health and safety committees. Table 8.5 below shows results for all the sectors (only those answers given by more than 3 site managers are included).

Variations between sectors included:

- No site managers from the building maintenance sector stated “induction training” as a way of involving employees in health and safety
- Method statements were used most frequently by building maintenance
- Toolbox talks were used most by construction and building maintenance
- Risk assessments were used by steeplejacks and building maintenance the most and were not mentioned at all by shipbuilders
- Health and safety committees were used most by shipbuilders but were not mentioned at all by steeplejacks.
Table 8.5 Number of responses concerning how employees were involved in health and safety

<table>
<thead>
<tr>
<th>Ways of involving employees in health and safety</th>
<th>Percentage of site managers mentioning method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>69</td>
</tr>
<tr>
<td>Toolbox talks</td>
<td>58</td>
</tr>
<tr>
<td>Induction training</td>
<td>50</td>
</tr>
<tr>
<td>Regular team meetings/briefings</td>
<td>36</td>
</tr>
<tr>
<td>H&amp;S Committee</td>
<td>34</td>
</tr>
<tr>
<td>Employee Representatives</td>
<td>25</td>
</tr>
<tr>
<td>Risk assessments</td>
<td>20</td>
</tr>
<tr>
<td>Method statements</td>
<td>19</td>
</tr>
<tr>
<td>Newsletter</td>
<td>19</td>
</tr>
<tr>
<td>General communication</td>
<td>17</td>
</tr>
<tr>
<td>Notice boards</td>
<td>13</td>
</tr>
<tr>
<td>H&amp;S seminars/forums</td>
<td>11</td>
</tr>
</tbody>
</table>

The work activities reported by site managers involving work at height varied greatly and were very much sector related as shown in Table 8.6. This shows the number and percentage of managers in each sector that reported each type of work at height.

The number of workers identified by site managers as being involved in work at height activities varied from sector to sector. The construction and shipbuilding sector had larger numbers of people involved at work at height activities whilst the majority of steeplejacks and building maintenance companies had less than 20. The telecommunication sector included a company that had less than ten employees working at height and another company that had more than 200.

The site managers were asked what types of equipment were used for work at height. Work equipment used by more than one company is shown in Table 8.7 below. Ladders, scaffolds, work platforms, fall arrest/harness equipment, guardrails and toe-boards were used by the majority of companies interviewed. The only differences between the sectors were that 25% of the construction industry site managers did not use fall arrest equipment, and building maintenance and telecommunication companies did not often use scaffolding and the associated safety measures. The only sector that did not use portable ladders as commonly as the others was the steeplejack industry, because they work above the height that portable ladders will reach. Mobile Elevating Work Platforms (MEWPS) were also commonly used across all sectors and stepladders were most commonly used in the building maintenance sector.
Table 8.6 Work activities involving work at height for each sector (frequency [f] and percentage)

<table>
<thead>
<tr>
<th>Work activity</th>
<th>Construction n=39</th>
<th>Steeplejacks n=5</th>
<th>Building maintenance n=7</th>
<th>Ship/aircraft n=6</th>
<th>Telecoms n=7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>General decorating</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roof work</td>
<td>8</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General maintenance</td>
<td></td>
<td></td>
<td>3</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Suspended ceilings</td>
<td></td>
<td></td>
<td>1</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>General building work</td>
<td>27</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External rendering</td>
<td>3</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridge repairs/construction</td>
<td>3</td>
<td>8</td>
<td>1</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Climbing towers/masts</td>
<td></td>
<td></td>
<td>5</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>Installing aerials/dishes/cabling</td>
<td></td>
<td></td>
<td>3</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Repairing train tunnels</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Install equipment at height</td>
<td></td>
<td></td>
<td>1</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Steel/concrete construction</td>
<td>2</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Window cleaning</td>
<td></td>
<td></td>
<td>3</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>Suspending workers above the ground - steeplejacks</td>
<td></td>
<td></td>
<td>4</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>e.g. lightening conductors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessing ships for maintenance and building</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excavations</td>
<td>3</td>
<td>8</td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

The site managers were asked what factors they considered when deciding how to prevent falls. The most commonly stated consideration was the risks involved (or the results of risk assessments). This was in the top two considerations for all sectors. All factors considered are shown in Table 8.8.

We then went on to ask the site managers about their knowledge of the current legal requirements for working at height. 40% of those interviewed understood the Regulations to include the two metre rule. The highest percentage of site managers answering “the two metre rule” were from the building maintenance sector (71%) whilst no one from the steeplejacks sector stated the “two metre rule” when asked what they thought the current legal requirements were. This is likely to be due to the fact they were always working above two metres and it therefore did not affect them.
Table 8.7 Types of equipment used for all sectors

<table>
<thead>
<tr>
<th>Fall arrest equipment</th>
<th>Percentage of respondents using equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable ladders</td>
<td>61</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>53</td>
</tr>
<tr>
<td>Work platforms</td>
<td>52</td>
</tr>
<tr>
<td>Fall arrest equipment</td>
<td>52</td>
</tr>
<tr>
<td>Edge protection</td>
<td>46</td>
</tr>
<tr>
<td>Guardrails</td>
<td>44</td>
</tr>
<tr>
<td>MEWPs</td>
<td>44</td>
</tr>
<tr>
<td>Stepladders</td>
<td>17</td>
</tr>
<tr>
<td>Tower scaffolds</td>
<td>17</td>
</tr>
<tr>
<td>Safety harnesses</td>
<td>16</td>
</tr>
<tr>
<td>Fixed ladders</td>
<td>8</td>
</tr>
<tr>
<td>Nets</td>
<td>5</td>
</tr>
<tr>
<td>Cranes</td>
<td>5</td>
</tr>
<tr>
<td>Air bags</td>
<td>3</td>
</tr>
</tbody>
</table>

The next most commonly given answer was the legal requirement to do risk assessments. This was given as an answer by 13% of the site managers. Following this, 8% believed all hazards at any height needed to be assessed and the same number of site managers did not know the legal requirements. Other answers given by single respondents were “toolbox talks”, “above 1.5 metres needs a scaffold”, “scaffolds need to be regularly checked” and “avoid work at height”.

We then asked whether they knew at what height the Regulations applied. 40% had already answered that this was two metres. An additional 24% now identified the height as two metres. 14% answered that there was no specific height, 13% did not know a specific height and the remaining 9% stated heights of between 1 m and 2.4 m (but not including two metres).
Table 8.8 Considerations when deciding how to prevent falls for all sectors

<table>
<thead>
<tr>
<th>Considerations when deciding how to prevent falls</th>
<th>Percentage of site managers mentioning factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk assessments (the risks involved)</td>
<td>38</td>
</tr>
<tr>
<td>Height working at</td>
<td>17</td>
</tr>
<tr>
<td>Level of skill of worker</td>
<td>14</td>
</tr>
<tr>
<td>The environment</td>
<td>14</td>
</tr>
<tr>
<td>The task</td>
<td>14</td>
</tr>
<tr>
<td>How to avoid work at height</td>
<td>13</td>
</tr>
<tr>
<td>Method statements</td>
<td>13</td>
</tr>
<tr>
<td>Appropriate equipment</td>
<td>13</td>
</tr>
<tr>
<td>Hierarchy of control</td>
<td>9</td>
</tr>
<tr>
<td>Location</td>
<td>6</td>
</tr>
<tr>
<td>Adequate means of access</td>
<td>6</td>
</tr>
<tr>
<td>What surface will be working on</td>
<td>5</td>
</tr>
<tr>
<td>Duration of work</td>
<td>3</td>
</tr>
<tr>
<td>Put up extra protection to stop falling</td>
<td>3</td>
</tr>
<tr>
<td>Two metre rule</td>
<td>3</td>
</tr>
<tr>
<td>Make sure ladder is footed</td>
<td>3</td>
</tr>
<tr>
<td>Technique/method</td>
<td>3</td>
</tr>
<tr>
<td>Avoid ladders</td>
<td>2</td>
</tr>
<tr>
<td>Have general procedures for different situations</td>
<td>2</td>
</tr>
<tr>
<td>Evaluate the work continuously</td>
<td>2</td>
</tr>
<tr>
<td>How best to protect the person working at height</td>
<td>2</td>
</tr>
<tr>
<td>Space</td>
<td>2</td>
</tr>
<tr>
<td>People working beneath</td>
<td>2</td>
</tr>
<tr>
<td>Training</td>
<td>2</td>
</tr>
<tr>
<td>Don't know</td>
<td>2</td>
</tr>
</tbody>
</table>

To complete this question, site managers were asked (if they stated that the Regulations did apply over a certain height in the previous question) what was required to prevent falls above this height. Table 8.9 shows the responses to this question for all the industry sectors.

As can be seen from Table 8.9, handrails and toe boards were the most commonly stated requirements. This was mainly the response given by those in the construction sector. Wearing a harness was the next frequently stated requirement and 14 % did not know what was required above the certain height.
Table 8.9 Requirements for preventing falls above a certain height for all sectors

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Percentage of site managers mentioning requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handrails and toe boards</td>
<td>25</td>
</tr>
<tr>
<td>Wear a harness</td>
<td>16</td>
</tr>
<tr>
<td>Handrails</td>
<td>13</td>
</tr>
<tr>
<td>Fall arrest equipment</td>
<td>5</td>
</tr>
<tr>
<td>Safe access and egress</td>
<td>5</td>
</tr>
<tr>
<td>Use hierarchy of control</td>
<td>3</td>
</tr>
<tr>
<td>Risk assessments</td>
<td>3</td>
</tr>
<tr>
<td>Edge protection</td>
<td>2</td>
</tr>
<tr>
<td>MEWPS</td>
<td>2</td>
</tr>
<tr>
<td>Appropriate equipment</td>
<td>2</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>2</td>
</tr>
<tr>
<td>Don’t know</td>
<td>14</td>
</tr>
<tr>
<td>No information provided</td>
<td>16</td>
</tr>
</tbody>
</table>

When asked about whether they take the height employees are working at into account when identifying what precautions to take, six of the site managers stated that they used the “two metre rule”. Five of the site managers indicated that they consider the risks whatever the height (four out of these five were from the construction sector). An additional five site managers stated that they look at each situation separately and so did not only look at the height of the work but also other factors such as: the environment; the surface; the structure they were working on; the task; and pedestrians.

There appeared to be two main ways that the consideration of this work height affected the preventative measures taken and the work equipment used. Five site managers used the same approach and equipment regardless of height and seven described how different work heights require different equipment. For example, a tower scaffold would be used for lower heights and as work got higher a scissor lift would be used. They also reported that stepladders were being discouraged in favour of work platforms.

The next question targeted the site managers’ knowledge of the forthcoming Work at Height Regulations. 14% stated that they were not aware of the new Regulations. The largest percentage of site managers not aware of the new Regulations were in the building maintenance sector whilst all site managers interviewed from the shipbuilding and telecommunications sectors were aware of them.

If they indicated that they did know about the Regulations, they were asked what they thought the main changes would be. Table 8.10 below shows the responses of the site managers for all sectors.
Table 8.10 Beliefs about the main changes in the forthcoming Regulations

<table>
<thead>
<tr>
<th>Main changes in new Regulations</th>
<th>Percentage of site managers mentioning change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two metre rule removed</td>
<td>42</td>
</tr>
<tr>
<td>Aware but don't know what is in them</td>
<td>27</td>
</tr>
<tr>
<td>Restrict use of stepladder/ladder</td>
<td>11</td>
</tr>
<tr>
<td>Handrail height changing</td>
<td>9</td>
</tr>
<tr>
<td>Clarifies hierarchy of control</td>
<td>5</td>
</tr>
<tr>
<td>Across all industries rather than specific ones</td>
<td>3</td>
</tr>
<tr>
<td>Strengthening of risk assessment process</td>
<td>3</td>
</tr>
<tr>
<td>2.5 metre rule removed</td>
<td>2</td>
</tr>
<tr>
<td>Have to wear harness on scaffolding over 4 m</td>
<td>2</td>
</tr>
<tr>
<td>Design out work at height</td>
<td>2</td>
</tr>
<tr>
<td>Two metre rule changes to one metre</td>
<td>2</td>
</tr>
</tbody>
</table>

There was some variation between industry sectors in what the site managers believed to be the main changes. More than half of the site managers from the shipbuilding and telecommunications sectors were aware of the Regulations but did not know what the main changes were. All sectors had site managers who believed that the two metre rule was going to be removed and more site managers (60%) in the steeplejack sector provided this response than in other sectors.

If the site manager indicated they knew about the new Regulations, they were asked whether they thought they would affect the way their work at height activities were managed. This question was not applicable to a number of site managers due to answers to previous questions. The results are shown in Table 8.11 below. A total of 41% of site managers interviewed stated that they would not be affected by the new Regulations. 73% of these would not be affected because they believed they already complied with the requirements of the Regulations.

The sectors that were most confident they conformed were the steeplejacks, construction and shipbuilding sectors. Nearly half of the site managers in the telecommunications sector did not know whether the new Regulations would affect them as they were waiting for the Regulations to come out. The majority of site managers that said they were intending to ban ladders and stepladders worked in the building maintenance sector. One said that they would have to use MEWP's instead of stepladders. Another said that they would have to use more scaffolding.
Table 8.11 Beliefs about the effects of the main changes in the new Regulations

<table>
<thead>
<tr>
<th>Effects of new Regulations</th>
<th>Percentage site managers mentioning change</th>
</tr>
</thead>
<tbody>
<tr>
<td>None – we already conform</td>
<td>30</td>
</tr>
<tr>
<td>Don’t know – wait for them to come out</td>
<td>19</td>
</tr>
<tr>
<td>None, we will not be affected by the new Regulations</td>
<td>11</td>
</tr>
<tr>
<td>We will ban stepladders/ladders</td>
<td>9</td>
</tr>
<tr>
<td>We will have to do risk assessments for all work activities not just over two metre</td>
<td>6</td>
</tr>
<tr>
<td>We will have to use MEWPS/scaffolding instead of stepladders</td>
<td>5</td>
</tr>
<tr>
<td>Yes, it will affect us (but unsure how)</td>
<td>3</td>
</tr>
<tr>
<td>We will use additional guardrails</td>
<td>2</td>
</tr>
<tr>
<td>We will make minor adjustments to procedures</td>
<td>2</td>
</tr>
<tr>
<td>We will have to re-educate people</td>
<td>2</td>
</tr>
<tr>
<td>It will affect our costs and timescales</td>
<td>2</td>
</tr>
</tbody>
</table>

If the site manager stated that they believed the new Regulations would affect the way they managed their work at height, they were asked whether their company had started to modify their work procedures in anticipation of the Regulations. Their responses are shown in Table 8.12.

Nearly half of all site managers interviewed stated that they had not modified any of their work procedures as yet and a quarter of these had not done so because they believed they already conformed. The construction sector was the most likely to believe they already conformed. A quarter of site managers interviewed were not asked this question as they were not aware of the forthcoming Regulations and the remaining quarter had begun to modify work at height procedures to some extent. 10% of the managers in the construction sector said that they had already banned ladders and stepladders.

We then asked whether they could estimate any additional costs associated with changes required to meet the requirements of the new Regulations. Table 8.13 below shows the frequency of the estimates for each sector.

Nearly two thirds of all site managers interviewed did not know the cost implication of the new Regulations. The site managers from the construction sector were the most likely to state that they did not believe there would be any cost implication to them. This sector was also the most likely to believe that they already conformed. Only four of the 64 interviewed could provide an estimate of additional costs: three of whom estimated up to £20,000 and one of whom estimated over £100,000. The company who stated they believed the cost implication of the forthcoming Regulations would be in excess of £100,000 was from the construction sector and had 500 employees, with between 100 and 200 of these working at height.
Table 8.12 Ways in which companies have started to modify their working procedures

<table>
<thead>
<tr>
<th>Modifications to working procedures</th>
<th>Percentage of site managers mentioning change</th>
</tr>
</thead>
<tbody>
<tr>
<td>No modifications</td>
<td>36</td>
</tr>
<tr>
<td>No - already conform</td>
<td>13</td>
</tr>
<tr>
<td>Banned stepladders/ladders</td>
<td>8</td>
</tr>
<tr>
<td>Don't just look at over two metre</td>
<td>3</td>
</tr>
<tr>
<td>Reviewing procedures</td>
<td>3</td>
</tr>
<tr>
<td>Yes we have started to modify our procedures</td>
<td>2</td>
</tr>
<tr>
<td>Training on MEWPS and tower scaffolds</td>
<td>2</td>
</tr>
<tr>
<td>Bought new safety decks</td>
<td>2</td>
</tr>
<tr>
<td>Harnessing people to masts rather than de-rigging</td>
<td>2</td>
</tr>
<tr>
<td>No longer using trestles</td>
<td>2</td>
</tr>
<tr>
<td>Making people aware of them</td>
<td>2</td>
</tr>
<tr>
<td>Looking at new pieces of equipment to replace ladders</td>
<td>2</td>
</tr>
<tr>
<td>Reviewing risk assessments</td>
<td>2</td>
</tr>
<tr>
<td>Starting to inform staff about the new Regulations and changes</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 8.13 Estimate of additional costs associated with the new Regulations

<table>
<thead>
<tr>
<th>Estimated cost</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Shipbuilding &amp; aircraft</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>£0-20k</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>£21k-£50k</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>£51k-£100k</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;£100k</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not known</td>
<td>21</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

The final question we asked on the subject of the new Regulations was what they predicted the benefits would be to their organisation. We offered five potential benefits and the results are shown in Table 8.14 below.
Table 8.14 Predicted benefits of the new Regulations

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Percentage of site managers mentioning change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduction in the number of falls from height</td>
<td>28</td>
</tr>
<tr>
<td>Safer working practices for those who work at height</td>
<td>22</td>
</tr>
<tr>
<td>Increased safety culture amongst management and workers involved in work at height</td>
<td>17</td>
</tr>
<tr>
<td>Increased productivity from workers involved in work at height activities</td>
<td>9</td>
</tr>
<tr>
<td>None</td>
<td>9</td>
</tr>
<tr>
<td>Reduced insurance costs for work at height</td>
<td>5</td>
</tr>
<tr>
<td>Don't know</td>
<td>17</td>
</tr>
<tr>
<td>No information provided</td>
<td>9</td>
</tr>
</tbody>
</table>

The most commonly predicted benefit of the Regulations was a reduction in the number of falls from height. This was most commonly stated by those in the construction industry. Only 9% of site managers interviewed believed there to be no benefit whatsoever. Very few site managers believed it would reduce their insurance costs.

The penultimate question we asked site managers was concerning how they would describe the current levels of safety on their site with regard to working at height. Figure 8.3 below shows the responses to this question for each sector.

The building maintenance sector believed their sites to be “very good” more than any other sector whilst the shipbuilding sector was more likely to rate their sites as “good”. No one interviewed rated their sites lower than average.
The site managers were finally asked whether there had been any accidents on site due to working at height activities. Table 8.15 below shows the responses for each sector.

**Table 8.15** The occurrence of accidents on site due to working at height (n=64)

<table>
<thead>
<tr>
<th>Occurrence of accidents</th>
<th>Construction n=39</th>
<th>Steeplejacks n=5</th>
<th>Building maintenance n=7</th>
<th>Shipbuilding &amp; aircraft n=6</th>
<th>Telecoms n=7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>31</td>
<td>40</td>
<td>0</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>No</td>
<td>69</td>
<td>60</td>
<td>100</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 8.15 shows that only three of the five sectors reported having any accidents due to working at height. Half of all shipbuilders interviewed reported having had an accident due to working at height on site. The accidents described by those who reported them are listed below, by sector.
Construction accidents

- Man fell off 1.5 m scaffold (as it overturned) and he broke his pelvis.
- A lad was on a roof and he stood on top of a roof light whilst he was on the phone and he fell through it and broke his wrist.
- A man fell through some scaffolding at a contractor’s site and received bruising and took one day off work.
- 18 months ago someone fell off a chimney lift from about 9-10 m but he only received bruising.
- Yes but only minor ones below two metres.
- A tower crane collapsed and two people were killed. The workers were on the jib of the crane, hundreds of feet up, and the crane was being dismantled at the time.
- In the past year we had one fall by a joiner who fell down the stairwell of a two storey house.
- A man was walking on a walkway over fragile roofing and one of the handrails had a stop end taken off. He fell through the roof.
- Slip off a ladder about a year ago. He slid down two or three rungs as he was rushing to get down the ladder. He had a bruised back.
- Nine years ago a man stepped off a stepladder and twisted his ankle. About six years ago someone was up a stepladder and he overreached.
- About six years ago a painter fell as he was working unsafely. He fell through a hole in the floor and injured his ankle.

Steeplejack accidents

- Four years ago he slid down the roof and hadn’t attached the safety line. Basically he didn’t employ the systems. He was laid off for 6 weeks.
- Climbed down a fixed ladder and lost his footing at the bottom. He could have been using a portable platform but chose the ladder. He was off work for a few days.

Shipbuilding

- Over the past four years only one person has fallen off a boat. It was from a height of about two metres. He had a harness on whilst working, then he came down and took off his harness but realised he had forgotten something so went back up without the harness on and tripped on a deck fitting. He broke his ankle.
- Someone climbed onto a skip to hook himself on and then slipped off the skip and broke his ankle.
- Someone fell off a ladder and was off work for more than three days, another fell off a small hop-up (less than two metres) and fractured his elbow, and another fell off the back of a lorry.
8.3 SITE VISITS
In this section of the report, we describe the results of our visits to duty holders in the key industry sectors. We visited 13 of the managers that we conducted telephone interviews with, as detailed in section 7.2. The number of sites visited in each sector is listed below.

- Construction (4)
- Steeplejacks (2)
- Building maintenance (3)
- Aircraft maintenance (1)
- Telecommunications (3).

Our visits included three activities:

- more detailed interviews with managers
- interviews with employees involved in work at height
- observations of work at height, equipment, etc, to examine the precautions used.

We have reported each of these three elements of the visits separately in the rest of this section.

8.3.1 Interviews with duty holders

Key messages
The key findings from the site visits with 13 duty holders are summarised below.

- 62% of managers defined work at height as any work activity above two metres. There was no significant variation in this definition between the different groups of managers, except that no-one in building maintenance defined it this way.
- The majority (85%) of managers reported that their companies had no specific policies for work at height activities, however these activities were covered by general H&S policies. There was no significant difference between the different groups of managers on this issue.
- All managers reported that these policies were monitored by using a combination of site inspections and audits.
- Toolbox talks were the most common (77%) communication method reported by the managers for work at height issues.
- 92% of the managers said that risk assessments were carried out for work at height.
- The most common measure used to ensure that workers followed safe procedures when working at height was supervision.
- Worker training and assessment procedures were the main means by which managers decided whether employees were competent to work at height. There was no significant difference between the different groups of managers on this issue.
- 90% of managers reported that the height at which employees worked did not influence their decision as to whether the workers were capable of working at height.
- The managers reported that competence to work at height was largely dependent on the level of worker training and work experience, and not the height of the work.
The majority (78%) of managers reported that there was no significant variation in the training provided to those workers who worked above or below two metres. A wide range of equipment was provided for work at height, with little variation between sectors. 92% of managers were confident or very confident that their companies were fulfilling their legal obligations to ensure that work at height was carried out safely. The majority (92%) of managers were aware of the new Work at Height Regulations. 54% of managers thought that the new Regulations would have a negligible effect on their work practices (as they already had appropriate systems in place). 23% thought that the Regulations would have a positive or very positive effect. 69% of managers reported that their companies had not had any fall from height accidents.

Detailed findings
We spoke to 13 managers representing companies in the key industry sectors, as shown in Table 8.16. The distribution of interviews in each sector is also shown in Table 7.16.

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Number of interviews conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>4</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>2</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>3</td>
</tr>
<tr>
<td>Aircraft maintenance</td>
<td>1</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 8.17 shows the mean and range of the managers’ work experience in each industry sector.

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Mean (yrs)</th>
<th>Range (yrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>16.3</td>
<td>1.3 - 35</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>4</td>
<td>1 - 7</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>2.6</td>
<td>1.8 - 4</td>
</tr>
<tr>
<td>Aircraft maintenance</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>7.2</td>
<td>6 - 9</td>
</tr>
</tbody>
</table>

From Table 8.17 it was apparent that the range of the managers’ work experience within each sector was varied, with the greatest being in the construction sector and the least in the aircraft maintenance sector. The mean experience of managers was highest in the construction sector (16.3 years) and lowest in the steeplejack and aircraft maintenance sectors.
Most managers defined work at height as any work activity above two metres as shown in Table 8.18. There was no apparent variation in the definition of work at height between managers in the various sectors.

Eight of the 13 managers were aware of the definition of work at height in legislation relevant to the construction industry and defined work at height as being work activity above two metres. Four of the 13 managers defined work at height as being any work activity above ground level and one manager did not know. There was no apparent variation in the awareness of this definition of work at height between managers in different industry sectors, except that no-one in building maintenance mentioned two metres.

<table>
<thead>
<tr>
<th>Definition of work at height</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Aircraft maintenance</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anything above ground level</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Anything above two metres</td>
<td>4</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Don’t know</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The number of workers involved in work at height in the organisations represented by these managers is shown in Table 8.19. As there were only 13 visits, we have given the actual number of employees who worked at height in each company, rather than the averages and ranges. Each number therefore represents a different company.

<table>
<thead>
<tr>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Aircraft maintenance</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>28</td>
<td>9</td>
<td>175</td>
<td>30</td>
</tr>
<tr>
<td>20</td>
<td>14</td>
<td>28</td>
<td>-</td>
<td>400</td>
</tr>
<tr>
<td>90</td>
<td>-</td>
<td>500</td>
<td>-</td>
<td>3,000</td>
</tr>
<tr>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Only two of the managers reported that their companies had specific policies for work at height. However the other 11 managers reported that their companies had general health and safety policies that covered work at height activities. All of the managers reported that these policies for work at height were monitored by using a combination of site inspections and audits. The managers also reported that both management and employees had responsibility for ensuring that these policies were correctly implemented.

Issues relevant to work at height were communicated to workers in a number of ways as shown in Table 8.20. The most common means of communicating this health and safety information to workers was by toolbox talks. There were no apparent variations in the methods used to
communicate issues relevant to safe working at height between managers in the various industry sectors.

All managers reported that they had health and safety committees except in the building maintenance sector where two of the three managers reported that they did not. Managers reported that their health and safety committees were composed of management and worker representatives.

**Table 8.20** Methods used to communicate health and safety messages to workers

<table>
<thead>
<tr>
<th>Methods</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Aircraft maintenance</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toolbox talks</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Safety noticeboards</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Risk assessments &amp; method statements</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>H&amp;S training courses</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;S booklets/guidance notes</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>H&amp;S bulletins</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Induction training</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>H&amp;S meetings</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Site inspections</td>
<td>3</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Intranet</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Email</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
</tbody>
</table>

12 of the 13 managers reported that risk assessments were carried out for work at height. The remaining manager said that risk assessments were not carried out.

The managers reported a number of measures that were taken to ensure that workers followed safe practices when working at height, as shown in Table 8.21. The most common measures identified by managers were the supervision of work activities and the use of permit to work systems. No particular variation in these measures was identified between managers in the various sectors.
Table 8.21 Measures taken to ensure workers follow safe procedures for work at height

<table>
<thead>
<tr>
<th>Measures</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Aircraft maintenance</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervision</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Permits to work</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Training</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Written work guidelines /risk assessments</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Auditing</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

Managers reported that worker training and assessment procedures were the main means by which they decided whether workers were capable of working at height safely, as shown in Table 8.22. No major variation in these measures was identified between managers in the different sectors.

Table 8.22 Procedures for assessing workers ability to work at height safely

<table>
<thead>
<tr>
<th>Assessment procedures</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Aircraft maintenance</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Experience</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Competent staff</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Staff assessment</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

A small number of managers reported that the height at which employees worked did influence their decision as to whether the workers were capable working at height, however the majority of managers reported that it did not. This may be because the majority of the work at height carried out in these sectors is well above two metres. All workers therefore need to be competent to work at very high levels, so the two metre rule was irrelevant to the training provided.

Managers reported that the most important factors necessary to assess the competence of people to work at height were the level of training and work experience. No apparent variation in these factors was identified in the responses of managers in the various sectors. The majority of managers also reported that their definition of work at height did not affect how they defined whether a person was competent. There was no apparent variation between the responses of managers in the various sectors on this issue.

The managers reported that the majority of training provided to workers involved in work at height activities consisted of training courses for using fall arrest/prevention work equipment,
such as ladders, mobile elevated work platforms, scaffolds, fall arrest equipment and rope access. However toolbox talks and internal training courses on work at height issues were also provided to workers. There was no apparent variation between the responses of managers in the various sectors on this issue.

The majority of managers commented that there was no variation in the training provided to those workers who worked above or below two metres. This may be due to the fact that the vast majority of the work activities carried out in these sectors is above two metres and the training provided to workers reflects this fact.

There was some variation between responses of managers in the various sectors on the provision of rescue training, as shown in Table 8.23. In all sectors except the construction sector, the majority of managers reported that rescue training was provided to workers involved in work at height.

**Table 8.23** Provision of rescue training to workers involved in work at height activities

<table>
<thead>
<tr>
<th>Provision of rescue training</th>
<th>Number of manager responses in each various sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction</td>
</tr>
<tr>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
</tr>
</tbody>
</table>

The assessment of sample training records provided by managers revealed that almost all of these training records were identified as being average, good or excellent.

The managers reported that a range of work equipment was provided for work at height activities as shown in Table 8.24.

The majority of managers commented that their definition of work at height did not affect the type of work equipment that they chose. As previously mentioned this is probably because the majority of the work activity in these industry sectors is above two metres. However two managers said that scaffolding, guardrails and edge protection are only used for work above two metres.

All managers reported that fall arrest/prevention work equipment was inspected regularly and that inspection records were kept.
Table 8.24  Range of work equipment provided for work at height

<table>
<thead>
<tr>
<th>Work equipment</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Aircraft maintenance</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work platforms</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Edge protection</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Fall/work arrest equipment</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Ladders</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Man baskets with cranes</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Soft landing systems</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Safety nets</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

12 of the 13 managers were either confident or very confident that their companies were fulfilling their legal obligations to ensure that work at height activities were carried out safely. The reasons reported by managers for their confidence in their companies are shown in Table 8.25. The remaining manager was not very confident.

Table 8.25  Reasons for managers’ confidence in their company's ability to manage work at height

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Number of managers’ responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good management systems</td>
<td>8</td>
</tr>
<tr>
<td>Adequate training is provided</td>
<td>4</td>
</tr>
<tr>
<td>Good communication with staff on H&amp;S issues</td>
<td>2</td>
</tr>
<tr>
<td>Risk assessments are carried out</td>
<td>1</td>
</tr>
<tr>
<td>Experienced work force</td>
<td>1</td>
</tr>
</tbody>
</table>

Almost all (12) of the 13 managers were aware of the new Work at Height Regulations. One manager was not sure. The managers’ attitudes to the impact of the new Regulations are shown in Table 8.26.
Table 8.26 Attitudes of managers to the new Work at Height Regulations

<table>
<thead>
<tr>
<th>Attitudes</th>
<th>Number of managers responses in each sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction</td>
</tr>
<tr>
<td>Very positive</td>
<td>-</td>
</tr>
<tr>
<td>Positive</td>
<td>-</td>
</tr>
<tr>
<td>Negligible</td>
<td>3</td>
</tr>
<tr>
<td>Negative</td>
<td>-</td>
</tr>
<tr>
<td>Very negative</td>
<td>-</td>
</tr>
<tr>
<td>Not sure</td>
<td>-</td>
</tr>
<tr>
<td>Not aware of Regulations</td>
<td>1</td>
</tr>
</tbody>
</table>

The majority of managers thought that the new Regulations would have a negligible effect on their work practices. These managers reported that this was because their companies already had appropriate systems in place. The three managers who thought that the new Regulations would have a positive or very positive effect said that this was because the new Regulations would raise awareness and provide an extra tool to obtain funding for health and safety issues associated with work at height.

Seven of the 13 managers reported that their companies had not already changed their work practices because of the new Regulations. This was probably because as mentioned above most companies already believed that they had appropriate systems in place. Four managers reported that they had made changes to their work practices, these changes mainly related to updating work procedures and guidance. However one manager did comment that the cost of implementing the new Regulations would cost his company £100,000 at just one of their sites. The manager reported that the majority of this money would be spent on providing specialist work equipment for work at height. Two managers reported that they were not sure if work procedures were being updated.

Nine of the 13 managers reported that their companies had not had any falls from height accidents. Four managers who reported that they had had accidents stated that these accidents had been fully investigated by management. The numbers of managers who reported that they had had accidents are shown in Table 8.27.

Table 8.27 Number of falls from height accidents reported by managers

<table>
<thead>
<tr>
<th>Occurrence of accidents</th>
<th>Number of managers responses in each sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction</td>
</tr>
<tr>
<td>Yes</td>
<td>2</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
</tr>
</tbody>
</table>
8.3.2 Interviews with employees

Key messages
The key findings from the interviews with 21 employees that were held during the site visits are summarised below.

- 95% of employees reported that risk assessments had been carried out for their work at height.
- Employees reported using a range of equipment for work at height, similar to that reported by their managers.
- The most common means (95% of employees) by which employees were provided with training was through training courses.
- 62% of employees were aware of the two metre rule, although only 25% of the employees in building maintenance were. However, the comments from those that were aware of it suggested that their interpretation of it varied.
- The two metre rule affected the sectors differently with regards to what safety procedures were used. The employees in the steeplejacks, aircraft maintenance and telecommunications sectors all commented that they did follow different work procedures for work below two metres compared to work above two metres. In construction and building maintenance, 83% of employees did not follow different safety procedures above or below two metres.
- 57% of employees were unsure of the effectiveness of the two metre rule. The other 43% thought it was effective or very effective. There was no major variation between the different groups of employees.

Detailed findings
We spoke to 21 employees representing companies in some of the key industry sectors included in the Two Metre study, where a significant quantity of construction related work at height took place.

The sample consisted of five different industry sectors and the distribution of interviews between these sectors is shown in Table 8.28 below.

Table 8.28 Number of interviews conducted for each sector

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Number of interviews conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>5</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>2</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>8</td>
</tr>
<tr>
<td>Aircraft maintenance</td>
<td>2</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 8.29 shows the range and mean of employees’ work experience in each industry sector.
Table 8.29 Range and mean of work experience of the employees in each industry sector

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Mean (yrs)</th>
<th>Range (yrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>21.3</td>
<td>10-35</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>6</td>
<td>2-10</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>8.3</td>
<td>2-15</td>
</tr>
<tr>
<td>Aircraft maintenance</td>
<td>9</td>
<td>7-11</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>4</td>
<td>1-7</td>
</tr>
</tbody>
</table>

From Table 8.29, it was apparent that the range of employees’ work experience within each sector was varied, with the largest being in the construction sector and the lowest being in the aircraft maintenance sector. The mean experience of employees was highest in the construction sector (21.3 years) and lowest in the telecommunications sector (4 years).

There was no significant variation between the various industry sectors in the amount of work at height activity carried out by employees, as shown in Table 8.30.

20 of the 21 employees interviewed during the site visits said that risk assessments were completed for their work at height activities.

Table 8.30 Percentage of employees work activity involving work at height

<table>
<thead>
<tr>
<th>Percentage of work activities involving work at height</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Aircraft maintenance</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 20%</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>21-40%</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>41-60%</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>61-80%</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>81-100%</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

The employees identified a range of work at height equipment that they had used, as shown in Table 8.31. This shows that the widest range of fall arrest/prevention work equipment was used in the steeplejacks, construction and building maintenance sectors. This probably reflects the wide range of work at height activities carried out within these sectors. In the aircraft maintenance and telecommunications sectors, the main equipment consisted of work platforms, fall arrest equipment and ladders.
Table 8.31  Fall arrest/prevention equipment used by employees

<table>
<thead>
<tr>
<th>Fall arrest/prevention equipment</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Aircraft maintenance</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work platforms</td>
<td>3</td>
<td>2</td>
<td>7</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Scaffolding</td>
<td>5</td>
<td>2</td>
<td>6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Edge protection</td>
<td>4</td>
<td>2</td>
<td>8</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fall arrest equipment</td>
<td>3</td>
<td>2</td>
<td>8</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Guardrails</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ladders (step-ladders &amp; portable ladders)</td>
<td>4</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

The employees reported that they were provided with a range of training, information and guidance on work at height as shown in Table 8.32. This shows that the main means by which employees were provided with training on work at height issues was through training courses. There were no apparent differences between the various sectors.

Table 8.32  Training, guidance and information provided for employees on work at height issues

<table>
<thead>
<tr>
<th>Training provided to employees on work at height activities</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Aircraft maintenance</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training course</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Toolbox talks</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>General communication</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Health and safety bulletins</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

The majority of employees interviewed were aware of the two metre rule for work at height activities as shown in Table 8.33. However, only two of the eight building maintenance sector employees interviewed were aware of it.

Table 8.33  Employee awareness of the two metre rule for work at height

<table>
<thead>
<tr>
<th>Responses</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Aircraft maintenance</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, aware</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Not aware</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Not sure</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No comment</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
The comments of those employees who stated that they were aware of the two metre rule are listed below by sector.

**Construction**
- Yes, I think it is about 1.5m.
- Yes, more or less, I know the law has recently changed.
- Yes, the Health and Safety at Work.

**Steeplejacks**
- Yes, work up to two metres without any protection.
- Yes, but it's now changed. Anything over two metres needs protection, safety lines, safety harness if required.

**Building maintenance**
- Yes, anything above two metres must have a working platform e.g. handrails and edge protection.
- Yes, specific rules for equipment.

**Aircraft maintenance**
- Yes, aware of two metre rule.
- Yes, above two metres safety harnesses must be used.

**Telecommunications**
- Yes, from training courses & bulletins, if you are any higher you need fall arrest system.
- Yes as far as I am aware there is no two metre rule, you attach as you start climbing.
- Yes, work up to two metres.
- Yes, over two metres next level of health and safety.

Apart from employees in the building maintenance and steeplejacks sector, most employees commented that they were provided with information on the two metre rule through the training courses that they undertook on work at height as shown in Table 8.34.

**Table 8.34** References to the two metre rule during training courses for work at height

<table>
<thead>
<tr>
<th>Responses</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Aircraft maintenance</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>4</td>
<td>-</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>No</td>
<td>-</td>
<td>1</td>
<td>3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Not sure</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>No comment</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Employees were asked whether they followed different safety procedures for work below and above two metres. Their answers are shown in Table 8.35. There appeared to be some variation
between the industry sectors. In the steeplejacks, aircraft maintenance and telecommunications sectors, all employees commented that they did follow different work procedures for work below two metres compared to work above two metres. However in the construction and building maintenance sectors, a significant number of employees commented that they did not follow different work procedures for work below and above two metres. This result was slightly surprising because these industry sectors probably have the widest range of work at height activities, so different safety measures might be expected for different work heights. The result may therefore be due to the small sample size of employees interviewed.

Table 8.35  Are there different safety procedures for work below and above two metres

<table>
<thead>
<tr>
<th>Responses</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Aircraft maintenance</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>-</td>
<td>7</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No comment</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The comments of those workers who stated that they used different work procedures for work below two metres compared to work above two metres are included below, by sector.

**Construction**
- Above two metres, use work platforms and handrails.

**Steeplejacks**
- Above two metres, harnesses, guardrails and safety lines must be used for work activities
- Above two metres, harnesses, edge protection and scaffolding is required for work activities. Below two metres, stepladders now not allowed to be used.

**Building maintenance**
- Use different equipment, e.g. mobile elevated work platforms and fall arrest/harness systems for work above two metres.

**Aircraft maintenance**
- Above two metres, fall arrest systems are used.
- Fall arrest systems are used above two metres.

**Telecommunications**
- Dependent on risk assessment, however above two metres use fall arrest equipment. Below two metres, fall arrest is not used.
- Above two metres, fall arrest system is used. Below two metres, fall arrest system is not used. Below two metres, stepladders are used to gain access to height.
- Below two metres, ladders are used. Above two metres, fall arrest equipment and triple extension ladder are used.
- Below two metres, a ladder mate is used. Above two metres, fall arrest equipment is used.
Employees commented on the effectiveness of the two metre rule as shown in Table 8.36. Nine of the 21 (43%) of the employees thought that the two metre rule was either effective or very effective and 12 of the 21 (57%) employees were unsure. There was no apparent variation on this trend between the various industry sectors.

**Table 8.36  Employees’ assessment of the two metre rule**

<table>
<thead>
<tr>
<th>Responses</th>
<th>Construction</th>
<th>Steeplejacks</th>
<th>Building maintenance</th>
<th>Aircraft maintenance</th>
<th>Telecoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very effective</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Effective</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Not sure</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Some of the general comments given by employees on why they considered the two metre rule to be effective/very effective or were not sure are given below.

**Effective or very effective**
- The two metre rule made duty holders aware of what control measures they should have in place.
- Gets rid of people working off ladders and other structures. Minimises the danger of work at height.
- Never fallen or had a near miss.

**Not sure**
- Never seen a fall from height, therefore difficult to say.
- Not noticed any difference.
- Only aware of one accident involving falls from height.

### 8.3.3 Observations of work at height

**Key messages**
The key findings from our observations made during 13 site visits are summarised below.

- In the construction, steeplejacks, aircraft maintenance and telecommunications sectors, most of the work at height carried out was over two metres.
- In the building maintenance sector, work at height was carried out both below and above two metres.
- Most of the work at height carried out in the construction, steeplejack, aircraft and telecommunications sectors appeared to comply with the two metre rule, although some unsafe practices were seen or reported (except in the telecommunications sector).
- In the construction sector, although different equipment was used for work below two metres to that used for above, similar levels of protection were provided for all work at height.
• The aircraft maintenance company were aware that they operated some unsafe practices and needed to improve, including purchasing specific work equipment. They expected the new Regulations to assist them in making improvements.
• The documentation seen in all sectors made little or no reference to the two metre rule.
• The two metre rule appeared to have little or no impact in the construction, steeplejack, aircraft maintenance and telecommunications sectors.
• In the building maintenance sector, different equipment was used for work below (e.g. trestles and stepladders) to above (mobile work platforms and safety nets). However, practical considerations appeared to be more important than the two metre rule.

**Detailed findings**

In the following section, we present our general observations of work at height made during 13 site visits to organisations in each of the key industry sectors listed in Table 8.37 as part of the Two Metre study. The table also shows the number of visits made in each sector.

<table>
<thead>
<tr>
<th>Sector</th>
<th>No of visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>4</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>2</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>3</td>
</tr>
<tr>
<td>Aircraft maintenance</td>
<td>1</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>3</td>
</tr>
</tbody>
</table>

**Construction**

We visited four construction sites where work at height was being carried out. Three companies were involved in major refurbishments of buildings, which included a warehouse, university and a school. The other company was constructing new residential properties. All four companies were involved in a wide range of work at height, the majority of which was over two metres. Figure 8.4 shows an example of the work at one site.
Many different types of equipment were used for work at height, including scaffolding, cranes, edge protection, mobile elevating work platforms (MEWPs), temporary work platforms, ladders, safety netting, etc. Figure 8.5 shows how temporary edge protection had been fitted to a mezzanine floor by one company to prevent falls while they were working on it. It also shows a scissor lift. Some unsuitable equipment was seen, as shown in Figure 8.6.
At the same site where the platform shown in Figure 8.6 was in use, we also observed the poor working practice of an access gate in the scaffolding near the top of a high building being left open when it was not in use, which meant that there was an unprotected edge.

Sample risk assessments of work at height, policy statements and training records were provided by all of the companies. An assessment of these documents revealed that the majority made no specific reference to any height at which different control measures should be implemented. Although different equipment was used for work at different heights (e.g. at some sites, small mobile towers were being used for work below two metres, while scaffolding, MEWPs and other equipment was used for work above two metres), similar levels of protection were provided below two metres to above two metres. This suggests that the two metre rule had little effect. Although, at a majority of the sites, the use of stepladders was discouraged, this was apparently due to their accident history rather than legal requirements. However, some managers commented that stepladders were still used in situations where they provided the only suitable means of access.

Overall, the companies appeared to be complying with the two metre rule, although it appeared to have little or no impact on their working practices.

**Steeplejacks**

We made site visits to two steeplejack companies. At these companies, a range of work at height was carried out that included repair, maintenance, erection and demolition of structures and installing lightning conductors. A range of work equipment was used including work platforms, fall arrest equipment, scaffolding and ladders. Some of the equipment used for installing lighting conductors is shown in Figure 8.7.
Figure 8.7 Ladder and edge protection used for installing lightning conductor

Sample risk assessments of work at height activities, policy statements and training records were provided by the companies. An assessment of these documents revealed that although these documents complied with the legal requirements, none of these documents made any specific reference to any height at which different control measures for work at height should be implemented.

Most activities were above two metres and therefore observing whether different precautions were used above and below two metres was not possible. We did observe that employees were complying with health and safety legislation (including the two metre rule) and company policy by implementing the documented safe systems of work. However, following discussions with employees, we were told that not all employees used work equipment safely e.g. some did not attach safety harnesses to structures properly.

Building maintenance

We visited three building maintenance companies where a range of work at height was being carried out. This included changing lights, servicing air conditioning units, repairing leaks, rendering external walls, painting, etc. One company was responsible for the mechanical and electrical maintenance of a multi-storey office block. They mostly used stepladders for routine maintenance work, plus fixed ladders and occasionally MEWPs. We observed them changing lights, which involved the worker standing on the top of the stepladder, as shown in Figure 8.8.

The company which was rendering the external walls of a block of flats was using scaffolding for most access, and also using stepladders on the scaffolding when necessary.

Sample risk assessments of work at height activities, policy statements and training records were provided by the companies. An assessment of these documents revealed that they appeared to be legally compliant however the majority to them made no specific reverence to any height at which different control measures for work at should be implemented. However managers commented that different controls measures were used for work at heights above and below two metres. For example, below two metres, trestles and stepladders were used. Above
two metres, scaffolds, mobile work platforms and safety nets were used. As we found in construction, practical considerations appeared to be more important than the two metre rule.

Figure 8.8  Stepladder being used for changing lights

**Aircraft maintenance**

We made one site visit to an aircraft maintenance company. The main work at height carried out at the company involved maintenance of wings and cleaning of parts of aircraft. A wide range of work equipment was provided for work at height including mobile steps, stepladders, work platforms and fall arrest equipment. An example of the work equipment provided is shown in Figure 8.9.

Sample risk assessments of work at height, a policy statement and training records were provided. None of the documents assessed referred to any specific height at which different control measures were required although this may be due to the fact that the vast majority of the work at height was above two metres.

Both management and employees were keen to ensure that adequate health and safety standards for work at height activities were maintained which in general was observed to be the case.

The company was aware that they still had to improve their procedures and were in the process of issuing new documents. This resulted in some working at height activities not complying with health and safety legislation. For instance, some maintenance activities on the aircraft required specific work equipment and the absence of this meant that they were currently not providing high enough levels of protection against falls. It was felt that the introduction of the new Regulations would provide good leverage to secure resources to purchase suitable work equipment including a new type of ladder with an enclosed cage specifically designed for aircraft maintenance. This would satisfy the requirements of the new Regulations as well as addressing their operational risks.
We made site visits to three telecommunications companies. The range of work at height activities that were carried out at these companies included installation of satellite dishes, cable telecommunications equipment and the installation and maintenance of mobile phone towers. The range of fall prevention equipment used by these companies included fall arrest equipment, work platforms and ladders. An example of the work involved is shown in Figure 8.10, which shows an engineer climbing a mast using fall arrest equipment.

Sample risk assessments of work at height activities, policy statements and training records were provided by the companies. An assessment of these documents revealed that one of the companies made a specific reference to working above two metres which required the climbers to be attached the structure at all times. It was clear that employees were aware of this procedure and we observed it being implemented during the climbing of a tower mast. However, almost all their work with masts would be above two metres. The other two companies had no specific documents referring to work at a specific height.

All three companies conducted risk assessments prior to any work at any height. All employees working at height received risk assessment training in all three companies visited. During the visits, they also explained and demonstrated their dynamic risk assessments that were required before any job could start.
Figure 8.10  Engineer climbing phone mast
9 RESULTS – STAGE 2 TWO METRE STUDY

9.1 HSE INSPECTORS

Key messages
The key findings from the telephone interviews with 5 HSE inspectors working in the construction sector are summarised below.

- Four out of five inspectors reported that less than 50% of duty holders were aware that the two metre rule had been removed.
- The inspectors’ confidence in how well duty holders understood what the removal of the two metre rule means in practice was varied, but generally they were not confident.
- Four out of five inspectors had not seen any changes in the way work at height had been managed since the two metre rule had been removed. This suggests that the removal of the rule may not have had much impact, possibly because few changes were required as companies were already complying with the Regulations (but see next point), although it is more likely to be because duty holders do not understand what the removal of the two metre rule means in practice (a view supported by trade union safety representatives).
- All 5 inspectors reported that duty holders still used different controls to prevent falls above and below two metres, as they had observed before the two metre rule was removed and as was found in Stage 1. Most reported that many duty holders still did not use any controls for work below two metres in height.
- None of the inspectors had identified any specific benefits to duty holders from the removal of the two metre rule, although they all agreed that there were general benefits (e.g. the Regulations focused on risk, not a specific height).
- Only 1 inspector reported that the removal of the two metre rule had caused problems for some companies, because of potentially confusing advice from the HSE. However, the general findings from the inspectors supports the findings in the first stage where some of the inspectors felt that removing the rule would cause confusion to companies.
- The inspectors and many of the managers reported that the lack of guidance or an ACOP on the WAH Regulations make it difficult for some duty holders to comply. This may at least partly explain why many managers did not adequately understand the implications of the removal of the two metre rule and their over-confidence that they were complying with the Regulations.

Detailed findings
We interviewed 5 HSE inspectors as part of this study, all of whom worked in the construction sector.

The range of work experience of the HSE inspectors in their current work sectors ranged from 2 to 26 years, with the average being 10.5 years.

All HSE inspectors had extensive experience in dealing with the risks from working at height, with the average being 12.6 years.

The average time spent by HSE inspectors dealing with work at height issues ranged from 10% to 40% of a typical inspection workday. Three inspectors reported that the time spent on work at height issues had increased since the introduction of the Work at Height Regulations, and two inspectors reported no change.
All HSE inspectors were aware of the two metre rule and knew that it had been removed and was not included in the Work at Height Regulations.

Inspectors were asked how confident they were that duty holders were aware of the removal of the two metre rule (i.e. did they know that the two metre rule had been removed?). Their responses ranged from “most are not aware” to “65% are aware that it has been removed”. However, 4 of the 5 inspectors (80%) interviewed reported that less than 50% of duty holders were aware that the two metre rule had been removed.

Inspectors were also asked how confident they were that duty holders understood what the absence of the two metre rule means in practice when working at height, and the responses to this question were also varied, with 3 inspectors reporting that they were not confident that managers understood and 2 reporting that some, particularly larger companies, were aware but that others were not. Comments included:

“Some do but others don’t as you still see people using different controls above and below two metres”;

“I am not very confident. Many duty holders are not aware of how serious low falls can be. They can understand the sense of removing the rule but what this actually means in practice causes them confusion”;

“I’m not confident. You still see duty see holders that have the attitude that working below two metres at, for example, open edges is OK”.

Only 1 inspector (20%) reported that they had seen any changes in the way that duty holders manage work at height in the last year as a result of the removal of the two metre rule in the Work at Height Regulations. This inspector reported that some companies now consider low falls and have implemented control measures for work conducted below two metres. The remaining 4 inspectors had not seen any changes in the way work at height is managed. This suggests that the removal of the two metre rule may not have had much of an impact on duty holders, as changes may not have been required (i.e. companies previously managing work at height effectively using a risk-based approach). However, this is unlikely given that 63% of trade union safety representatives reported that their company could do more to make work at height safer. It would appear therefore that duty holders have not made any changes to the way work at height is managed because they do not understand what the removal of the two metre rule means in practice, which supports the opinion of inspectors.

All 5 inspectors reported that, from experience, duty holders used different controls to prevent falls above and below two metres before the Work at Height Regulations came into effect. Four of the inspectors reported that typically no controls were used for work conducted below two metres. However, most reported that they did observe controls being implemented for work above two metres.

Despite the removal of the two metre rule in the Regulations, all 5 inspectors reported that duty holders still use different controls to prevent falls above and below two metres, with most (4) reporting that many duty holders still do not use any controls for work less than two metres in height. Comments included:

“Most companies still think that working at a height of less than two metres is OK and that no control measures have to be provided or used”; and
“It’s my experience that duty holders still use different control measures – usually none if work is below two metres”.

None of the 5 inspectors interviewed reported that the removal of the two metre rule brought any specific benefits to duty holders. However, in Stage 1 of the study, two inspectors (29%) reported that removing the two metre rule would have a positive effect as duty holders would now use a risk-based approach. It would appear therefore that removing the two metre rule may not have had as much of an impact as predicted, although the Regulations have only been in force for about 1 year.

However, all inspectors agreed that there were general benefits of the Work at Height Regulations, commenting that

“The Regulations have taken away any height reference and focussed on risk, rather than a simple number”.

Only 1 inspector reported that the removal of the two metre rule by the Work at Height Regulations had caused problems for some companies, commenting that:

“Before the Work at Height Regulations came out, the HSE stated ‘if you already comply then the removal of the two metre rule will make no difference’. Companies have taken this advice at face value and are confused when inspectors tell then they have to consider all work at height even if it is less than two metres. The advice coming from HSE and the Work at Height Regulations is inconsistent and causes confusion”.

It would appear that a small number of duty holders may have been misinformed or wrongly advised about the two metre rule. Confusion was an issue identified during Stage 1 of the study, where 2 inspectors reported that removing the two metre rule would cause confusion to companies, particularly as “the guidance has not yet been produced”. Many inspectors and managers commented that the lack of guidance or an approved code of practice for the Work at Height Regulations makes it very difficult for some duty holders to comply. This may in part explain why many managers did not understand the implications of the removal of the two metre rule nor did they have an adequate understanding of the main requirements of the Work at Height Regulations, and their resulting over-confidence that they were complying with the Regulations.

Given the uncertainty of a number of duty holders, as to what the removal of the two metre rule means in practice, it would appear that detailed, practical guidance is required.

9.2 TELEPHONE INTERVIEWS WITH DUTY HOLDERS

Key messages

The key findings from the telephone interviews with 78 duty holders are summarised below.

- The majority (73 = 94%) of managers were aware of the two metre rule.
- Of the 73 managers that were aware of the two metre rule, 67 (92%) knew that it had been removed and was not included in the Work at Height Regulations.
- More than half of the 67 managers who were aware of the removal of the two metre rule (38 = 57%) reported that its removal had a positive impact in practice (mainly in the construction and steeplejack sectors), commenting that it has helped make work at height safer.
• 19 managers (28%) reported that the removal of the two metre rule had had no effect in practice, most noticeably in the steeplejack and telecommunications sector, as most of their work was conducted at a height significantly greater than two metres.

• Ten managers (15%) reported that the removal of the two metre rule had had a negative effect (mainly in the shipbuilding and aircraft maintenance sector) as it had resulted in increased costs, both financial (for new equipment) and management time (for planning and conducting risk assessments for activities carried out below two metres).

• Only 51% of managers reported that they had made any changes to the way work at height is managed in the last year, despite 82% reporting that the removal of the two metre rule had practical implications.

• 28 managers (42%) reported that they used different controls to prevent falls above and below two metres before the Work at Height Regulations came into effect, most noticeably in the shipbuilding and aircraft maintenance and building maintenance sectors, probably because there is a higher proportion of work conducted below two metres in these sectors.

• 13 managers (19%) reported that they still used different controls to prevent falls above and below two metres, based on risk assessments of work at height. Of these, 11 managers reported that more stringent controls were used for work above two metres. The remaining 2 managers commented that no controls were used for work below two metres.

• 19 managers (28%) reported that the removal of the two metre rule had brought any benefits, including an increase in awareness of the risks of low falls (i.e. below two metres), a reduction in the number of accidents below two metres and a reduction in the number of unsafe practices.

• 28 managers reported that the removal of the two metre rule had resulted in costs to their company, both in terms of financial and resources costs for purchasing new equipment and implementing additional control measures.

• A larger percentage of managers in the construction, steeplejack and shipbuilding and aircraft maintenance sectors than in the other two sectors reported that their company had incurred costs. This is not surprising given that managers in these sectors also reported the highest percentage of changes to the way that work at height is managed in the last year.

**Detailed findings**

We interviewed 78 managers representing companies in the key industry sectors, where a significant quantity of construction related work at height activity took place. All of the managers contacted for this part of the study were also interviewed for Stage 2 of the main part of the project to evaluate the impact of the Work at Height Regulations. Only responses to questions relating to the two metre rule are presented and discussed in this section.

The sample consisted of five different sectors. These sectors were chosen because they carry out work at height that was included in the definition of construction work in the Construction (Health, Safety and Welfare) Regulations 1996 and were therefore required to comply with the two metre rule. The distribution of interviews between these sectors was as follows:

- Construction (29)
- Steeplejacks (14)
- Building maintenance (12)
- Shipbuilding and aircraft maintenance (14)
- Telecommunications (9).
The range of work experience of the managers interviewed in each industry sector is shown in Table 9.1.

**Table 9.1** Range and mean of management experience in each industry sector

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Range (years)</th>
<th>Mean (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>1.5 - 14</td>
<td>5.9</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>1 - 40</td>
<td>14.1</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>0.5 - 25</td>
<td>5.8</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft maintenance</td>
<td>1 - 34</td>
<td>6.1</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>0.75 - 20</td>
<td>9.2</td>
</tr>
</tbody>
</table>

As can be seen, the mean management experience was highest in the steeplejacks sector (14.1 years) and lowest in the building maintenance sector (5.8 years). The range of management experience in the different sectors was varied with the largest being in the steeplejack sector (1 to 40 years) and the smallest being in the construction sector (1.5 to 14 years).

The number of sites owned by the companies of the managers that we interviewed varied between sectors, as shown in Table 9.2.

**Table 9.2** Range and mean of the number of sites occupied in each sector

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Range</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>3 - 1200</td>
<td>153</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>1 - 40</td>
<td>16</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>1 - 140</td>
<td>20</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft maintenance</td>
<td>1 - 10</td>
<td>3</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>1 - 30000</td>
<td>5480</td>
</tr>
</tbody>
</table>

The telecommunications sector had the largest range and mean number of sites, compared with the shipbuilding and aircraft maintenance sector that had the lowest.

The number of employees employed by the managers’ companies is presented in Table 9.3.

**Table 9.3** Range and mean number of employees in each sector

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Range</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>12 - 20000</td>
<td>2040</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>7 - 200</td>
<td>54</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>6 - 1500</td>
<td>77</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft maintenance</td>
<td>14 - 6000</td>
<td>1509</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>3 - 11000</td>
<td>2005</td>
</tr>
</tbody>
</table>
The construction sector had the largest mean number of employees (2040). The steeplejack sector had the smallest mean number of employees (54).

The majority (73 = 94%) of managers were aware of the two metre rule, with the exception of 2 managers in the building maintenance sector, 2 managers in the telecommunications sector and 1 in the steeplejack sector.

Of those 73 managers that were aware of the two metre rule, 67 (92%) knew that it had been removed and was not included in the Work at Height Regulations. The 6 managers that were not aware were from the construction (3 managers), building maintenance (1 manager), shipbuilding and aircraft maintenance (1 manager) and telecommunications (1 manager) sectors.

The HSE inspectors that were interviewed as part of the study reported that less than 50% of duty holders were aware that the two metre rule had been removed. However, as can be seen, a higher number of managers are actually aware (92% compared with 50%). This suggests that Inspectors may have underestimated the managers’ awareness of the two metre rule.

The 67 managers that were aware that the two metre rule had been removed were asked a series of further questions, as detailed below.

67 managers were asked what they thought the absence of the two metre rule means in practice when working at height. All 67 managers provided a response to this question, which suggests that they understood what the absence of the two metres rule means in practical terms. However, their responses were varied, as shown in Table 9.4.

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>No effect</th>
<th>Positive impact</th>
<th>Negative impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>3</td>
<td>22</td>
<td>1</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>5</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft maintenance</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>5</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
<td><strong>38</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

As can be seen, more than half of the 67 managers who were aware of the removal of the two metre rule (38 = 57%) reported that its removal had a positive impact in practice. The majority of managers in the construction and steeplejack sectors reported a positive impact, commenting that it has helped make work at height safer. Comments included:

“It keeps it simple. If work at height needs to be done then measures need to be put into place”; and

“It’s good as people look more carefully below two metres now, so risks are more thoroughly assessed”; and
“Work at height is safer now as we look at risks for below two metres. We’re obliged to look at things below two metres.”

Nineteen managers (28%) reported that the removal of the two metre rule had had no effect in practice, most noticeably in the steeplejack and telecommunications sector, many of whom commented that most of their work was conducted at a height significantly greater then two metres. Comments included:

"It means nothing to us as our work is always much higher”.

In Stage 1 of the study, 41% of managers interviewed reported that they would not be affected by the new Work at Height Regulations, as many believed they already complied with the requirements of the Regulations. As only 19% of managers in Stage 2 (i.e. following the removal of the two metre rule) reported no change, it would seem than a number of managers may have underestimated the impact of the Regulations, particularly the removal of the two metre rule.

Ten managers (15%) reported that the removal of the two metre rule in practice had had a negative effect as it had resulted in increased costs, in terms of both financial (for new equipment) and management time (for planning and conducting risk assessments for activities carried out below two metres). Comments included:

“It was a convenient cut off point to make things black and white”; and

“It means that we now have to do assessments for silly heights”.

A higher number of managers in the shipbuilding and aircraft maintenance sector reported a negative impact, more than managers in any other sector. Comments included:

“We have practical difficulties when we are working under aircraft (below two metres). We used to have a flat platform with no handrail because the rail damages the plane on the outside and it stops them doing the job, but now we need guardrails, it’s not practical”; and

“It’s nonsense. Under two metres we attempt to guard but it is not always practical”.

It would appear that some managers do not understand the requirement of the Regulations to take measures to prevent falls so far as is reasonably practicable, as these comments suggest that some managers think the requirement is absolute.

It was reported by a number of managers in the shipbuilding and aircraft maintenance sectors that the HSE have recognised that there is a problem with accessing undercarriages of aircrafts across the industry and that work needs to be done to improve access.

Around half of the 67 managers who were aware that the two metre rule had been removed (34 = 51%) reported that they had made changes to the way that work at height is managed in the last year as a result as shown in Table 9.5.
Table 9.5 Managers reporting changes in the management of work at height

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Number reporting changes</th>
<th>% reporting changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>15</td>
<td>58</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>5</td>
<td>38</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>4</td>
<td>44</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft maintenance</td>
<td>8</td>
<td>62</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>2</td>
<td>33</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
<td><strong>51</strong></td>
</tr>
</tbody>
</table>

The highest percentage of managers reporting changes worked in the shipbuilding and aircraft maintenance sector (62%). A large number of managers (58%) in the construction sector also reported that they had made changes as a result of the removal of the two metre rule. Common changes included revising or conducting new risk assessments for work below two metres, providing new equipment or additional control measures, providing information and training, and updating or revising policies, procedures and safe systems of work for activities conducted below two metres.

The sector in which managers reported the lowest number of changes was the telecommunications sector. This is hardly surprising given that most managers in this sector reported that the removal of the two metre rule had no effect on the way work at height is managed.

Despite 82% of managers reporting that the removal of the two metre rule had practical implications (i.e. those reporting that the absence of the two metre rule had either positive or a negative impact), only 51% of managers reported that they had actually made any changes to the way work at height is managed in the last year. One explanation for this could be that many managers were already complying with the Work at Height Regulations prior to their introduction, as a result of the Work at Height Directive or other health and safety regulations. However, another possible explanation is that managers have not made any changes because they do not fully understand what the removal of the two metre rule means in practice. This explanation is more likely given that many inspectors were not confident that managers understood what the removal of the two metre rule means in practice.

Managers were asked if they used different controls to prevent falls above and below two metres before the Work at Height Regulations came into effect, and their responses are summarised in Table 9.6.
Table 9.6 Managers reporting different control measures for work activities above and below two metres prior to the removal of the two metre rule

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Number reporting different controls</th>
<th>% reporting different controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>9</td>
<td>35</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>4</td>
<td>44</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft maintenance</td>
<td>8</td>
<td>62</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>6</td>
<td>33</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
<td><strong>42</strong></td>
</tr>
</tbody>
</table>

28 managers (42%) reported that they used different controls to prevent falls above and below two metres before the Work at Height Regulations came into effect, most noticeably in the shipbuilding and aircraft maintenance (62% of managers) and building maintenance (44% of managers) sectors. This is likely to be due to the fact that there is a higher proportion of work conducted below two metres in these sectors, as reported by managers during our site visits. Common differences reported by managers included permits to work, risk assessments and edge protection for activities conducted at a height greater than two metres, and no controls for work below two metres. Inspectors also commented that no controls were used for work conducted below two metres but that they did observe controls being implemented for work above two metres, which concurs with the response from the managers.

Despite the removal of the two metre rule by the Regulations, 13 managers (19%) reported that they still use different controls to prevent falls above and below two metres. Their responses, according to industry sector, are summarised in Table 9.7.

Table 9.7 Managers reporting different control measures for work activities above and below two metres following the removal of the two metre rule

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Number reporting different controls</th>
<th>% reporting different controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft maintenance</td>
<td>6</td>
<td>46</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

A higher percentage of managers in the shipbuilding and aircraft maintenance sector than in any other sector reported that different control measures are still used for work at height above and
below two metres, despite the removal of the two metre rule. Managers in the telecommunications sector were the only ones to report that there were no differences and that all controls were based on the level of risk.

Whilst 13 managers reported that different control measures were still used for work at height activities above and below two metres, despite the removal of the two metre rule, only 2 of these managers commented that no controls were used for work below two metres. The remaining 11 managers reported that controls were used for all work at height activities but that these control measures were “more stringent for work at height above two metres”.

Only 19 of the managers interviewed (28%) reported that the removal of the two metre rule had brought any benefits, as shown in Table 9.8

### Table 9.8 Managers reporting benefits following the removal of the two metre rule

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Number reporting benefits</th>
<th>% reporting benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>4</td>
<td>31</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>3</td>
<td>33</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft maintenance</td>
<td>4</td>
<td>31</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19</strong></td>
<td><strong>28</strong></td>
</tr>
</tbody>
</table>

A number of managers in all of the sectors reported that the removal of the two metre rule had brought benefits, including an increase in awareness of the risks of low falls (i.e. below two metres), a reduction in the number of accidents below two metres and a reduction in the number of unsafe practices as work at height below two metres was more effectively managed.

However, 48 (72%) of managers reported that there were no benefits.

In comparison, 100% of inspectors interviewed reported that there were no benefits to managers resulting from the removal of the two metre rule. The lack or low number of managers and inspectors reporting benefits may be due to a number of reasons. Inspectors and many managers, because of their health and safety training, may appreciate the importance of a risk-based approach rather than a height-based approach and therefore believe that removing the two metre rule has no real impact, as managers are required to assess risk, regardless of the height work is conducted at, under other health and safety legislation. Alternatively, it may be associated with a lack of knowledge, if managers do not fully understand the practical implications of the absence of the two metre rule how can they appreciate any benefits? Benefits may also be more apparent in the long-term and not noticeable only after one year (following the introduction of the Work at Height Regulations and the removal of the two metre rule).

28 of the managers interviewed reported that the removal of the two metre rule had resulted in costs to their company, as shown in Table 9.9.
Table 9.9 Managers reporting costs/problems following the removal of the two metre rule

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Number reporting costs or problems</th>
<th>% reporting costs or problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>10</td>
<td>38</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>5</td>
<td>38</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>3</td>
<td>33</td>
</tr>
<tr>
<td>Shipbuilding &amp; aircraft maintenance</td>
<td>8</td>
<td>57</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>2</td>
<td>33</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28</strong></td>
<td><strong>42</strong></td>
</tr>
</tbody>
</table>

A larger percentage of managers in the construction, steeplejack and shipbuilding and aircraft maintenance sectors than in the other two sectors, reported that their company had incurred costs or problems as a result of the removal of the two metre rule, both in terms of financial and resources costs for purchasing new equipment and implementing additional control measures. It is not surprising that a higher percentage of managers in these two sectors reported increased costs, given that managers in these sectors also reported the highest percentage of changes to the way that work at height is managed in the last year.

A number of managers commented that many people believed that ladders have been banned for work over two metres, commenting that:

“A number of sites are banning ladders, one of our staff was asked to leave a site because he was using a ladder”; and

“There are ridiculous misunderstandings in the industry. It’s a lack of education and misunderstanding of the Regulations by people in the industry”.

Ladder use and guidance to assist with understanding the Regulations were issues that were also raised by inspectors and trade union safety representatives, and are not specific to the removal of the two metre rule. However, it would appear that clarification and guidance on what the removal of the two metre rule means in practice is required.

9.3 SITE VISITS WITH DUTY HOLDERS

In this section of the report, we describe the results of our visits to duty holders and employees in the key industry sectors. The information included in this section is based mainly on the observations made during the visits and interviews with employees.

The five sectors involved in the two metre study are listed below together with the number of visits we made in each sector.

- Construction (4)
- Steeplejacks (4)
- Building maintenance (4)
Our visits included the following activities:

- interviews with employees involved in work at height
- observations of work at height, equipment etc, to examine the precautions used.

We have reported these two elements of the visits separately in the rest of this section.

All of the information relating to the two metre rule that we gathered from managers during the site visits has been included in section 9.2, as we asked the same questions as during the telephone interviews.

### 9.3.1 Interviews with employees

**Key messages**

The key findings from the interviews with 22 employees that were held during the site visits are summarised below.

- 16 employees (72%) stated that they were aware of precautions that previously had to be taken when working at a certain height and 14 of these mentioned the two metre rule. There appeared to be a clearer understanding of the two metre rule amongst employees than in Stage 1.
- Around 50% of employees interviewed were aware of the removal of the two metre rule in the new Regulations.
- Most employees (15 = 68%) thought that the absence of the two metre rule had had no effect in practice. Two employees (in the aircraft maintenance sector) thought it had improved work at height practices, three discussed changes in work practices but did not comment if it was a positive or negative change and two (in the steeplejack sector) thought it was a negative step.
- 2 employees (9%) stated that their employer used different controls above and below two metres before the Work at Height Regulations came into force, stating that “Equipment used above two metres had money spent on it” and “Controls were stricter above two metres”.
- Despite the removal of the two metre rule in the Work at Height Regulations, 4 employees (18%) reported that their employer used different control measures to prevent falls above and below two metres. However, these controls make work at height below two metres safer, suggesting that a risk based approach (as required by the Regulations following the removal of the two metre rule) is being adopted by a number of employers.

**Detailed findings**

We spoke to 22 employees representing companies in some of the key industry sectors included in the Two Metre study, where a significant amount of construction related work at height took place.

The sample consisted of five different industry sectors and the distribution of interviews between these sectors is shown in Table 9.10 below.
Table 9.10  Number of interviews conducted for each sector

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Number of interviews conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>0</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>10</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>7</td>
</tr>
<tr>
<td>Aircraft maintenance</td>
<td>2</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>3</td>
</tr>
</tbody>
</table>

We were unable to interview any employees in the construction sector because either the managers that we visited were reluctant to allow us to or there were no employees available to be interviewed during our visits.

Table 9.11 shows the range and mean of employees’ work experience in each industry sector.

Table 9.11  Range and mean of work experience of the employees in each industry sector

<table>
<thead>
<tr>
<th>Industry Sector</th>
<th>Mean (yrs)</th>
<th>Range (yrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steeplejacks</td>
<td>6.6</td>
<td>0.5-16</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>12.8</td>
<td>2.5-27</td>
</tr>
<tr>
<td>Aircraft maintenance</td>
<td>13.5</td>
<td>7-20</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

The range of employees’ work experience within each sector was varied, with the largest being in the construction sector and the lowest being in the telecommunications sector. The mean experience of employees was highest in the aircraft maintenance sector (13.5 years) and lowest in the telecommunications sector (5 years).

There was no significant variation between the various industry sectors in the amount of work at height activity carried out by employees except that those working in the steeplejacks sector spent much more time working at height compared to those in the building maintenance sector, as shown in Table 9.12. This was similar to the results from the visits carried out in the first stage of this project.
16 employees interviewed stated that they were aware of precautions that previously had to be taken when working at a certain height. Of these 16 employees, only two employees did not mention the two metre rule. One employee (from the building maintenance sector) said that different precautions had to be taken above 1.5 metres and the other (from the steeplejacks sector) mentioned the use of safety barriers but did not specify a height.

In comparison to the previous year, there appeared to be a clearer understanding of the two metre rule amongst employees across each of the five sectors.

Just under half the employees interviewed were aware of the removal of the two metre rule in the new Regulations.

After the removal of the two metre rule was explained, each employee was asked what they thought the absence of the two metre rule meant in practice when working at height. The majority thought that it had no effect; two thought it had improved work at height practices, three discussed changes in work practices but did not comment if it was a positive or negative change and two thought it was a negative step.

The two employees who thought it had improved work at height practices were from the aircraft maintenance sector. Their comments included:

“Before there was a magic figure which could be put on working equipment and under that figure it didn't need to be reviewed. Its removal has allowed review of equipment that previously wasn't available”.

“Improved guarding on access equipment. There is now less 'knocked together' steps and equipment is now more specific to the task”.

The three employees who commented on a change in work practices were from the building maintenance and steeplejacks sectors. The building maintenance employee said that they now had permanent smaller platforms whereas previously they may have used steps. One of the employees from the steeplejacks sector reported that now all work from ground level up would have to be considered, which would have an effect on the way they worked. The third stated that safety harnesses would have to be worn at all times now.

Those who believed it would have a negative impact were in the steeplejacks sector. One commented that:
“Now have to be attached below two metres which can cause injury by not being able to jump away from the tower or danger area and is now more dangerous to work at height activities”.

The vast majority of employees interviewed stated that their employer did not use different controls above and below two metres before work at height regulations came into force. The two employees who said that their employer did use different controls were from the aircraft maintenance and steeplejacks sectors. Their comments included:

“Equipment used above two metres had money spent on it” and

“Controls were stricter above two metres, e.g. if using a ladder you had to tie it off (and secure it) before use”.

All employees were asked whether their employer now used different control measures to prevent falls above and below two metres. The vast majority commented that they did not; the four employees who said that their employer did use different controls were in the building maintenance, steeplejacks and telecommunication sectors.

One employee from the building maintenance sector commented that they now used permanent platforms for work below two metres, where before they used steps. Two employees from the steeplejacks sector commented that safety ropes now dropped to ground level rather than two metres and one stated that they were now attached to ropes at all times. The fourth employee from the telecommunication sector stated that they were now attached at all times on ladders, regardless of the height they were working. Given that these controls make work at height below two metres safer, this suggests that a number of employers are adopting a risk-based approach rather than a height-based approach, following the removal of the two metre rule in the Work at Height Regulations.

9.3.2 Observations of work at height

Key messages

The key findings from our observations made during 17 site visits are summarised below.

- In the construction, steeplejacks and telecommunication sectors, most work at height carried out was over two metres.
- In the building maintenance and aircraft maintenance sectors, work at height was carried out both below and below two metres.
- The removal of the two metre rule appeared to have had little impact in the construction, steeplejack and telecommunication sectors, as most of their work was above two metres.
- Only managers in the building maintenance and aircraft maintenance sectors reported that the removal of the two metre rule had had a significant impact and that changes to working practices below two metres had been made as a result.
- In the construction, building maintenance and aircraft maintenance sectors, there had been a reduction in the use of ladders and an increase in the number of tower scaffolds and work platforms used for work activities below two metres.
- The documentation seen (in the steeplejack, aircraft maintenance and telecommunications sectors) made no reference to the two metre rule. We were unable to see any
documentation during our visits to construction companies but it was reported that policies and procedures had been revised in light of the removal of the two metre rule.

**Detailed findings**

In the following section, we present our general observations of work at height made during 17 site visits to organisations in each of the key industry sectors listed in Table 9.13 as part of the Two Metre study. The table also shows the number of visits made in each sector.

<table>
<thead>
<tr>
<th>Sector</th>
<th>No of visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>4</td>
</tr>
<tr>
<td>Steeplejacks</td>
<td>4</td>
</tr>
<tr>
<td>Building maintenance</td>
<td>4</td>
</tr>
<tr>
<td>Aircraft maintenance</td>
<td>2</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>3</td>
</tr>
</tbody>
</table>

**Construction**

We visited four construction companies who carried out a variety of work at height activities. Two were involved in large commercial building projects, carrying out various work at height activities including the erection of steelwork and scaffolding and brickwork. Both were acting as the main contractors. One was a utility company who was involved in a gas replacement project and the fourth was a sub-contractor to the main contractor on site whose main activity was working on scaffolds that were erected and controlled by the main contractor for the site.

All four companies were involved in a wide range of work at height, the majority of which was over two metres.

Figure 9.1 shows an example of the work at one site.
Various types of equipment were provided to carry out work at height including scaffolds and tower scaffolds, MEWP's, podium steps, stepladders, fall arrest and harnesses.

An example of a tower scaffold is shown in Figure 9.2.
All of the managers confirmed that risk assessments had been carried out but we were not provided with sample copies from any of the companies. However one of the companies confirmed that the risk assessments, policies and procedures had been reviewed in light of the removal of the two metre rule and one stated that risk assessments had been carried out for stepladders as a direct result. The other companies just reported changes in equipment rather than changes to specific policies and procedures.

In all of construction companies that we visited, our onsite observations indicated that the removal of the two metre rule had had little impact on their working practices. However, there had been an increase in the amount of tower scaffolds used on some of the construction sites, and ladders and stepladders were used less frequently with other equipment used in preference.

**Steeplejacks**

We made site visits to four steeplejack companies. The type of work at height carried out in these companies included construction, masonry repairs, and the installation of lightning conductors and fall arrest equipment. All companies visited used rope access, work positioning and fall arrest equipment as standard. Other equipment provided for work at height included scaffolds, ladders, (although only one company confirmed they used ladders) cranes and general PPE. An example of ladders used in one of the companies is shown in Figures 9.3 and 9.4.

![Figures 9.3 & 9.4 Ladders used to access structures](image)

Sample risk assessments of work at height activities, policy statements and training records were provided by some of the companies. They did not include any reference to the two metre rule, however most activities were above two metres and therefore the two metre rule had not been mentioned in previous versions.

However, one steeplejack company confirmed that they did not have issues with their ‘standard’ working practices but did discuss the issue about accessing work equipment from the top of their van. The managers stated that employees did have to climb to access the equipment without any specific controls in place to protect them from falling. He realised this was an area of non-compliance that needed to be assessed and measures put in place to control the work activity although it was clear there would be no easy answer to the problem.

We also observed that employees put on their harnesses from ground level and attached themselves to the structure as soon as they started to climb. Figure 9.5 shows an example of an employee descending a University building after carrying out maintenance work.
We visited four building maintenance companies where a range of work at height was carried out. This included general maintenance activities for commercial buildings where they were the onsite maintenance team changing lights, servicing air conditioning units, repairing leaks, etc. One of the companies was involved in rendering external walls and painting, etc. The fourth was involved in all internal refurbishment and maintenance works, and was the internal maintenance department within a large company.

There was very wide range of work equipment used in this sector including scaffolds, tower scaffolds, ladders and stepladders, fall arrest equipment, MEWP's and working platforms. The companies we visited were aware of the removal of the two metre rule and some changes had been made for work at height activities below two metres. Additionally, one manager commented that the removal of the two metre rule had caused confusion about at what height they had to implement controls measures, as some were questioning the smallest of heights without taking a balanced, common sense approach to working at height.

Although ladders were still used throughout the companies, we also observed in an increase in the amount of other equipment including work platforms, tower scaffolds and a few employees commented that ladders were not used as frequently as before and where possible they were advised to use alternative equipment. We were unable to observe if this was carried through in...
practice but we still observed ladders being used for work above two metres as shown in Figure 9.6.

![Ladder in use to carry out maintenance work](image)

**Figure 9.6** Ladder in use to carry out maintenance work

**Aircraft maintenance**

We made two site visits to aircraft maintenance companies. The main work at height carried out at the companies involved maintenance of all parts of aircraft, and they mainly worked on airfields and in hangars. A wide range of equipment was being used by these companies including work platforms, scaffolding, edge protection, fall arrest equipment, vertical ladders, stepladders and cranes.

Both companies were very aware of the removal of the two metre rule and had made changes to their working practices to try to comply with the new Regulations. Both had spent a significant amount of time sourcing equipment particularly for those activities that were below two metres. One had experienced an accident below two metres involving cargo steps that did not have adequate handrails and suitable steps, and was in the process of ensuring employees used equipment fit for the job.

The difficulty they faced was that employees would often use the nearest piece of equipment rather than equipment fit for purpose, even though they had received training in what was the most appropriate for the type of job being carried out. Much of the equipment was also labelled to indicate clearly what it was meant to be used for. This was backed up by the risk assessments that had been completed for working equipment.

One of the managers confirmed that they had spent a significant amount of resource reviewing procedures and Regulations, but felt they still needed clarity on the assessments of equipment used at lower height and under two metres. They confirmed that sometimes it was not feasible
to have side guarding as it prevented access to the area they were maintaining and accepted there was an inevitable risk attached to the work carried out but did not know where to draw the line. They were keen to have further guidance from the HSE about specific work equipment.

**Telecommunications**

We made site visits to three telecommunications companies. One of the companies built masts and towers near to roads and on commercial roofs for the mobile phone industry. The other two companies were involved in the maintenance of cell sites, switch sites, rooftops and general telecommunication structures and antennae, again for the mobile phone industry. All three companies used harnesses and fall arrest equipment, and some fixed and portable ladders, and two of the companies used scaffolds, cranes, a variety of MEWPs and stepladders.

An example of employee working on tower structure is shown in Figure 9.7.

![Figure 9.7 Example of employee working on tower structure with full harness and fall arrest equipment](image)

One of the companies provided very comprehensive documentation including risk assessments, policies and procedures, and they confirmed that they had always used the rule that as soon as someone was working off the ground they had to implement controls.

The other companies agreed with this and confirmed that the removal of the two metre rule had had very little effect on their working practices as all their work was above two metre anyway and employees were required to clip onto the equipment as soon as they left the ground.
We have summarised and simplified the key messages in each section of Chapters 6, 7, 8 and 9 in order to evaluate the impact of the Work at Height Regulations and the removal of the two metre rule in the first year since the Regulations came into force. We also provide general conclusions.

The research presented in this report was primarily qualitative rather than quantitative, as most of the sample sizes were small. The quantitative data included in the report should therefore be treated with some caution. However, it does provide qualitative data on how well the risks from work at height were managed before and after the Work at Height Regulations came into force.

Details of all the sample sizes are provided in the relevant parts of Chapter 3 and the results Chapters, 6, 7, 8 and 9.

10.1 GENERAL CONCLUSIONS

Our study indicates that the Work at Height Regulations have started to have an impact in a number of areas. Many manufacturers reported that demand for and sales of access equipment, including work platforms, had increased. Additionally, a large percentage of managers reported that changes to the way work at height was managed had been made in the last year, and this was also observed by a number of inspectors. Common changes included revising or conducting risk assessments and providing new access or safety equipment, which supports the increased sales reported by equipment manufacturers and suppliers.

However, there are still improvements to be made as only a small number of managers were able to correctly define work at height and very few actually understood the Regulations’ detailed requirements. Furthermore, around half of the employees and trade union safety representatives interviewed believed that more could be done in their company to make work at height safer.

The removal of the two metre rule has also started to have some impact as more than half of the managers interviewed reported that they had made changes to the way work at height was managed due to the removal of the two metre rule, most noticeably in the construction and shipbuilding/aircraft maintenance sectors. However, the inspectors were generally not confident that many duty holders were aware of or understood what the removal of the two metre rule meant in practice when working at height.

There appears to be a general lack of understanding by duty holders of the requirements of the Regulations and the implications of the removal of the two metre rule. Although duty holders were aware of the Regulations and the removal of the two metre rule, few people appeared to fully understand their duties under the Regulations.

Improvements still need to be made in some sectors in how they control work at height, especially the education, retail and road haulage sectors.
10.2 STAGE 1 BASELINE INFORMATION FOR WORK AT HEIGHT STUDY

The information in this section is presented in the same order as in Chapter 6.

10.2.1 Equipment manufacturers and suppliers

Overall, the manufacturers and suppliers we interviewed expected the Work at Height Regulations to have a positive impact on their businesses. Most of them expected an increase in sales in the next 12 months, partly due to the Regulations, including an increase in the sales of work platforms and fall arrest equipment. However, they expected that the sales of ladders to decrease.

10.2.2 HSE and LA inspectors

The inspectors provided a fairly negative view of how well work at height was managed by duty holders, as most of them were not at all or not very confident that duty holders understood the risks involved or the controls required.

However, this negative view was not consistent with their views of how well duty holders complied with legal requirements (including carrying out suitable and sufficient risk assessments), which were much more varied and did not present a clear picture. The lowest level of compliance reported was in the construction sector.

The inspectors believed that the most common agent involved in falls from height was portable ladders, and that the main underlying cause of falls was the failure to ensure that a safe system of work was used. The other most important underlying causes were failure to use or provide appropriate equipment. They believed that most falls resulted from multiple failings.

In Stage 1, most inspectors did not see the need for the new Regulations, as they thought that existing legislation was adequate or mostly adequate. However, half of the HSE inspectors thought that the Regulations would have a positive effect on reducing falls, but that the effects would be limited. All of the LA inspectors thought the Regulations would have either no effect or were unsure of what their effect would be. The most common suggestions for reducing falls from height were better guidance and stronger enforcement.

Overall, the inspectors were less positive about how well duty holders prevented falls from height than the duty holders themselves. This may be because inspectors visit a wider range of companies than we were able to include in our sample of duty holders.

10.2.3 Telephone interviews with duty holders

The majority of duty holders in most sectors were confident that they complied with their legal obligations, in contrast with the views of the inspectors. The lowest levels of confidence were in education, and food and drink.

Most of the managers were aware of the new Regulations, except in the education sector, who had by far the lowest percentage of managers who were aware. Only a minority planned to introduce changes to comply with the Regulations as 60% of the duty holders felt they already conformed.

The most common measures that the duty holders reported they used to prevent falls were training, appropriate work equipment, avoiding work at height and site inspections. All sectors said that they carried out risk assessments for work at height, although the managers who did not carry out risk assessments were mainly in education and arboriculture.
As for the inspectors, portable ladders were the most common agent identified by the managers as being involved in falls from height. However, the main underlying causes identified by managers (operator error, unsafe systems of work, complacency, employees not following procedures and unsafe work equipment) suggested a tendency to blame their employees who had accidents, unlike the inspectors.

10.2.4 Interviews with duty holders during site visits

As the duty holders whom we visited in were self-selected (i.e. they agreed to allow us to visit when interviewed by telephone), it is possible that they would be more likely to comply with legal requirements than those that did not invite us to visit. This was reflected by the higher percentage of managers (83% compared to 60% of those interviewed by telephone) who felt that the Regulations would have little impact as they already had adequate systems in place.

Half of the managers knew that work at height was work above ground level and a further third defined it as work above two metres. Most did not have policies specifically for work at height, but had general health and safety policies that included it, which were almost all rated as average or better. The exception was the one from the education sector, which was very poor.

All managers provided risk assessments for work at height, the vast majority of which were rated average or better. Again, the exception was the education sector.

Over half of the managers used supervision to make sure that employees and contractors worked safely at height. This contrasted with the employees, most of whom reported that their behaviour when working at height was not influenced by supervision.

Training was identified as the main criteria for making sure that employees could work safely at height, expect in the education, road haulage and steeplejack sectors. Most managers provided training, expect for those in education, road haulage and retail sectors. The equipment used for work at height was similar in most sectors, with ladders and fall/work arrest equipment being the most popular.

10.2.5 Interviews with employees during site visits

The majority of employees were in agreement with their managers that their companies were good at protecting people who worked at height, except in the education sector. However, about a third of the employees felt that their companies could make work at height safer, by providing improved training, equipment or work procedures.

The employees reported using a similar range of equipment to that identified by the managers, except that employees in the education sector identified using unsuitable equipment for work at height. The same percentage of employees as managers (85%) said that they had been provided with training for work at height. The exceptions were in the education sector.

As for both inspectors and managers, portable ladders were the main agent identified by employees as being involved in falls from height. The underlying causes for falls that the employees identified had more in common with the views of the inspectors than that of the managers, as the employees did not blame their fellow workers for accidents but identified unsafe work practices (i.e. no safe system of work), pressure to work too quickly and unsafe work equipment as the main causes.

Most employees reported that their behaviour when working at height was not influenced by financial rewards or supervision, although the trade union safety representatives rated these as more influential. The most important influences reported by the employees were work
experience, consequences of accidents, compliance with the law, training and pressure to meet work deadlines.

10.2.6 Observations of work at height
Most companies visited (83%) appeared to be adequately controlling the risks from work at height and were broadly complying with the current legal requirements. We did identify some problems, including the difficulty in controlling contractors on a construction site, inadequate work practices at one arboriculturist and a very low level of compliance at the one school we visited (unsuitable equipment, unsafe working practices, lack of training and risk assessment).

Avoiding work at height may lead to changes in practices that may increase other risks. The example we identified was the increasing use of water fed poles in the window cleaning sector, which reduced the need to work at height but was likely to increase the risk of musculoskeletal disorders. Pressure from customers could also stop such techniques being used in place of work at height.

The new Regulations appeared to already be having an impact in the construction sector, as stepladders were increasingly being replaced with small work platforms. As portable ladders were identified by managers, employees and inspectors as the main agent involved in falls from height, this may reduce falls in the future.

10.2.7 Information from trade unions
A lower percentage (52% compared to 85%) of trade union safety representatives reported that training was provided to people who worked at height than did managers and employees during visits. This may be due to the sites which we were invited to visit being better in controlling the risks from work at height than those that we were unable to visit. The percentage of safety representatives who reported that risk assessments were carried out (76%) was also lower than for employees (85%) or managers (100%). More (43% compared to 30%) safety representatives than employees reported that their companies needed to take further measures to make work at height safer, especially training.

The safety representatives reported that a similar range of equipment was provided for work at height to that identified by the managers and employees, except that they mentioned ladders less frequently.

The main agents that the safety representatives reported were involved in falls from height were portable ladders, work platforms and vehicles, presenting a wider view than any of the other groups. They were more in agreement with the employees and inspectors than the managers about the main underlying causes of accidents, identifying unsafe work practices (i.e. no safe system of work) and pressure to work too quickly as the top two.

The safety representatives’ views on what were the most important influences on employees’ behaviour when working at height were similar to that of the employees, except that they thought financial rewards and supervision were more influential and compliance with the law less influential.
10.3 STAGE 2 IMPACT OF WORK AT HEIGHT REGULATIONS
The information in this section is presented in the same order as in Chapter 7.

10.3.1 Equipment manufacturers and suppliers
Overall, the manufacturers and suppliers we interviewed reported that the Work at Height Regulations have had a positive impact on their businesses. Many manufacturers reported that they had gained customers in the last year, and that many customers had mentioned the Regulations when ordering. As predicted in Stage 1, demand for access equipment, including work platforms, had increased and the demand for ladders had decreased.

Most manufacturers and suppliers reported an increase in sales, ranging from 5 to 50% with an average of 17.5%. The increase in sales reported exceeded those estimated by manufacturers and suppliers in Stage 1, which suggests that the Work at Height Regulations may have had more impact than they expected.

10.3.2 HSE and LA inspectors
The inspectors provided a fairly mixed view of the impact that the Work at Height Regulations had had on duty holders. Most HSE inspectors were confident that duty holders were aware of the Work at Height Regulations, however most LA inspectors were not confident. More HSE inspectors than LA inspectors reported a change in how duty holders managed work at height in the last year, suggesting that the Regulations may have had more of an impact in HSE-enforced sectors than in LA-enforced sectors.

Around a third of the inspectors interviewed reported that the time they spent dealing with work at height issues had increased in the last year but that the type of enforcement action had not changed. However, it was reported that the Work at Height Regulations made it easier to enforce work at height issues.

The inspectors identified the biggest single agent involved in falls from height as portable ladders (as in Stage 1) and the main underlying cause was the failure to assess risks and plan work at height activities. The vast majority of inspectors reported that they had not seen any change in the number or type of fall from height accidents in the last year. This did not agree with the predictions made by inspectors in Stage 1 of the study, where more than half of the inspectors believed that the Work at Height Regulations would result in a decrease in the number of falls from height. However, many inspectors reported that it was too soon to tell if accident numbers had reduced.

Around two-thirds of inspectors reported that the Work at Height Regulations brought benefits to duty holders, but that there were associated costs, both financial costs (for new equipment) and management resource costs (to conduct risk assessments, plan work at height activities etc).

A number of HSE inspectors commented that the wording of the Work at Height Regulations and the lack of an approved code of practice made it difficult for duty holders to fully understand and comply with the main requirements.

10.3.3 Telephone interviews with duty holders
All managers, with the exception of one in the education sector, were aware of the Work at Height Regulations.

A large number of managers reported that changes to the way work at height is managed had been made in the last year, most commonly providing new access or safety equipment and
revising or conducting risk assessments. The difficulties associated with managing contractors and third-party visitors on site were an issue raised by many managers.

The majority of duty holders in most sectors were very confident or confident that they were complying with the requirements of the Work at Height Regulations. However, only a small number were able to correctly define work at height and very few actually understood the Regulations’ main requirements.

Managers in the road haulage sector were the least confident that their companies were complying with the Regulations. Managers in the road haulage sector reported a higher number of accidents than managers in most other sectors (with the exception of construction and retail).

A lower percentage of managers in Stage 2 reported that there had been falls from height and unsafe practices than in Stage 1, suggesting that the Work at Height Regulations may have resulted in a slight reduction in the number of accidents and unsafe practices. As for the inspectors, portable ladders were the most common agent identified by managers as being involved in falls from height.

Very few managers reported that the Regulations have brought benefits or savings to the company. However, the majority reported that they had incurred costs or problems, most commonly financial costs and problems with staff believing that ladders had been banned.

It was reported that a lack of guidance or an approved code of practice for the Regulations makes it difficult for some duty holders to comply; a view also shared by inspectors and trade union safety representatives.

**10.3.4 Interviews with duty holders during site visits**

As the duty holders whom we visited were self-selected (i.e. they agreed to allow us to visit when interviewed by telephone), it is possible that they would be more likely to comply with legal requirements than those that did not invite us to visit.

A small number of managers reported that some work at height had been avoided in the last year, since the introduction of the Work at Height Regulations.

Nearly half of the managers reported that they had specific policies for work at height, compared to only a sixth in Stage 1 of the study.

The same general methods were used to communicate safety information about work at height to workers as in Stage 1, however there was now more focus on training.

All managers reported that they carried out risk assessments but not all provided us with copies. The quality of the risk assessments we saw were similar to those in Stage 1, i.e. most were rated average or better. The exception was the education sector. Managers in all sectors reported that risk assessments had been reviewed in the last year.

Ladders have dropped from being the most common type of work equipment provided in Stage 1 to the third most common in Stage 2, which supports the increase in demand for work platforms and the reduction in demand for ladders, as reported by equipment manufacturers and suppliers.
The four most common measures taken by managers to ensure safe work at height were supervision, written work guidelines, training and permits to work. These measures concurred with those reported by employees.

Training was identified as the main criteria for making sure that employees could work safely at height, except in the education sector. All managers provided some form of training on work at height to employees, except in the education sector. This was an improvement to Stage 1 when retail and road haulage, as well as education, did not provide any training.

10.3.5 Interviews with employees during site visits
Most employees were in agreement with their managers that their companies were good at protecting people who worked at height, except in the education sector. However, around half of the employees felt that their companies could make work at height safer, by providing improved training, equipment or work procedures.

The employees reported using a similar range of equipment to that identified by the managers. The same percentage of employees as managers said that they had been provided with training for work at height.

As for both inspectors and managers, portable ladders were the main agent identified by employees as being involved in falls from height (as in Stage 1). The underlying causes for falls that the employees identified was incorrect use of equipment, which was the second most common underlying cause identified by inspectors.

The most important influences affecting behaviour, as reported by employees, were training, work experience, consequences of accidents and pressure to meet work deadlines. These were the same factors identified by trade union safety representatives.

10.3.6 Observations of work at height
At the majority of sites we visited (87%), the work at height practices and work equipment seen appeared to be adequate for the risks involved and the companies were broadly complying with the Work at Height Regulations. The exceptions were the education and retail sectors, as well as one of the aircraft maintenance companies.

Overall the Work at Height Regulations appeared to have little impact at the sites we visited. Although most sites appeared to be adequately managing work at height risks in practice, documentation often needed to be improved.

Some sites appeared to have good control over how well contractors complied with the Work at Height Regulations, however some sites faced difficulties, particularly in the food and drink, road haulage and construction sectors.

The only sector that appeared to be improving their avoidance of work at height was window cleaning, where the use of water fed poles was continuing to increase.

Avoiding work at height may lead to changes in practices that may increase other risks. The example we identified was the increasing use of water fed poles in the window cleaning sector, which reduced the need to work at height but was likely to increase the risk of musculoskeletal disorders. Pressure from customers could also stop such techniques being used in place of work at height.
One company in the electricity sector was concerned about plant and equipment design (at other sites) and vehicle design that made it difficult to work at height safely, commenting that the Work at Height Regulations did not include any design requirements to minimise the risks of working at height.

10.3.7 Information from trade unions
Most trade union safety representatives were aware of the Work at Height Regulations, with the exception of a number of union representatives in the retail sector. However, very few had a good understanding of what the main requirements of the Regulations are. Less than half of the trade union safety representatives reported that they had been provided with information on the Regulations, which may explain their poor level of understanding.

The safety representatives reported that a similar range of equipment was provided for work at height to that identified by managers and employees.

The main agents that the safety representatives reported were involved in falls from height were portable ladders, work platforms and vehicles and the main underlying cause was unsafe work practices.

The safety representatives’ views on what were the most important influences on employees’ behaviour when working at height were the same as those identified by employees.

The majority of trade union safety representatives reported that their company was good or excellent at protecting employees who worked at height. All those who reported that their company was poor or very poor were from the road haulage, retail and manufacturing sectors. The highest number of work at height accidents and near misses were reported by trade union safety representatives in the road haulage and manufacturing sectors.

Most trade union safety representatives were confident that the Work at Height Regulations would make work at height safer for the workers they represent. However, more than half believed that more could be done to make work at height safer.

More (63% compared to 50%) safety representatives than employees reported that their companies needed to take further measures to make work at height safer, especially training and the provision of more suitable equipment.

10.4 STAGE 1 BASELINE INFORMATION FOR TWO METRE STUDY
The information in this section is presented in the same order as in Chapter 8.

10.4.1 HSE inspectors
The inspectors had varying levels of confidence in duty holders’ compliance with work at height, however they were more confident that duty holders were compliant for work above two metres than below. This was supported by their view that duty holders used specific controls measures for work above two metres, but few, if any, measures for work below this height. This suggests that the two metre rule had an adverse effect on preventing falls during work below two metres.

Overall, most inspectors believed that the removal of the two metre rule would have no positive impact. They felt that it would not reduce falls from above two metres and that it would have a slight negative effect in reducing falls below two metres, due to the unwillingness of duty holders to comply with the new Regulations.
10.4.2 Telephone interviews with duty holders

The risks involved in the work was most common factor that managers reported that they considered when deciding how to prevent falls from height. Height and the workers’ skill levels were the next most important factors. This suggests that duty holders were already adopting a risk based approach before the new Regulations came into force, however only a small minority of them knew that there was a legal requirement to assess the risks from work at height.

Two thirds of managers were aware of the two metre rule, with the highest level of awareness in building maintenance. However, less than 10% of managers said that they used the two metre rule when determining how to prevent falls. This does not agree with the views of the inspectors.

Almost all managers said that the current level of safety on their sites for work at height was good or very good. Again, this conflicts with the views of the inspectors.

Overall, the information gathered from the managers suggests that the two metre rule had little effect on the precautions taken to prevent falls. The greater awareness of managers in building maintenance may reflect the fact that work below two metres is more likely in this sector than in the other sectors (see section 8.2.5).

10.4.3 Interviews with duty holders during site visits

Two thirds of the managers defined work at height as work above two metres, however no-one in building maintenance defined it this way. This does not agree with the findings from the telephone interviews, however the sample size for the visits was much smaller.

Almost all managers said that the risks from work at height were assessed, suggesting that they were already taking a risk based approach, despite the fact that only a minority of the managers that were interviewed by telephone knew that there was a legal requirement to assess the risks from work at height.

As for the main project, the most common measure used to ensure that workers followed safe procedures when working at height was supervision. Again, this contrasted with the employees interviewed for the main project, most of whom reported that their behaviour when working at height was not influenced by supervision.

Managers reported that competence to work at height was largely dependent on the level of training provided and experience, not the height of the work. In addition, most of them said that there was no significant difference in the training provided to workers who worked above or below two metres. Both of these suggest that the two metre rule had little impact on this issue.

As in the telephone interviews, almost all managers were confident that they complied with their legal obligations for work at height, presenting a different picture to that reported by the inspectors.

10.4.4 Interviews with employees during site visits

Similar information was provided by the employees interviewed to that gathered by the interviews with managers during the site visits concerning risk assessments and the equipment used for work at height.

Over half of the employees were aware of the two metre rule, with the lowest level of awareness in building maintenance, although their comments indicated that their interpretation of it varied.
Employees in construction and building maintenance reported that they did not follow different safety procedures for work above or below two metres, while those in the steeplejacks, aircraft maintenance and telecommunications sectors did. This contrasts with the information gathered from duty holders and through observations of work at height.

10.4.5 Observations of work at height

The observations gave the most consistent picture of the importance of the two metre rule. In the construction, steeplejacks, aircraft maintenance and telecommunications sectors, most of the work at height was over two metres, and the two metre rule appeared to have little impact. For instance, although different equipment was used in the construction sector for above and below two metres, similar levels of protection were provided for all work at height.

In building maintenance, work at height was carried out both below and above two metres and different equipment was used (e.g. trestles and stepladders below two metres, mobile work platforms and safety nets above) but practical considerations appeared to be more important than the two metre rule.

The aircraft maintenance company that we visited were expecting the new Regulations to assist them in improving their working practices.

10.5 STAGE 2 IMPACT OF THE REMOVAL OF THE TWO METRE RULE

The information in this section is presented in the same order as in Chapter 9.

10.5.1 HSE inspectors

The inspectors had varying levels of confidence in duty holders’ awareness that the two metre rule had been removed, but generally they were not confident that many duty holders were aware or understood what it meant in practice when working at height. The lack of any guidance or approved code of practice was identified as a contributory factor in the duty holders’ lack of awareness or appreciation of the removal of the two metre rule.

Most inspectors had not seen any duty holders make any changes in the way work at height is managed. Additionally, most inspectors reported that duty holders still use different control measures above and below two metres, with many not using any controls for work below two metres.

None of the inspectors reported that the removal of the two metre rule had resulted in any specific benefits to duty holders and only one inspector reported that it had caused duty holders any costs or problems, suggesting that the removal of the two metre rule may not yet have had much of an impact.

10.5.2 Telephone interviews with duty holders

The majority of managers were aware of the two metre rule. Most knew that it had been removed and was not included in the Work at Height Regulations.

More than half of the managers reported that the removal of the two metre rule had had a positive impact (most noticeably in the construction and steeplejack sectors), commenting that it made work at height safer. Many managers in the shipbuilding and aircraft maintenance sector reported a negative impact, as it had resulted in costs for new equipment and management time for risk assessments for activities conducted below two metres.
Only half of the managers reported that they had made changes to work at height practices in the last year, despite more than two-thirds reporting that the removal of the two metre rule had practical implications.

Around one-fifth of managers reported that they used different control measures for work above and below two metres, with a small number reporting that no controls were used for work below two metres. Most other managers reported that more stringent controls were used for work above two metres.

The removal of the two metre rule has not appeared to have brought benefits to many duty holders. However, it has incurred costs and problems, most noticeably to companies in the construction, steeplejack and aircraft maintenance sectors, as managers in these sectors reported a higher percentage of changes than managers in other sectors to the way work at height is managed in the last year.

10.5.3 Interviews with employees during site visits

Around half of the employees interviewed were aware of the removal of the two metre rule in the Work at Height Regulations. Most thought that the removal of the two metre rule had had no effect in practice. However, a number of employees reported that their employer has introduced further controls to make work below two metres safer, suggesting that a risk-based approach, as required by the Regulations following the removal of the two metre rule, is being adopted by at least some employers.

10.5.4 Observations of work at height

The removal of the two metre rule appeared to have had little impact in the construction, steeplejack and telecommunication sectors, as most of their work was above two metres. Only managers in the building maintenance and aircraft maintenance sectors reported that the removal of the two metre rule had had a significant impact and that changes to working practices below two metres had been made as a result. A reduction in the use of ladders and in increase in the use of tower scaffolds and work platforms for work activities below two metres was observed in these sectors, as well as in the construction sector.
RECOMMENDATIONS FOR FURTHER WORK

Based on the findings of our study to investigate the impact of the new Work at Height Regulations and the removal of the two metre rule, we make the following recommendations for further work, which should contribute to the effectiveness of the HSC’s Falls from Height programme.

Publicise and further develop guidance on the Work at Height Regulations

Many managers and inspectors reported that guidance or an approved code of practice (ACOP) would assist companies in complying with the requirements of the Work at Height Regulations. Additionally, a number of inspectors commented that the wording of the Regulations makes it difficult for some duty holders to fully understand what the Regulations require. Guidance that details the main requirements of the Regulations, supported by practical advice and information, would assist in increasing levels of understanding and compliance.

We are aware that the HSE organised a height aware campaign that ran in May-June 2006. The HSE has also published a series of information and guidance leaflets, including ‘The Work at Height Regulations – a brief guide’ (http://www.hse.gov.uk/pubns/indg401.pdf) and ‘Work at height – the basics’ (http://www.hse.gov.uk/falls/campaign/wahthebasics.pdf). Additionally, the ‘Falls from height’ section of the HSE website has been updated to include information on the Work at Height Regulations.

The Height Aware campaign commenced after our Stage 2 data collection phase, which may help to explain why many managers and inspectors reported the need for guidance to be developed. It is hoped that the campaign was successful and that future campaigns or other methods of publicising HSE’s guidance on work at height issues, as it is further developed, will take place.

Publicise existing HSE guidance on ladders and MEWPs and develop new guidance to cover a range of other equipment used for work at height

A number of employees, inspectors and managers were of the opinion that ladders had been banned since the introduction of the Work at Height Regulations, particularly for work activities over two metres. Guidance should be developed that focuses on the main types of work at height access and safety equipment that is available, and should give practical examples of the type of work activities for which the equipment may be suitable. The HSE have published information on MEPS and ladders on their website at http://www.hse.gov.uk/falls/mewps.htm and http://www.hse.gov.uk/falls/ladders.htm and this should be publicised more widely, as should the ‘Selecting equipment for work at height’ leaflet that was developed for the HSE Height Aware campaign conducted in June 2006, (http://www.hse.gov.uk/falls/campaign/selectingequipment.pdf).

Furthermore, additional guidance should be developed to cover other types of access and safety equipment for work at height.
Provide detailed guidance on managing contractors who work at height

The issue of managing contractors was raised by a number of managers. Many managers were unsure to what extent they were responsible for ensuring that contractors worked safely at height on their site. For example, should they request risk assessments for delivery drivers who work at height on the back of a lorry? Information has been developed by HSE in their leaflets entitled ‘Selecting competent contractors for work at height’, as part of the Height Aware campaign (http://www.hse.gov.uk/falls/campaign/competentcontractors.pdf) and ‘Use of contractors – a joint responsibility’ (http://www.hse.gov.uk/pubns/indg368.pdf). Whilst this provided useful information, the content is basic and should be developed further to address the consequences of not effectively managing contractors.

Continue to collect and publish cases studies of good practice for work at height

Many of the duty holders and inspectors wanted better guidance on how to effectively manage work at height and to prevent falls. The HSE has published a series of case studies that demonstrate how to minimise the risks from working at height, including:

- Falls from tank container
- Case study of a low fall in a school
- Case study of a fall from a Mobile Elevated Work Platform
- Case study of a fall whilst using a stepladder
- Case study of a fall from a waste container
- Case study of low falls whilst filling tankers.

Further case studies, covering the wide range of work at height activities conducted, should be collected and published.

Additionally, in May 2006, the HSE, in association with the Access Industry Forum (AIF) launched its ‘Work at height solutions’ database, providing good practice advice for people planning a task that involves work at height (http://webcommunities.hse.gov.uk/inovem/inovem.ti/WorkAtHeightSolutions). This is to be updated on a regular basis and will be a valuable source of information.

Carry out research into how to increase awareness and improve compliance in LA-enforced sectors

It appears that the Work at Height Regulations may have had more of an impact in HSE-enforced sectors than in LA-enforced sectors, such as education and retail, as more HSE inspectors than LA inspectors reported a change in how duty holders managed work at height in the last year. Managers in the retail sector reported the highest number of fall from height accidents. Additionally, we observed during our visits to the education and retail sectors that they were not complying with the Work at Height Regulations. Research into how to educate and increase work at height awareness in LA-enforced sectors should be conducted.

Continue to raise awareness of the consequences of low-falls (i.e. below two metres)

It was reported by a number of trade union safety representatives, managers and inspectors that some employers do not implement any control measures for work activities below two metres, suggesting that many employers are not aware of the consequences of low falls or the removal of the two metre rule. It is acknowledged that the Height Aware campaign did focus on low falls. Additionally, there is information and case studies on low falls on the HSE website.
However, this information was provided after we completed our Stage 2 data collection phase. Awareness of the importance of effectively managing work at height below two metres needs to be continued.

**Conduct more detailed research into what influences the behaviour of people working at height**

The information provided by employees and trade union safety representatives shows that there are four main factors that influence behaviour when working at height. These are training, the consequences of an accident, work experience and pressure to meet deadlines. A large number of managers relied on supervision, while only a small number of employees reported that this was an important influence. Further research into this issue may provide more information on how employees can be influenced to work safely at height. It is understood that the HSE have commissioned research investigating the human factors aspects of low falls. The findings of this research should be used to inform the production of further work at height guidance and information.

**Investigate whether avoiding work at height may increase other risks to workers**

We found that window cleaners were increasing their use of water fed poles in order to avoid working at height. This obviously decreased the risk of falls in this sector, but may result in an increase in musculoskeletal disorders as the poles were heavy and difficult to handle. Although this is the only example that we found, there may be other avoidance techniques that could result in increased risk while removing the risk of falls.

**Investigate ways to encourage the consideration of work at height during the design process**

A number of managers and trade union safety representatives commented that work at height issues need to be considered during the design process for machines, workplaces and vehicles, in order to provide safe access. The Work at Height Regulations do not include any requirements for designers. However, the issue of design is important and the possibility of ensuring that work at height is considered during the design process should be investigated.

**Conduct a further study to investigate the impact of the Work at Height Regulations**

Our study to investigate the impact of the Work at Height Regulation was conducted one year after the Regulations were introduced. However, a number of inspectors, managers and trade union safety representatives reported that it was too soon for any benefits to have emerged. A further study to identify more long-term benefits of the Regulations should be conducted.

**Encourage the education sector to improve the management of work at height and discuss with Ofsted the possibility of including health and safety issues in their inspections of schools**

Our study indicated that the education sector needs to make improvements in how it manages work at height. The South West Education Safety Advisers Panel, with advice from HSE, have recently developed guidance that helps identify work at height within the education sector and some of the hazards to look for. It also gives advice on good practice. It has been made available for duty holders in the education sector (http://www.hse.gov.uk/falls/casestudies/schools.htm) to use as the basis for assessing the risk to people who work at height. This guidance should be more widely publicised.
Additionally, health and safety issues such as work at height are currently not included in Ofsted’s inspections of schools. Discussions should be held with Ofsted to determine whether it would be possible to include how health and safety is managed in their inspections.
We have listed below the references that were cited in the literature survey:


We have listed below the references that have been consulted but which have not been directly referred to in the literature survey:


APPENDIX 1 – STAGE 1 WORK AT HEIGHT QUESTIONNAIRES

This appendix contains the questionnaires that were used in the first stage of the Work at Height study.

All questionnaires started with recording the basic information listed below. We have included this here to prevent repetition.

- Name
- Position
- Organisation
- Phone number
- Date.

In the questionnaires, all wording in *italics* were instructions for the people carrying out the interview.

1. **Telephone questionnaire for Work at Height – Manufacturers and suppliers**

   This preliminary explanation was provided at the start of each telephone call.

   “I am calling on behalf of System Concepts who are carrying out a study on behalf of the HSE about work at height. The aim of the study is to establish the existing baseline for the state of safety in work at height activities. We are establishing this baseline by talking to key stakeholders, including manufacturers and suppliers of work at height equipment, and asking them to complete a short questionnaire by telephone.

   Any information you provide is confidential. Responses will be included in our report to the HSE but they will be anonymous. We are happy to provide a copy of the results if you would like one. It will take about 25 minutes to complete the questionnaire. Is it convenient to talk now? If not, when would be convenient?”

1. What does your company do?
2. How long have you been employed in your current position?
3. What range of work at height safety equipment do you manufacture/supply? *(Read list and tick appropriate box(es). Note any other answers below.)*

<table>
<thead>
<tr>
<th>Barriers, i.e. guardrails, toe boards</th>
<th>Ladders</th>
<th>Work platforms</th>
<th>Scaffolding</th>
<th>Fall arrest equipment</th>
<th>Work restraint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Others:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. What industries do you supply equipment to? *(Read out list and tick appropriate box(es). Note any other answers below)*

<table>
<thead>
<tr>
<th>Construction</th>
<th>Agriculture</th>
<th>Manufacturing</th>
<th>Services</th>
<th>Retail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other: (Please detail)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. What are your current sales levels for work at height equipment? *(N.B. If this information is confidential or if it is not readily available ask if you can contact them later to obtain information or ask them to send it to you).*

6. What do you believe will be the sales for these different types of equipment next year?
7. (a) Do you provide advice on the safe use or training needs for safe use of work at height equipment?
(b) Have you made any changes to this information because of the proposed new Work at Height Regulations?
8. How do you obtain information about changes in health and safety legislation that may affect your business? (Read list out and tick as appropriate. Note any other answers or comments below.)

<table>
<thead>
<tr>
<th>Trade Associations or bodies</th>
<th>HSE website</th>
<th>Health and safety consultant</th>
<th>Talking to other manufacturers or suppliers</th>
<th>Other (Please explain)</th>
</tr>
</thead>
</table>

Other:
Comments:
9. Are you aware of the new Work at Height Regulations to be introduced in 2005? If yes, what do you believe will be the impact of the new Regulations on your business? Please explain. (Read list out and tick appropriate box. Note any comments below.)

<table>
<thead>
<tr>
<th>Significant positive impact</th>
<th>Slight positive impact</th>
<th>None</th>
<th>Slight negative impact</th>
<th>Not sure</th>
</tr>
</thead>
</table>

Comments:
10. Do you sell/supply your products to other EU countries? If yes, are you aware of whether the new work at height directive has already been implemented in these countries? If so, what effect has it had on your business? Please explain? (Read list and tick appropriate box. Note any comments below.)

<table>
<thead>
<tr>
<th>Significant positive impact</th>
<th>Slight positive impact</th>
<th>None</th>
<th>Slight negative impact</th>
<th>Not sure</th>
</tr>
</thead>
</table>

Comments:
11. We will be assessing the impact of the new Regulations in the future and it will be valuable to interview as many of the same people again as possible. Can we contact you next year to participate in a follow-up questionnaire?
12. Any other comments?

2. **Telephone questionnaire for Work at Height – HSE Inspectors**

This preliminary explanation was provided at the start of each telephone call.

“... I am calling on behalf of System Concepts who are carrying out a study on behalf of the HSE about work at height. The aim of the study is to establish the existing baseline for the state of safety in work at height activities. We are establishing this baseline by talking to key stakeholders, including regulatory bodies such as the HSE and Local Authorities, about current legislation and practices for work at height.

Any information you provide is confidential. Responses will be included in our report to the HSE but they will be anonymous. We are happy to provide a copy of the results if you would like one. It will take about 25 minutes to complete the questionnaire. Is it convenient to talk now? If not, when would be convenient?”

1. In what sector do you work?
2. How long have you worked in this sector?
3. How significant an issue is work at height within your sector? Please explain. (Read out possible responses and tick appropriate box. Note any comments below.)

<table>
<thead>
<tr>
<th>Very Significant</th>
<th>Significant</th>
<th>Not very Significant</th>
<th>Not at all Significant</th>
<th>Not sure</th>
</tr>
</thead>
</table>

Comments:

4. Are there any specific work programmes within your sector aimed at reducing falls from height? If yes, what are they?

5. How much work experience do you have of dealing with the risks from work at height? Please explain. (Read out possible responses and tick appropriate box. Ask for further details and note any below.)

<table>
<thead>
<tr>
<th>Extensive experience (e.g. &gt; 12 months)</th>
<th>Some experience (e.g. 7 – 12 months)</th>
<th>Little experience (e.g. 0 – 6 months)</th>
<th>No experience</th>
</tr>
</thead>
</table>

Comments:

6. What percentage of a typical inspection workday do you now spend dealing with work at height issues? Please explain. (Read out possible responses and tick appropriate box. Note any comments below.)

<table>
<thead>
<tr>
<th>0-20%</th>
<th>21-40%</th>
<th>41-60%</th>
<th>61-80%</th>
<th>81-100%</th>
</tr>
</thead>
</table>

Comments:

7. In your industry sector, what are the main agents involved in falls from height and what percentage do each of these agents contribute to all fall from height accidents? (Read out possible responses and tick appropriate box(es), and write in how often. Note any others below.)

<table>
<thead>
<tr>
<th>Agents</th>
<th>Response</th>
<th>Percentage Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable ladders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed ladders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaffolding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work areas/platforms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roof edges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fragile roofs/skylights</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Others:

8. From your experience, what do you think are the most common underlying causes of falls from height and approximately what percentage does each cause contribute to falls from height within your sector? (Read out possible responses and tick appropriate box(es), and write in how often. Add in any others mentioned.)

<table>
<thead>
<tr>
<th>Factors</th>
<th>Response</th>
<th>How often?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to ensure that safe systems of work are used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inadequate communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure to provide information and guidance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure to provide adequate training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure to provide suitable work equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure to use appropriate work equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (write in)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. What type(s) of enforcement action have you taken on work on height and approximately what percentage does each type contribute to the overall enforcement action that you take? (Read out possible responses and tick appropriate box/es, and write in how often. Note any comments below.)

<table>
<thead>
<tr>
<th>Action</th>
<th>Response</th>
<th>Percentage Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal advice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Send letter/instant visit report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvement notice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prohibition notice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prosecution</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

10. Have you investigated any accidents involving falls from height within the last year? If yes, what type and how many? What were the principal underlying causes of these accidents? (Read out possible responses and write in the number. Note any comments below.)

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatalities</td>
<td></td>
</tr>
<tr>
<td>Major injuries (as in RIDDOR)</td>
<td></td>
</tr>
<tr>
<td>Over three day (as in RIDDOR)</td>
<td></td>
</tr>
<tr>
<td>Minor</td>
<td></td>
</tr>
<tr>
<td>Near misses</td>
<td></td>
</tr>
</tbody>
</table>

Comments:

11. How confident are you that duty holders understand the risks and control measures required for work at height? Please explain. (Read out possible responses and tick appropriate box. Note any comments below.)

<table>
<thead>
<tr>
<th>Very confident</th>
<th>Confident</th>
<th>Not very confident</th>
<th>Not at all confident</th>
<th>Not sure</th>
</tr>
</thead>
</table>

Comments:

12. From your experience, what percentage of duty holders in your sector are fulfilling their legal duties to ensure that work at height is carried out safely? Please explain. (Read out possible responses and tick appropriate box. Note any comments below.)

<table>
<thead>
<tr>
<th>0-20%</th>
<th>21-40%</th>
<th>41-60%</th>
<th>61-80%</th>
<th>81-100%</th>
</tr>
</thead>
</table>

Comments:

13. In your experience, what percentage of duty holders carry out suitable and sufficient risk assessments for work at height? Please explain (Read out possible responses and tick appropriate box)

<table>
<thead>
<tr>
<th>0-20%</th>
<th>21-40%</th>
<th>41-60%</th>
<th>61-80%</th>
<th>81-100%</th>
</tr>
</thead>
</table>

Comments:

14. In your sector, what are the main UK statutory Acts/Regulations relevant to work at height?

15. Do you believe that the existing legislation is adequate to control the risks of work at height? Do you believe any further measures need to be taken to reduce falls from height and if yes, what? Please explain. (Read out possible responses and tick appropriate box. Note any comments below.)

<table>
<thead>
<tr>
<th>Yes - completely</th>
<th>Mostly</th>
<th>Partly</th>
<th>Not at all</th>
<th>Unsure</th>
</tr>
</thead>
</table>

Comments:
16. (a) Are you aware of the new Work at Height Regulations to be introduced in 2005?
(b) If yes, what impact do you believe these Regulations will have on reducing falls from height in your sector? Please explain? (Read out possible responses and tick appropriate box. Note any comments below.)

<table>
<thead>
<tr>
<th>Impact</th>
<th>None</th>
<th>Slight negative impact</th>
<th>Slight positive impact</th>
<th>Significant positive impact</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant positive impact</td>
<td>Slight positive impact</td>
<td>None</td>
<td>Slight negative impact</td>
<td>Significant positive impact</td>
<td>Not sure</td>
</tr>
</tbody>
</table>

Comments:

17. What practical/communication measures do you use in getting your message on safe working at height across? And how effective are these measures? Please explain? (Read out possible responses and tick appropriate box. Note any comments.)

<table>
<thead>
<tr>
<th>Measures</th>
<th>Effect</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety awareness days</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
<tr>
<td>Trade union involvement</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
<tr>
<td>Staff consultation</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
<tr>
<td>General inspections</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
<tr>
<td>Topic inspections</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
<tr>
<td>Accident investigation</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
<tr>
<td>Media coverage through prosecution action</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
</tbody>
</table>

Additional comments:

18. We will be assessing the impact of the new Regulations in the future and it will be valuable to interview as many of the same people again as possible. Can we contact you next year to participate in a follow-up questionnaire?

19. From your work experience in the HSE, do you know of any suitable representatives of companies who we may contact to discuss how work at height issues are managed within their companies?

20. Any other comments?

3. Telephone questionnaire for Work at Height – LA Inspectors

This preliminary explanation was provided at the start of each telephone call.

“I am calling on behalf of System Concepts who are carrying out a study on behalf of the HSE about work at height. The aim of the study is to establish the existing baseline for the state of safety in work at height activities. We are establishing this baseline by talking to key stakeholders, including regulatory bodies such as the HSE and Local Authorities, about current legislation and practices for work at height.

Any information you provide is confidential. Responses will be included in our report to the HSE but they will be anonymous. We are happy to provide a copy of the results if you would like one. It will take about 25 minutes to complete the questionnaire. Is it convenient to talk now? If not, when would be convenient?”

1. In what sector do you work?
2. How long have you worked in this sector?
3. How significant an issue is work at height within your job? Please explain. *(Read out possible responses and tick appropriate box. Note any comments below.)*

<table>
<thead>
<tr>
<th>Very Significant</th>
<th>Significant</th>
<th>Not very Significant</th>
<th>Not at all Significant</th>
<th>Not sure</th>
</tr>
</thead>
</table>

Comments:

4. Are there any specific work programmes within your sector aimed at reducing falls from height? If yes, what are they?

5. How much work experience do you have of dealing with the risks from work at height? Please explain. *(Read out possible responses and tick appropriate box. Ask for further details and note any below.)*

<table>
<thead>
<tr>
<th>Extensive experience (e.g. &gt; 12 months)</th>
<th>Some experience (e.g. 7 – 12 months)</th>
<th>Little experience (e.g. 0 – 6 months)</th>
<th>No experience</th>
</tr>
</thead>
</table>

Comments:

6. How often during a typical inspection workday do you spend dealing with work at height issues other than simply asking whether this is an issue for organisations that you visit? Please explain. *(Read out possible responses and tick appropriate box. Note any comments below.)*

<table>
<thead>
<tr>
<th>0-1 hours</th>
<th>1 -2 hours</th>
<th>2 -3 hours</th>
<th>3 - 4 hours</th>
<th>&gt; 4 hours</th>
</tr>
</thead>
</table>

Comments:

7. From your work experience, what are the main agents involved in falls from height and what percentage do each of these agents contribute to all fall from height accidents? *(Read out possible responses and tick appropriate box(es), and write in how often. Note any others below.)*

<table>
<thead>
<tr>
<th>Agents</th>
<th>Response</th>
<th>Percentage Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable ladders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed ladders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trap door e.g. in pubs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work areas/platforms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roof edges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fragile roofs/skylights</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mezzanine floors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. From your experience as an EHO, what do you think are the most common underlying causes of falls from height and approximately what percentage does each cause contribute to falls from height within your sector? *(Read out possible responses and tick appropriate box(es), and write in how often. Add in any others mentioned.)*

<table>
<thead>
<tr>
<th>Factors</th>
<th>Response</th>
<th>How often?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to ensure that safe systems of work are used</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inadequate communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure to provide information and guidance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure to provide adequate training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure to provide suitable work equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failure to use appropriate work equipment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. What type(s) of enforcement action have you taken on work on height and approximately what percentage does each type contribute to the overall enforcement action that you take? (Read out possible responses and tick appropriate box(es), and write in how often. Note any comments below.)

<table>
<thead>
<tr>
<th>Action</th>
<th>Response</th>
<th>Percentage Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbal advice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Send letter/instant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvement notice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prohibition notice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prosecution</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Additional comments:

10. Have you investigated any accidents involving falls from height within the last year? If yes, what type and how many? What were the principal underlying causes of these accidents? (Read out possible responses and write in the number. Note any comments below.)

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatalities</td>
<td></td>
</tr>
<tr>
<td>Major injuries (as in RIDDOR)</td>
<td></td>
</tr>
<tr>
<td>Over three day (as in RIDDOR)</td>
<td></td>
</tr>
<tr>
<td>Minor</td>
<td></td>
</tr>
<tr>
<td>Near misses</td>
<td></td>
</tr>
</tbody>
</table>

Comments:

11. How confident are you that duty holders understand the risks and control measures required for work at height? Please explain. (Read out possible responses and tick appropriate box. Note any comments below.)

<table>
<thead>
<tr>
<th>Very confident</th>
<th>Confident</th>
<th>Not very confident</th>
<th>Not at all confident</th>
<th>Not sure</th>
</tr>
</thead>
</table>

Comments:

12. From your experience, what percentage of duty holders in your sector are fulfilling their legal duties to ensure that work at height is carried out safely? Please explain. (Read out possible responses and tick appropriate box. Note any comments below.)

<table>
<thead>
<tr>
<th>0-20%</th>
<th>21-40%</th>
<th>41-60%</th>
<th>61-80%</th>
<th>81-100%</th>
</tr>
</thead>
</table>

Comments:

13. In your experience, what percentage of duty holders in your work carry out suitable and sufficient risk assessments for work at height? Please explain. (Read out possible responses and tick appropriate box. Record any comments below.)

<table>
<thead>
<tr>
<th>0-20%</th>
<th>21-40%</th>
<th>41-60%</th>
<th>61-80%</th>
<th>81-100%</th>
</tr>
</thead>
</table>

Comments:

14. In your job, what are the main UK statutory Acts/Regulations relevant to work at height?

15. Do you believe that the existing legislation is adequate to control the risks of work at height? Do you believe any further measures need to be taken to reduce falls from height and if yes, what? Please explain. (Read out possible responses and tick appropriate box. Note any comments below.)

<table>
<thead>
<tr>
<th>Yes - completely</th>
<th>Mostly</th>
<th>Partly</th>
<th>Not at all</th>
<th>Unsure</th>
</tr>
</thead>
</table>

Comments:

(a) Are you aware of the new Work at Height Regulations to be introduced in 2005?
(b) If yes, what impact do you believe these Regulations will have on reducing falls from height in your work area? Please explain? (Read out possible responses and tick appropriate box. Note any comments below.)

<table>
<thead>
<tr>
<th>Significant positive impact</th>
<th>Slight positive impact</th>
<th>None</th>
<th>Slight negative impact</th>
<th>Significant negative impact</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. What practical/communication measures do you use in getting your message on safe working at height across? And how effective are these measures? Please explain? (Read out possible responses and tick appropriate box. Note any comments.)

<table>
<thead>
<tr>
<th>Measures</th>
<th>Effect</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety awareness days</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
<tr>
<td>Trade union involvement</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
<tr>
<td>Staff consultation</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
<tr>
<td>General inspections</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
<tr>
<td>Topic inspections</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
<tr>
<td>Accident investigation</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
<tr>
<td>Media coverage through prosecution action</td>
<td>Very effective</td>
<td>Effective</td>
</tr>
</tbody>
</table>

Additional comments:

17. We will be assessing the impact of the new Regulations in the future and it will be valuable to interview as many of the same people again as possible. Can we contact you next year to participate in a follow-up questionnaire?

18. Are you able to suggest any suitable contacts that we could contact in the following steps in this research?

19. Any other comments?

4. **Telephone questionnaire for Work at Height – Duty holders**

This preliminary explanation was provided at the start of each telephone call.

“I am calling on behalf of System Concepts who are carrying out a study on behalf of the HSE about work at height. The aim of the study is to establish the existing baseline for the state of safety in work at height activities. We are establishing this baseline by talking to key stakeholders, including managers of employees who work at height, and asking them to complete a short questionnaire by telephone.

Any information you provide is confidential. Responses will be included in our report to the HSE but they will be anonymous. We are happy to provide a copy of the results if you would like one. It will take about 25 minutes to complete the questionnaire. Is it convenient to talk now? If not, when would be convenient?”

1. How long have you been employed in your current position?
2. What does your company do?
3. How many sites do you have in the UK?
4. How many employees are there in your company?
5. How do you involve workers in health and safety?
6. What activities does your company do that involve work at height (where work at height is defined as any height at which a person may work from which if they fall they may receive a serious personal injury)?
7. How many employees are involved in work at height activities?

<table>
<thead>
<tr>
<th>No of employees</th>
<th>Responses (tick as appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td></td>
</tr>
<tr>
<td>11-20</td>
<td></td>
</tr>
<tr>
<td>21-30</td>
<td></td>
</tr>
<tr>
<td>31-40</td>
<td></td>
</tr>
<tr>
<td>41-50</td>
<td></td>
</tr>
<tr>
<td>51-100</td>
<td></td>
</tr>
<tr>
<td>101-200</td>
<td></td>
</tr>
<tr>
<td>Above 200</td>
<td></td>
</tr>
</tbody>
</table>

8. (a) What work equipment is provided for work at height activities? *(Tick relevant boxes.)*

<table>
<thead>
<tr>
<th>Work platforms</th>
<th>Scaffolding</th>
<th>Edge protection</th>
<th>Fall arrest equipment</th>
<th>Guardrails</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) Are other types of work equipment used? *(Record all answers.)*

9. Do you know how many accidents/injuries involving falls happened in your organisation within the last 12 months? If yes, please describe the type (e.g. fatal, major and near misses) and number of these accidents? *(Record number in space provided and all comments below.)*

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatalities</td>
<td></td>
</tr>
<tr>
<td>Major injuries (as in RIDDOR)</td>
<td></td>
</tr>
<tr>
<td>Over three day (as in RIDDOR)</td>
<td></td>
</tr>
<tr>
<td>Minor</td>
<td></td>
</tr>
<tr>
<td>Near misses</td>
<td></td>
</tr>
</tbody>
</table>

Comments:

10. What do you consider to be the main agents involved in falls from height within your company? And approximately what percentage do each of these agents contribute to overall number of falls? *(Tick or fill in the appropriate box(es). Record any other causes or agents below.)*

<table>
<thead>
<tr>
<th>Agents</th>
<th>Response</th>
<th>Percentage contribution %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable ladders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed ladders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaffolding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work areas/platforms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roof edges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fragile roofs/skylights</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Others:

11. What do you consider to be the main underlying causes of falls from height within your company? *(Read list and tick appropriate box(es). Record any comments below.)*
12. Have the risks associated with work at height activities by your employees been assessed? If so, when and by who?
13. (a) What do you do to prevent falls from height in your company? (b) How were these measures chosen? (c) How effective are these measures in preventing falls? (d) Are these measures regularly reviewed?
14. How confident are you that your company is fulfilling its legal obligations in regards to ensuring that work at height is safe? Please explain. (Read the responses and tick the appropriate box. Record any comments below.)

<table>
<thead>
<tr>
<th>Factors</th>
<th>Response (tick as appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsafe system of work</td>
<td></td>
</tr>
<tr>
<td>Inadequate communication</td>
<td></td>
</tr>
<tr>
<td>Inadequate information and guidance</td>
<td></td>
</tr>
<tr>
<td>Inadequate supervision</td>
<td></td>
</tr>
<tr>
<td>Unsafe work equipment</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

Comments:

15. Are you aware of the new Work at Height Regulations that are being introduced in 2005? If yes, are you planning to introduce any changes before the Regulations/when the Regulations come into force? If yes, what?
16. Would you be willing to participate in stage 2 of this project involving members of the research team visiting your company/site to gather more in-depth information? This will include a more in-depth interview, interviews with some employees, examining precautions in place to prevent falls from height, including edge protection etc, examine any relevant documents, especially risk assessments, safe systems of work, training records etc). (If possible, arrange at least a provisional visit date during this interview.)
17. Can you suggest anyone else in your industry that we could include in our research?
18. Any further comments?

5. **Face-to-face questionnaire for Work at Height – Duty holders**

Used for face-to-face discussions during site visits. This preliminary explanation was provided at the start of each interview.

“This interview is part of a study commissioned by the Health and Safety Executive, on work at height activities. As you know, I work for System Concepts, a health and safety consultancy firm, who is carrying out the study on behalf of the HSE.

All the information you provide is confidential. Responses will be included in our report to the HSE but they will be anonymous. We are happy to provide a copy of the results if you would like one. The information that you provide is very valuable and will be used by the HSE to further develop programmes aimed at reducing work at height accidents.”

1. What does your company do?
2. (a) How long have you been employed in your current position?
(b) What are your day to day responsibilities?

3. How do you define work at height?

4. (a) What work at height activities are carried out?
   (b) And how many workers are involved in these work at height activities?

5. (a) Does the company have any specific policies for work at height activities? *(Ask to view the policy document(s) and obtain copies if possible.)*
   (b) If no, does the company have policies that are likely to reduce the likelihood of falls from height? For example, general health and safety policy, policies on work organisation for work at height, times when activities should be stopped due to adverse weather, policy on purchasing suitable equipment for work at height which will minimise falls from height. Please explain.
   (c) How does the company monitor the effectiveness of health and safety policies aimed at reducing falls from height? For example, internal and external health and safety audits, site inspections.
   (d) Who has responsibility for ensuring that work at height policies are correctly implemented? For example, managers and employees.

*On the basis of the responses given assess the policies using the rating scale below:*

<table>
<thead>
<tr>
<th>1. Policies do not cover WAH. No written document on such policies is available.</th>
<th>2. Policies are available for WAH issues but do not comply with current regulatory standard.</th>
<th>3. Some policies to control WAH issues, even if not specifically designed for these risks. They are well defined and reviewed regularly. There is limited knowledge of the actual policies but people generally know what to do. Management are accountable and information is available</th>
<th>4. Good policies are in place to deal with WAH issues. There is input from all levels and participation and adoption of the measures is widespread.</th>
<th>5. Excellent policies developed specifically for WAH issues. These set minimum standards and best practice. New requirements are evaluated and added as required</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Very poor), 2 (Poor), 3 (Adequate), 4 (Good), 5 (Excellent).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. How are issues relevant to work at height issues communicated to the workforce? For example, toolbox talks, inspections, health and safety notice boards, well-publicised documents.

7. (a) Do you have a safety committee? If yes, who is involved? For example, management, employees, trade unions and contractors’ representatives.
   (b) If yes, how frequently does the safety committee meet? For example, every month, three months, etc.

8. Have the risks associated with work at height activities by your employees been assessed? If yes, when and by who, and what is their position? *(Ask to view samples of the risk assessment documents, obtain copies of these documents if possible, and assess their quality using the scale below.)*

<table>
<thead>
<tr>
<th>1. No written risk assessments for WAH activities.</th>
<th>2. Some written assessments are available, but these are very basic, and do not identify all the significant risks e.g. specific work hazards, training, supervision, work equipment. The risk assessments are not widely known amongst the staff</th>
<th>3. General risk assessments for WAH activities are available which clearly identify the hazards, people at risk, the level of risk and control measures. However these risk assessments have not been shown to all relevant staff</th>
<th>4. General risk assessments covering WAH issues are in place. These have been communicated to all levels of staff</th>
<th>5. Specific risk assessments for WAH activities have been carried out. These set minimum standards and best practice. New requirements are evaluated and added as necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Very poor), 2 (Poor), 3 (Adequate), 4 (Good), 5 (Excellent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. What measures are taken to ensure that employees/contractors follow safe procedures for work at height activities (e.g. supervision of work activities, permit to work systems)?

10. What do you think makes a person competent to work at height?

11. How do you decide who can work at height safely?

12. (a) What training is provided to employees involved in work at height activities?
    (b) Is training provided on the measures required for rescuing people involved in accidents, who work at height (e.g. fall arrest users)? Please describe.
    (c) Are training records kept? (If yes, ask to view one or two samples of training records and obtain copies if possible. Assess quality of records using the scale below. Records should include: employee name, contact details, description of WAH training undertaken, details of when and who provided the training, and should be signed and dated by the employee.)

<table>
<thead>
<tr>
<th>1. No training records available for work at height operatives.</th>
<th>2. Some training records are available but there is no systematic system for the maintenance and update of training information.</th>
<th>3. Training records are available and systematic scheme exist for maintenance of the records. However some of the records not up to date, and have not been signed and dated by the trainee.</th>
<th>4. Well documented training records available, providing personal details of the trainee, the type of training provided, and the dates that training was undertaken. The training record has been signed and dated by the trainee.</th>
<th>5. Well documented training records providing/containing all the relevant personal and training information required. The training records also contain details of review dates for future training needs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Key: 1 (Very poor), 2 (Poor), 3 (Average), 4 (Good), 5 (Excellent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. (a) What work equipment is provided for work at height activities?
    (b) Are other types of work equipment used?
    (c) How often do you inspect each type of work equipment used for work at height? For example, at the start of every shift, daily, etc.
    (d) Do you keep inspection records for such work at height work equipment? If yes, please describe.

14. How confident are you that your company is fulfilling its legal obligations in regards to ensuring that work at height is safe? Please explain. (Read the responses and tick the appropriate box. Record any comments below.)

<table>
<thead>
<tr>
<th>Very confident</th>
<th>Confident</th>
<th>Not very confident</th>
<th>Not at all confident</th>
<th>Not sure</th>
</tr>
</thead>
</table>

Comments:

15. (a) Are you aware of the new Work at Height Regulations that are being introduced in 2005?
    (b) If yes, what effects do you believe these Regulations will have on how you manage work at height activities in your company? Please explain.
    (c) If yes, have you already changed your work practices to take account of the new Regulations? How? Please explain.
    (d) If yes, are there any extra costs associated with the implementation of these new work practices?

16. (a) Has your company had any accidents/near misses involving work at heights?
If yes, have these accidents been investigated by the company? How?

17. Any other comments?

6. **Face-to-face questionnaire for Work at Height – Employees**

Used for face-to-face discussions during site visits. This preliminary explanation was provided at the start of each interview.

“This interview is part of a study commissioned by the Health and Safety Executive, on work at height activities. As you know, I work for System Concepts, a health and safety consultancy firm, who is carrying out the study on behalf of the HSE.

All the information you provide is strictly confidential. They will only be used for the purposes of the study and will not be passed to your employer. Responses will be included in our report to the HSE but they will be anonymous. We are happy to provide a copy of the results if you would like one. The information that you provide is very valuable and will be used by the HSE to further develop programmes aimed at reducing work at height accidents.

Thank you for agreeing to participate in this interview.”

1. What does your company do?
2. What is your job?
3. How long have you been employed in this role?
4. How much of your work involves work at height? *(Read out list and tick appropriate.)*

<table>
<thead>
<tr>
<th>0-20%</th>
<th>21-40%</th>
<th>41-60%</th>
<th>61-80%</th>
<th>81-100%</th>
</tr>
</thead>
</table>

Comments:

5. Have the risks associated with your work at height activities been assessed by your employer? If yes, please explain. For example, have risk assessments for their work at height activities been carried out?

6. (a) What work equipment do you use to work at height? *(Read list and circle each type of equipment used).*

<table>
<thead>
<tr>
<th>Work platforms</th>
<th>Scaffolding</th>
<th>Edge protection</th>
<th>Fall arrest equipment</th>
<th>Guardrails</th>
</tr>
</thead>
</table>

(b) Are other types of work equipment used? Please describe.

7. What training, information and guidance have been provided to you by your company to help you to work at height safely?

8. (a) From your work experience, what factors contribute to falls from height accidents within your company? *(Read responses and tick appropriate box(es). Record any other comments below.)*

<table>
<thead>
<tr>
<th>Factors</th>
<th>Response (➦)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable ladders</td>
<td></td>
</tr>
<tr>
<td>Fixed ladders</td>
<td></td>
</tr>
<tr>
<td>Stairs</td>
<td></td>
</tr>
<tr>
<td>Scaffolding</td>
<td></td>
</tr>
<tr>
<td>Work areas/platforms</td>
<td></td>
</tr>
<tr>
<td>Vehicles</td>
<td></td>
</tr>
<tr>
<td>Roof edges</td>
<td></td>
</tr>
<tr>
<td>Fragile roofs</td>
<td></td>
</tr>
</tbody>
</table>
(b) What do you think were the main causes of these incidents/accidents? (Read through the list and circle the appropriate cause[s]. Record any other causes and comments below.)

<table>
<thead>
<tr>
<th>Causes</th>
<th>Poor training</th>
<th>Pressure to work too quickly</th>
<th>Unsafe work equipment</th>
<th>Lack of supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsafe work practices i.e. no adequate safe system of work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. (a) What factors most influence your behaviour when working at height? (Read through list and tick appropriate boxes.)

<table>
<thead>
<tr>
<th>Factors</th>
<th>Importance of factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Important</td>
</tr>
<tr>
<td>Pressure to meet work deadlines</td>
<td></td>
</tr>
<tr>
<td>Financial rewards e.g. bonuses</td>
<td></td>
</tr>
<tr>
<td>Being supervised</td>
<td></td>
</tr>
<tr>
<td>Training in work at height</td>
<td></td>
</tr>
<tr>
<td>Work experience</td>
<td></td>
</tr>
<tr>
<td>Compliance with health and safety laws</td>
<td></td>
</tr>
<tr>
<td>The consequences of an accident</td>
<td></td>
</tr>
</tbody>
</table>

(b) Is there anything else that affects how you work at height and how important are they?

Comments:

10. How good is your company at protecting employees who work at height? Please explain. (Please read through the list and tick appropriate box(es).)

<table>
<thead>
<tr>
<th>Goodness</th>
<th>Very poor</th>
<th>Poor</th>
<th>Average</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Do you believe that your company can do anything more to make work at height safer? If yes, what?

12. (a) Have you been provided with any information on the new Work at Height Regulations?

(b) If yes, who provided you with this information?

(c) If yes, how confident are you that these Regulations will make your work at height activities safer? Please explain. (Read through the list and tick the appropriate box.)

<table>
<thead>
<tr>
<th>Confidence</th>
<th>Very confident</th>
<th>Confident</th>
<th>Not very confident</th>
<th>Not at all confident</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. We will be assessing the impact of the new Regulations in the future and it will be valuable to interview as many of the same people again as possible. Can we contact you next year to participate in a follow-up questionnaire?

14. Any further comments?
7. **Questionnaire for HSE Work at Height – Trade Union Safety Representatives**

These questionnaires were sent by post to Safety Representatives, who completed them and returned them by post. They were accompanied by the following letter.

“Dear Sir or Madam,

This questionnaire forms part of a study into the impact of the new Work at Height Regulations that are being introduced this year. This study is being carried out by System Concepts, a health and safety consultancy firm, on behalf of the Health and Safety Executive (HSE).

The aim of this questionnaire is to gather information about the awareness and understanding of the risks of working at height by the people that carry out such work. This includes finding out how aware they are about the hazards involved and what they need to do to prevent falls. We are therefore asking Trade Union Safety Representatives to provide information about the employees that they represent and the work that they do.

The information that you provide is very valuable, and will be used by the HSE to further develop programmes aimed at reducing work at height accidents. All the information that you provide on this questionnaire will remain strictly confidential and will only be used for the purposes of this study. It will not be passed to your employer or any other body, other than being amalgamated with similar information in the results of this study.

If you require any further information about this study or how to use this questionnaire, please contact me on 020 7240 3388.

Thank you for participating in this questionnaire study.

Yours faithfully,

Ebenezer Anjorin
System Concepts
Email: ebenezer@system-concepts.com”

**Questionnaire for HSE Work at Height – Trade Union Safety Representatives**

Name: ___________________________________________________________
Job Title: ___________________________________________________________
Trade Union: _______________________________________________________
Company: __________________________________________________________
Phone: ___________________________ Date: ________________
1. What sort of work does your employer carry out?
2. What job do you do?
3. How long have you been a trade union safety representative?
4. (a) How many workers do you represent?
   (b) What jobs do they do?
5. How much of the work of the workers that you represent involves work at height? Please tick the appropriate box and add any relevant comments.

<table>
<thead>
<tr>
<th></th>
<th>0-20%</th>
<th>21-40%</th>
<th>41-60%</th>
<th>61-80%</th>
<th>81-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6. What training, guidance and information are provided to the workers that you represent to enable them to work at height safely?
7. Have the risks associated with your work at height activities been assessed by your employer? If yes, please explain. For example, have you seen or carried out risk assessments for work at height activities?
8. (a) What equipment is provided to workers who work at height? Please read through the options below and circle the appropriate responses.

<table>
<thead>
<tr>
<th>Work platforms</th>
<th>Scaffolding</th>
<th>Edge protection</th>
<th>Fall arrest equipment</th>
<th>Guardrails</th>
</tr>
</thead>
</table>
| (b) Are any other types of work equipment used? If so, please describe below.
9. From consultations with the workers that you represent, how good is your company at protecting workers who work at height? Please circle the relevant answer and explain your answer.

<table>
<thead>
<tr>
<th></th>
<th>Very poor</th>
<th>Poor</th>
<th>Average</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
10. (a) Are you aware of any work at height accidents that your company has had within the last 12 months? If yes, how many?
   (b) What factors were involved in these incidents/accidents? Please read through the list below and tick the appropriate box(es).

<table>
<thead>
<tr>
<th>Factors</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable ladders</td>
<td></td>
</tr>
<tr>
<td>Fixed ladders</td>
<td></td>
</tr>
<tr>
<td>Stairs</td>
<td></td>
</tr>
<tr>
<td>Scaffolding</td>
<td></td>
</tr>
<tr>
<td>Work areas/platforms</td>
<td></td>
</tr>
<tr>
<td>Vehicles</td>
<td></td>
</tr>
<tr>
<td>Roof edges</td>
<td></td>
</tr>
<tr>
<td>Fragile roofs</td>
<td></td>
</tr>
<tr>
<td>Unsafe work practices i.e. no adequate safe system of work</td>
<td>Poor training</td>
</tr>
<tr>
<td>Pressure to work too quickly</td>
<td>Unsafe work equipment</td>
</tr>
<tr>
<td>Lack of supervision</td>
<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
</tr>
</tbody>
</table>
(c) What were the main causes of these incidents/accidents? Please read through the options and circle the appropriate answer.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Poor training</th>
<th>Pressure to work too quickly</th>
<th>Unsafe work equipment</th>
<th>Lack of supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsafe work practices i.e. no adequate safe system of work</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
11. From consultation with the workers that you represent, what do you consider are the factors that most influence their behaviour when working at height? Please read through the list, tick the appropriate box and explain the reasons for your each of your choices, in the comments section below.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Importance of factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very important</td>
</tr>
<tr>
<td>Pressure to meet work deadlines</td>
<td></td>
</tr>
<tr>
<td>Financial rewards e.g. bonuses</td>
<td></td>
</tr>
<tr>
<td>Supervision of their work activities</td>
<td></td>
</tr>
<tr>
<td>Training in work at height</td>
<td></td>
</tr>
<tr>
<td>Work experience</td>
<td></td>
</tr>
<tr>
<td>Compliance with health and safety laws</td>
<td></td>
</tr>
<tr>
<td>The consequences of an accident</td>
<td></td>
</tr>
</tbody>
</table>

Comments:

12. From consultations with the workers that you represent, do you believe that your company can do anything more to make work at height safer? If yes, what?

13. Are you aware of any specific health and safety legislation providing guidance on how work at height activities should be carried out safely?

14. (a) Have you been provided with any information on the new Work at Height Regulations to be introduced in later this year?
   (b) If yes, who provided you with this information?
   (c) And how confident are you that these Regulations will make the work at height activities of the workers that you represent safer? Please explain. Please read through the list and circle the appropriate response.

<table>
<thead>
<tr>
<th></th>
<th>Very confident</th>
<th>Confident</th>
<th>Not very confident</th>
<th>Not at all confident</th>
<th>Not sure</th>
</tr>
</thead>
</table>

Comments:

15. We will be assessing the impact of the new Regulations in the future and it will be valuable to interview as many of the same people again as possible. Can we contact you next year to participate in a follow-up questionnaire?

16. Any further comments?

   Thank you very much for your help.

Please return this questionnaire to:

Ebenezer Anjorin, System Concepts, 2 Savoy Court, Strand, London WC2R 0EZ.
APPENDIX 2 – STAGE 1 TWO METRE QUESTIONNAIRES

This appendix contains the questionnaires that were used in the first stage of the Two Metre study.

All questionnaires started with recording the basic information listed below. We have included this here to prevent repetition.

- Name
- Position
- Organisation
- Phone number
- Date.

In the questionnaires, all wording in *italics* were instructions for the people carrying out the interview.

1. **Telephone questionnaire for Two Metre Rule – HSE Inspectors**

   This preliminary explanation was provided at the start of each telephone call.

   “I am calling on behalf of System Concepts who are carrying out a study on behalf of the HSE about work at height. The aim of the study is to establish the existing baseline for the state of safety in work at height activities. We are establishing this baseline by talking to key stakeholders, including regulatory bodies such as the HSE and Local Authorities, about current legislation and practices for work at height.

   Any information you provide is confidential. Responses will be included in our report to the HSE but they will be anonymous. We are happy to provide a copy of the results if you would like one. It will take about 10 minutes to complete the questionnaire. Is it convenient to talk now? If not, when would be convenient?”

   **Interviewers:** *In order to avoid repeat questions if you are interviewing someone that we have already interviewed as part of the main Work at Height project, then questions 1-5 should be ignored.*

1. In what sector do you work?
2. How long have you worked in this sector?
3. How significant an issue is work at height within your sector? (Read out possible responses and tick appropriate box). Please explain.
   
<table>
<thead>
<tr>
<th>Very significant</th>
<th>Significant</th>
<th>Not very significant</th>
<th>Not at all significant</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
   
   Comments:

4. How much work experience do you have of dealing with the risks from work at height? *(Read out possible responses and tick appropriate box.) Please explain. (Ask for further details.)*
   
<table>
<thead>
<tr>
<th>Extensive experience (e.g. &gt; 12 months)</th>
<th>Some experience (e.g. 7 – 12 months)</th>
<th>Little experience (e.g. 0 – 6 months)</th>
<th>No experience</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
   
   Comments:
5. What percentage of a typical inspection workday do you now spend dealing with work at height issues? Please explain. (Read out possible responses and tick appropriate box. Note any comments below.)

<table>
<thead>
<tr>
<th>Percentage</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20%</td>
<td></td>
</tr>
<tr>
<td>21-40%</td>
<td></td>
</tr>
<tr>
<td>41-60%</td>
<td></td>
</tr>
<tr>
<td>61-80%</td>
<td></td>
</tr>
<tr>
<td>81-100%</td>
<td></td>
</tr>
</tbody>
</table>

Comments:

6. How would you define the two metre rule as used in the construction industry for work at height activities?

7. From your experience how does the two metre rule affect the way that duty holders approach how they manage work at height activities both above and below two metres?

8. (a) In your experience, do duty holders use different controls to prevent falls above and below two metres?

(b) If yes, what are the different controls that they use?

9. From your experience, how confident are you that duty holders are complying with their legal requirements to ensure that work below two metres is carried out safely? Please explain. (Read out possible responses and tick appropriate box. Record any explanation or comments below.)

10. From your experience, how confident are you that duty holders are complying with their legal requirements to ensure that work above two metres is carried out safely? Please explain. (Read out possible responses and tick appropriate box. Record any explanations and comments below.)

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Confident</th>
<th>Not very confident</th>
<th>Not at all confident</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very confident</td>
<td>Confident</td>
<td>Not very confident</td>
<td>Not at all confident</td>
<td>Not sure</td>
<td></td>
</tr>
</tbody>
</table>

Please explain:

11. What do you believe will be the effect on duty holders of removing the two metre rule and moving to a risk based approach for all work at height activities?

12. What effect do you believe the removal of the two metre rule and the adoption of a risk based approach will have on reducing falls from height in the construction industry above two metres? Please explain. (Read out list and tick relevant box. Record any comments below.)

<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
<th>None</th>
<th>Slight negative effect</th>
<th>Significant negative effect</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant positive effect</td>
<td>Slight positive effect</td>
<td>None</td>
<td>Slight negative effect</td>
<td>Significant negative effect</td>
<td>Not sure</td>
</tr>
</tbody>
</table>

Please explain:

13. What effect do you believe the removal of the two metre rule and the adoption of a risk based approach will have on reducing falls from height in the construction industry below two metres? Please explain. (Read out list and tick relevant box. Record any comments below.)

<table>
<thead>
<tr>
<th>Effect</th>
<th>Description</th>
<th>None</th>
<th>Slight negative effect</th>
<th>Significant negative effect</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significant positive effect</td>
<td>Slight positive effect</td>
<td>None</td>
<td>Slight negative effect</td>
<td>Significant negative effect</td>
<td>Not sure</td>
</tr>
</tbody>
</table>

Please explain:

14. Have things started to change already, e.g. better precautions below 2m, because of knowledge of the forthcoming Work at Height Regulations?

15. Any other comments?
2. **Telephone questionnaire for Two Metre Rule – Duty holders**

This preliminary explanation was provided at the start of each telephone call.

“I am calling on behalf of System Concepts who are carrying out a study on behalf of the HSE about work at height. The aim of the study is to establish the existing baseline for the state of safety in work at height activities. We are establishing this baseline by talking to key stakeholders, including managers of employees who work at height, and asking them to complete a short questionnaire by telephone.

Any information you provide is confidential. Responses will be included in our report to the HSE but they will be anonymous. We are happy to provide a copy of the results if you would like one. It will take about 10 minutes to complete the questionnaire. Is it convenient to talk now? If not, when would be convenient?”

*Interviewers: In order to avoid repeating questions, if you are interviewing someone that we have already interviewed as part of the Work at Height project, then questions 1-8 should be ignored.*

1. How long have you been employed in your current position?
2. What does your company do?
3. How many sites do you have in the UK?
4. How many employees are there in your company?
5. How do you involve workers in health and safety?
6. What activities does your company do that involve work at height (where work at height is defined as any height at which a person may work from which if they fall they may receive a serious personal injury)?
7. How many employees are involved in work at height activities?

<table>
<thead>
<tr>
<th>No of employees</th>
<th>Responses (tick as appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10</td>
<td></td>
</tr>
<tr>
<td>11-20</td>
<td></td>
</tr>
<tr>
<td>21-30</td>
<td></td>
</tr>
<tr>
<td>31-40</td>
<td></td>
</tr>
<tr>
<td>41-50</td>
<td></td>
</tr>
<tr>
<td>51-100</td>
<td></td>
</tr>
<tr>
<td>101-200</td>
<td></td>
</tr>
<tr>
<td>Above 200</td>
<td></td>
</tr>
</tbody>
</table>

8. (a) What work equipment is provided for work at height activities? *(Tick relevant boxes)*

<table>
<thead>
<tr>
<th>Work platforms</th>
<th>Scaffolding</th>
<th>Edge protection</th>
<th>Fall arrest equipment</th>
<th>Guardrails</th>
</tr>
</thead>
</table>

(b) Are other types of work equipment used? *(Record all answers).*

9. What issues do you consider when deciding how to prevent falls?
10. (a) What do you understand to be the current legal requirements for preventing falls in the construction industry?
    (b) Using an example of current or recent work can you explain how the legal requirements work in practice?
11. (a) Do any of these legal requirements involve a specific height “trigger point” at which they operate? If so, how does this work?
(b) How does this consideration of the work height affect the preventative measures that you take and the work equipment used?

12. (a) Are you aware that new Regulations for work at height are being introduced in the UK? If yes, please describe what you think are the main changes.

(b) If yes, how do you think these new Regulations will affect how you manage your work at height activities (e.g. the control measures used for work at height)?

(c) If yes, has your company already started to modify its work procedures for working at height in anticipation of the new Regulations? For example, carried out new or reviewed existing risk assessments for work at height, purchase of new equipment etc.

(d) What are the estimated additional costs of these modifications to your work procedures (particularly the removal of any specific height at which action is necessary)?

<table>
<thead>
<tr>
<th>Not known</th>
<th>0 - £20K</th>
<th>£21K - £50K</th>
<th>£51K - £100K</th>
<th>&gt;£100K</th>
</tr>
</thead>
</table>

Comments:

(e) If yes, what do you predict will be the benefits of the new Work at Height Regulations (particularly the removal of any specific height at which action is necessary) to your organisation?

<table>
<thead>
<tr>
<th>Reduction in the number of falls from height</th>
<th>Increased safety culture amongst management and workers involved in WAH activities</th>
<th>Increased productivity from workers involved in work at height activities</th>
<th>Safer working practices for those who work at height</th>
<th>Reduced insurance costs for WAH activities</th>
</tr>
</thead>
</table>

Comments:

13. How would you describe the current levels of safety on your site with regard to work at height?

<table>
<thead>
<tr>
<th>Very good</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Very poor</th>
</tr>
</thead>
</table>

Comments:

14. Have there been any accidents on site due to work at height activities, and if yes, can you provide some information about them (e.g. what height were they from, what work equipment was involved, what injuries were sustained, etc.)?

15. Any further comments?

3. **Face-to-face questionnaire for Two Metre Rule – Duty holders**

Used for face-to-face discussions during site visits. This preliminary explanation was provided at the start of each interview.

“This interview is part of a study commissioned by the Health and Safety Executive, on work at height activities. As you know, I work for System Concepts, a health and safety consultancy firm, who is carrying out the study on behalf of the HSE.

All the information you provide is confidential. Responses will be included in our report to the HSE but they will be anonymous. We are happy to provide a copy of the results if you would like one. The information that you provide is very valuable and will be used by the HSE to further develop programmes aimed at reducing work at height accidents.”

1. What does your company do?
2. How long have you been employed in your current position?
3. What are your day to day responsibilities?
4. How does your company define work at height?

5. Do you know if, in law, there is a specific height that is relevant to whether work is defined as ‘at height’ or not? If yes, what is it?

6. (a) What work at height activities are carried out by your company?
   (b) How many workers are involved in these activities?

7. (a) Does the company have any specific policies for work at height activities? *(Ask to view the policy document(s) and obtain copies if possible.)*
   (b) If no, does the company have policies that are likely to reduce the likelihood of falls from height? For example, general health and safety policy, policies on work organisation for work at height, times when activities should be stopped due to adverse weather, policy on purchasing suitable equipment for work at height which will minimise falls from height. Please explain.
   (c) How does the company monitor the effectiveness of health and safety policies aimed at reducing falls from height? For example, internal and external health and safety audits, site inspections.
   (d) Who has responsibility for ensuring that work at height policies are correctly implemented? For example, managers and employees.

*On the basis of the responses given assess the policies using the rating scale below:*

| 1. Policies do not cover WAH. No written document on such policies is available. | 2. Policies are available for WAH issues but do not comply with current regulatory standard. | 3. Some policies to control WAH issues, even if not specifically designed for these risks. They are well defined and reviewed regularly. There is limited knowledge of the actual policies but people generally know what to do. Management are accountable and information is available. | 4. Good policies are in place to deal with WAH issues. There is input from all levels and participation and adoption of the measures is widespread. | 5. Excellent policies developed specifically for WAH issues. These set minimum standards and best practice. New requirements are evaluated and added as required. |

Key: 1 (Very poor), 2 (Poor), 3 (Adequate), 4 (Good), 5 (Excellent).

*FOR THE INTERVIEWER: Does the policy refer to any specific height(s)? If so, what height and does this have any effect on the policy, e.g. are there different requirements above or below this height?*

8. How are issues relevant to work at height issues communicated to the workforce? For example, toolbox talks, inspections, health and safety notice boards, well-publicised documents.

9. (a) Does your company have a health and safety committee? If yes, who is involved? For example, management, employees, trade unions and contractors’ representatives.
   (b) If yes, how frequently does the safety committee meet? For example, every month, three months etc.

10. Have the risks associated with work at height activities by your employees been assessed? If yes, when and by who, and what is their position? *(Ask to view samples of the risk assessment documents, obtain copies of these documents if possible, and assess their quality using the scale below.)*

| 1. No written risk assessments for WAH activities. | 2. Some written assessments are available, but these are very basic, and do not identify all the significant risks e.g. specific work hazards, training, supervision, work equipment. The risk assessments are not widely known amongst the staff. | 3. General risk assessments for WAH activities are available which clearly identify the hazards, people at risk, the level of risk and control measures. However these risk assessments have not been shown to all relevant staff. | 4. General risk assessments covering WAH issues are in place. These have been communicated to all levels of staff. | 5. Specific risk assessments for WAH activities have been carried out. These set minimum standards and best practice. New requirements are evaluated and added as necessary. |
Key: 1 (Very poor), 2 (Poor), 3 (Adequate), 4 (Good), 5 (Excellent)

FOR THE INTERVIEWER: Does the risk assessment refer to any specific height(s)? If so, what height and does this have any effect on the risk assessment, e.g. are there different risk levels or control measures above or below this height?

11. What measures are taken to ensure that employees/contractors follow safe procedures for work at height activities (e.g. supervision of work activities, permit to work systems)?

12. (a) How do you decide who can work at height safely?
(b) (Only ask if interviewee has mentioned a specific height already). Does the specific height you mentioned earlier affect your decision?

13. (a) What do you think makes a person competent to work at height?
(b) (Only ask if interviewee has mentioned a specific height already). Does the specific height you mentioned earlier affect what makes a person competent?

14. (a) What, if any, training is provided to employees involved in work at height activities?
(b) (Only ask if interviewee has mentioned a specific height already). Are there any differences in the training provided to employees who work above or below the height you mentioned earlier?
(c) Is training provided on the measures required for rescuing people involved in accidents, who work at height (e.g. fall arrest users)? Please describe.
(d) Are training records kept? (If yes, ask to view one or two samples of training records and obtain copies if possible. Assess quality of records using the scale below. Records should include: employee name, contact details, description of WAH training undertaken, details of when and who provided the training, and should be signed and dated by the employee.)

| 1. No training records available for work at height operatives. | 2. Some training records are available but there is no systematic system for the maintenance and update of training information. | 3. Training records are available and systematic scheme exist for maintenance of the records. However, some of the records not up to date, and have not been signed and dated by the trainee. | 4. Well documented training records available, providing personal details of the trainee, the type of training provided, and the dates that training was undertaken. The training record has been signed and dated by the trainee. | 5. Well documented training records providing/containing all the relevant personal and training information required. The training records also contain details of review dates for future training needs. |

Key: 1 (Very poor), 2 (Poor), 3 (Average), 4 (Good), 5 (Excellent)

15. (a) What work equipment is provided for work at height activities?

| Work platforms | Scaffolding | Edge protection | Fall arrest/suspended access work equipment | Ladders |

(b) Are other types of work equipment used? (If yes, please list/describe)
(c) (Only ask if interviewee has mentioned a specific height already). Apart from practical reasons (e.g. having to use high enough ladders), does the specific height you mentioned earlier affect what equipment is provided?
(d) How often do you inspect each type of work equipment used for work at height? For example, at the start of every shift, daily, etc.
(d) Do you keep inspection records for such work at height work equipment? If yes, please describe.
16. How confident are you that your company is fulfilling its legal obligations in regards to ensuring that work at height is safe? Please explain. (Read the responses and tick the appropriate box. Record any comments below.)

<table>
<thead>
<tr>
<th>Very confident</th>
<th>Confident</th>
<th>Not very confident</th>
<th>Not at all confident</th>
<th>Not sure</th>
</tr>
</thead>
</table>

Comments:

17. (a) Are you aware of the new Work at Height Regulations that are being introduced in 2005?

(b) If yes, what effects do you believe these Regulations will have on how you manage work at height activities in your company? Please explain.

<table>
<thead>
<tr>
<th>Very positive</th>
<th>Positive</th>
<th>None/negligible</th>
<th>Negative</th>
<th>Very negative</th>
</tr>
</thead>
</table>

Please explain:

(c) If yes, have you already changed your work practices to take account of the new Regulations? How? Please explain.

(d) If yes, are there any extra costs associated with the implementation of these new work practices?

18. (a) Has your company had any accidents/near misses involving work at heights?

(b) If yes, how many in the last 3 years?

(b) If yes, have these accidents been investigated by the company? How?

19. Any other comments?

4. **Face-to-face questionnaire for Two Metre Rule – Employees**

Used for face-to-face discussions during site visits. This preliminary explanation was provided at the start of each interview.

“This interview is part of a study commissioned by the Health and Safety Executive, on work at height activities. As you know, I work for System Concepts, a health and safety consultancy firm, who is carrying out the study on behalf of the HSE.

All the information you provide is strictly confidential. They will only be used for the purposes of the study and will not be passed to your employer. Responses will be included in our report to the HSE but they will be anonymous. We are happy to provide a copy of the results if you would like one. The information that you provide is very valuable and will be used by the HSE to further develop programmes aimed at reducing work at height accidents.

Thank you for agreeing to participate in this interview.”

1. What does your company do?

2. What is your job?

3. How long have you been employed in this role?

4. How much of your work involves work at height? (Read out list and tick as appropriate.)

<table>
<thead>
<tr>
<th>0-20%</th>
<th>21-40%</th>
<th>41-60%</th>
<th>61-80%</th>
<th>81-100%</th>
</tr>
</thead>
</table>

Comments:

5. Have the risks associated with your work at height activities been assessed by your employer? If yes, please explain. For example, have risk assessments for their work at height activities been carried out?
6. (a) What work equipment do you use to work at height? *Read list and circle each type of equipment used.*

<table>
<thead>
<tr>
<th>Work platforms</th>
<th>Scaffolding</th>
<th>Edge protection</th>
<th>Fall arrest equipment</th>
<th>Guardrails</th>
</tr>
</thead>
</table>

(b) Are other types of work equipment used? Please describe.

7. What training, information and guidance have been provided to you by your company to help you to work at height safely?

8. (a) Are you aware of the legal requirements about preventing falls, including whether there are any heights at or above which specific controls are required to prevent falls? Please explain.

(b) *Only ask if the interviewee does not mention the two metre rule.* Have you heard of the two metre rule? If yes, do you know what it is?"

9. Has there been any reference to the two metre rule in any training or information that you have been given on working at height? Please describe.

10. (a) Do you follow different safety procedures when working at heights above two metres compared to working below two metres?

(b) If yes, how do these safety procedures differ?

11. From your work experience, how effective has the two metre rule been in preventing falls?

<table>
<thead>
<tr>
<th>Very effective</th>
<th>Effective</th>
<th>Not sure</th>
<th>Ineffective</th>
<th>Very ineffective</th>
</tr>
</thead>
</table>

Please explain:

12. We will be assessing the impact of the new Regulations in the future and it will be valuable to interview as many of the same people again as possible. Can we contact you later in the year to participate in a follow-up questionnaire?

13. Any further comments?
APPENDIX 3 – STAGE 2 WORK AT HEIGHT AND TWO METRE QUESTIONNAIRES

This appendix contains the questionnaires that were used in the second stage of the Work at Height and Two Metre study. The questionnaires for managers, employees and inspectors contained two metre specific questions, as well as more general questions for the main work at height study. The two metre questions were only asked to managers and employees in the 5 key two metres sectors (as detailed in section 3.2), as well as inspectors specialising in the construction sector.

All questionnaires started with recording the basic information listed below. We have included this here to prevent repetition.

- Name
- Position
- Organisation
- Phone number
- Date.

In the questionnaires, all wording in italics were instructions for the people carrying out the interview.

1. **Telephone questionnaire – Manufacturers and suppliers**

   If this person was involved in the first stages of the project, make sure you retrieve the relevant questionnaire before starting the call. Remind the person of their previous participation (around 1 year ago).

   Explain:
   
   - System Concepts
   - Reason for call – HSE has commissioned study on the impact of Work at Height Regulations.
   - Work at Height Regulations came into force in April 2005
   - Involves talking to key stakeholders, including manufacturers/suppliers of work at height equipment
   - Confidential – questionnaire responses will be kept anonymous
   - Will be sending copy of results to everyone who takes part, if they desire.
   - About 15 minutes – convenient to talk now? If not – arrange time or ask them to call back.

1. What does your company do?

2. How long have you been employed in your current position? *(Only ask if NEW contact)*

3. What range of work at height access/safety equipment do you manufacture/supply?
4. What industries do you supply equipment to? (Read out list and tick appropriate box[es])

- Construction
- Agriculture
- Manufacturing
- Services
- Retail:
- Other – please specify:

5. In the last year, have you seen a change in demand for the type of equipment you manufacture/supply? (Prompt: For instance, have you seen an increase or decrease in the number of customers asking for a particular type of access/safety equipment, e.g. demand for ladders has fallen in comparison with podium steps)

- No
- Yes – if yes, what has changed and why do you think this is?

Has the change in demand led you to change your pricing structure? (Prompt: e.g. have you discounted any surplus equipment due to a low demand?)

- No
- Yes

Comments:

6. In the last year, has the range of equipment that you manufacture/supply changed? (Prompt: For instance, is there any equipment you have stopped or started manufacturing/supplying?)

- No
- Yes – if yes, how and why?

7. In the last year, have you seen a change in the volume of sales for equipment you manufacture/supply (i.e. not selling as much or selling more of certain type(s) of equipment)?

- No
- Yes – if yes, what has changed and why do you think it has changed?

Could you provide figures? (N.B. Explain that this information is strictly confidential)

8. Have you gained or lost any customers in the last year?

- No
- Yes gained
- Yes lost

If yes, do you think this may have been due to the Work at Height Regulations?

- No
- Yes
9. Have customers mentioned the Work at Height Regulations when ordering equipment?
   - ☐ Yes
   - ☐ No

10. Do you think the Work at Height Regulations are a good selling point?
    - ☐ No
    - ☐ Yes – if yes, have you used them as this?
    
    Comments:

11. Has your advice on the safe use or training needs for using work at height equipment changed since the Work at Height Regulations were introduced?
    - ☐ No
    - ☐ Yes

    Comments:

12. Have you seen any other impact since the Work at Height Regulations were introduced?
    - ☐ No
    - ☐ Yes – if yes, what?

    Comments:

2. **Telephone questionnaire – HSE & LA Inspectors**

   If this person was involved in the first stages of the project, make sure you retrieve the relevant questionnaire before starting the call. Remind the person of their previous participation (around 1 year ago).

   Explain:
   - System Concepts
   - Reason for call – HSE has commissioned study on the impact of Work at Height Regulations.
   - Involves by talking to key stakeholders, including regulatory bodies such the HSE and LA, about any changes in working at height
   - Confidential – questionnaire responses will be kept anonymous
   - Will be sending copy of results to everyone who takes part, if they desire.
   - About 20 minutes – convenient to talk now? If not – arrange time or ask them to call back.

1. In what sector do you work/specialise?

2. How long have you worked in this sector? *(Only ask if NEW contact)*

3. How much work experience do you have in dealing with the risks from working at height?
4. What percentage of a typical inspection workday do you spend dealing with work at height issues?

   Has this changed in the last year since the Work at Height Regulations came into effect?

   □ No
   □ Yes – if yes, what has changed and why do you think this is?

5. In your industry sector what is the main agent involved in falls from height (e.g. ladders, scaffold)?

   Prompt only if necessary.

   The next most common agents? Continue to prompt for 2 or 3 more responses.

   Have the type of agents changed since the Work at Height Regulations came into force (e.g. scaffold towers involved in more incidents than step ladders etc)?

   □ No
   □ Yes – if yes, what has changed and why do you think this is?

6. From your experience what do you think is the most common underlying cause of falls from height (e.g. inappropriate work equipment, no training etc)?

   Prompt only if necessary.

   The next most common underlying causes? Continue to prompt for 2 or 3 more responses.

7. How many fall from height incidents or unsafe practices have you investigated or witnessed in the last year?

   Please can you provide details?

   Have you seen any changes in the number or type of falls from height accidents or unsafe practices in the last year?

   □ No
   □ Yes – if yes, what has changed and why do you think this is?

8. Has the type of enforcement action you’ve taken changed since the Work at Height Regulations came into force?

   □ No
   □ Yes – if yes, what has changed and why do you think this is (e.g. issued more improvement/prohibition notices, provided more advice, any prosecutions etc)?

9. How confident are you that duty holders are aware of the Work at Height Regulations (i.e. do they know they exist)?
10. How well do you think duty holders understand the main requirements of the Work at Height Regulations (e.g. may be misconceptions that ladders have been banned)?

11. How well do you think duty holders are complying with the Work at Height Regulations?

12. Have you seen any changes in the way that duty holders manage work at height in the last year?
   - No
   - Yes – if yes, what are the changes and why do you think they have happened (e.g. new or revised risk assessments, changes in control measures/equipment/supervision, training and competency)? Prompt to ensure that they cover all aspects.

13. Have you seen any benefits to duty holders since the introduction of the Work at Height Regulations?
   - No
   - Yes – if yes, what are they and why do you think they have happened?

14. Have you seen any costs/problems to duty holders since the introduction of the Work at Height Regulations?
   - No
   - Yes – if yes, what are they and why do you think they have happened?

15. Are you aware of any specific precautions which previously had to be taken when working at height based on the height at which the work was being carried out?
   - No – if they are not aware, inform them that there was a two metre rule
   - Yes – if yes, please explain:

Do you know what has happened to the two metre rule in the Work at Height Regulations?
   - No – if they are not aware, inform them that it has been removed
   - Yes – if yes, please explain:

16. How confident are you that duty holders are aware of the removal of the two metre rule (i.e. do they know the two metre rule has been removed)? Please explain.

17. How confident are you that duty holders understand what the absence of the two metre rule means in practice when working at height?

18. Have you seen any changes in the way that duty holders manage work at height in the last year as a result of the removal of the two metre rule in the Work at Height Regulations?
   - No
   - Yes – if yes, what are they and why do you think they have happened (e.g. new or revised risk assessments, changes in control measures/equipment/supervision, training and competency)? Prompt to ensure that they cover all aspects.
19. From your experience, did duty holders use different controls to prevent falls above and below two metres before the Work at Height Regulations came into effect?

☐ No
☐ Yes – if yes, what were the different controls they used?

20. From your experience, do duty holders use different controls to prevent falls above and below two metres?

☐ No
☐ Yes – if yes, what are the different controls they use?

21. Have you seen any benefits or savings to companies as a result of the removal of the two metre rule?

☐ No
☐ Yes – if yes, what are they and why have they happened?

22. Have companies incurred any problems or additional costs due to the removal of the two metre rule in the Work at Height Regulations?

☐ No
☐ Yes – if yes, what are they and why do you think they have happened?

Have you seen any other effects since the removal of the two metre rule?

3. Telephone questionnaire for Work at Height – Duty holders

Note: If this person was involved in the first stages of the project, make sure you retrieve the relevant questionnaire before starting the call. Remind the person of their previous participation (around 1 year ago).

Explain:
- System Concepts
- Reason for call – HSE has commissioned study on the impact of Work at Height Regulations.
- Involves talking to key stakeholders, including managers of employees who carry out work at height activities.
- Confidential – questionnaire responses will be kept anonymous
- Will be sending copy of results to everyone who takes part
- About 20 minutes – convenient to talk now? If not – arrange time or ask them to call back.

1. How long have you been employed in your current position?

2. What does your company do?

3. How many sites do you have in the UK?

4. How many employees are there in your company?
5. Have you heard of the Work at Height Regulations?
   □ No
   □ Yes

6. Can you tell me what you have to do to comply with the Regulations?

7. How does your company define work at height?

8. What work at height is carried out in your company?
   Has the type of work at height carried out in your company changed in the last year?
   □ No
   □ Yes – if yes, please explain how it has changed and why you think this has happened.

9. How many employees are involved in work at height activities?
   Has the number of workers involved in work at height changed in the last year?
   □ No
   □ Yes – if yes, please explain how it has changed and why you think this has happened.

10. In the last year, have there been any changes in how you manage work at height, such as a change in how you work or the equipment used?
    □ No
    □ Yes – if yes, what changes were made and why? (E.g. new or revised risk assessments, changes in control measures/equipment/supervision, training and competency).
    (Prompt to ensure that they cover all aspects.)

11. Have your employees raised any issues/objections to work at height arrangements?
    □ No
    □ Yes – if yes, why? What were the issues/objections? (E.g. using the new equipment provided, changing the way they work)

12. Have you seen any benefits or savings since the introduction of the Work at Height Regulations?
    □ No
    □ Yes – if yes, what are they and why have they happened?

13. Have you incurred any problems or additional costs since the Work at Height Regulations came into effect?
    □ No
    □ Yes – if yes, what were they and are you able to quantify the costs?
14. Have you had any work at height accidents or near misses since the Work at Height Regulations were introduced?
   - No
   - Yes – if yes, how many and could you give me details about them?

15. Have you seen any changes in the number or type of work at height accidents or unsafe practices in the last year?
   - No
   - Yes – if yes, what has changed and why do you think this is?

16. How confident are you that your company is fulfilling its legal obligations to ensure that work at height is safe? Please explain.

17. Are you aware of any specific precautions which previously had to be taken when working at height based on the height at which the work was being carried out?
   - Yes – if yes, please explain:
   - No – if they are not aware, inform them that there was a two metre rule

18. Do you know what has happened to the two metre rule in the Work at Height Regulations?
   - Yes – if yes, please explain:
   - No – if they are not aware, inform them that it has been removed

19. What do you think the absence of the two metre rule means in practice when working at height?

20. Have you made any changes in the way you manage work at height in the last year as a result of the removal of the two metre rule in the Work at Height Regulations?
   - No
   - Yes – if yes, what are they and why have you made them? (E.g. new or revised risk assessments, changes in control measures/equipment/supervision, training and competency). (Prompt to ensure that they cover all aspects).

21. Did you use different control measures to prevent falls above and below two metres before the Work at Height Regulations came into effect?
   - No
   - Yes – if yes, what were the different controls you used?

22. Do you now use different control measures to prevent falls above and below two metres?
   - No
   - Yes – if yes, what are the different controls used?

23. Have you seen any benefits or savings as a result of the removal of the two metre rule?
   - No
   - Yes – if yes, what are they and why have they happened?
24. Have you incurred any problems or additional costs due to the removal of the two metre rule in the Work at Height Regulations?

☐ No
☐ Yes – if yes, what were they and are you able to quantify the costs?

25. Have you seen any other effects since the introduction of the Work at Height Regulations or the removal of the two metre rule? If yes, please explain.

26. Any further comments?

4. Face-to-face questionnaire – Duty holders

To be used during face-to-face discussions.

Explain:

- This questionnaire forms part of a study commissioned by the Health and Safety Executive (HSE), on work at height and the impact of the Work at Height Regulations.
- This study is being carried out by System Concepts, a health and safety consultancy, on behalf of the HSE.
- All the information that you provide on this questionnaire will remain strictly confidential and will only be used for the purposes of this study. It will not be passed to your employer or to test in an attributable way.

The information that you provide is very valuable, and will be used by the HSE to further develop programmes aimed at reducing work at height accidents.

1. How long have you been employed in your current position?

2. What does your company do?

3. How many sites do you have in the UK?

4. How many employees are there in your company?

5. What are your day-to-day responsibilities?

6. Have you heard of the Work at Height Regulations?

☐ Yes
☐ No

7. Can you tell me what you have to do to comply with the Regulations?

8. How does your company define work at height?

9. What work at height is carried out in your company?
10. Has the type of work at height carried out in your company changed in the last year?

☐ No
☒ Yes – if yes, please explain how it has changed and why you think this has happened.

11. How many employees are involved in work at height activities?

0-10 ☐
11-20 ☐
21-30 ☒
31-40 ☐
41-50 ☐
51-100 ☐
100-200 ☐
Above 200 ☐

12. Has the number of workers involved in work at height changed in the last year?

☐ No
☒ Yes – if yes, please explain how it has changed and why you think this has happened.

13. Are there any examples of types of work previously done at height where work at height is now avoided? (E.g. water poles and window cleaning etc)

14. In the last year, have there been any changes in how you manage work at height, such as a change in how you work or the equipment used?

☐ No
☒ Yes – if yes, why? (E.g. new or revised risk assessments, changes in control measures/equipment/supervision, training and competency). *(Prompt to ensure that they cover all aspects.)*

15. Have your employees raised any issues/objections to work at height arrangements?

☐ No
☒ Yes – if yes, why? What were the issues/objections? (E.g. using the new equipment provided, changing the way they work)

16. Have you seen any benefits or savings since the introduction of the Work at Height Regulations?

☐ No
☒ Yes – if yes, what are they and why have they happened?

17. Have you incurred any problems or additional costs since the Work at Height Regulations came into effect?

☐ No
☒ Yes – if yes, what were they and are you able to quantify the costs?
18. Have you had any work at height accidents or near misses since the Work at Height Regulations were introduced?

☐ No
☐ Yes – if yes, how many and could you give me details about them?

19. Have you seen any changes in the number or type of work at height accidents or unsafe practices in the last year?

☐ No
☐ Yes – if yes, what has changed and why do you think this is?

What were the root cause(s) of the accident(s)?

20. How confident are you that your company is fulfilling its legal obligations to ensure that work at height is safe? Please explain.

Very confident ☐
Confident ☐
Not very confident ☐
Not at all confident ☐
Not sure ☐

21. Are you aware of any specific precautions which previously had to be taken when working at height based on the height at which the work was being carried out?

☐ Yes – if yes, please explain:
☐ No – if they are not aware, inform them that there was a two metre rule

22. Do you know what has happened to the two metre rule in the Work at Height Regulations?

☐ Yes – if yes, please explain
☐ No – if they are not aware, inform them that it has been removed

23. What do you think the absence of the two metre rule means in practice when working at height?

24. Have you made any changes in the way you manage work at height in the last year as a result of the removal of the two metre rule in the Work at Height Regulations?

☐ No
☐ Yes – if yes, what are they and why have you made them? (E.g. new or revised risk assessments, changes in control measures/equipment/supervision, training and competency). (Prompt to ensure that they cover all aspects).

25. Did you use different control measures to prevent falls above and below two metres before the Work at Height Regulations came into effect?

☐ No
☐ Yes – if yes, what were the different controls you used?
26. Do you now use different control measures to prevent falls above and below two metres?

☐ No
☐ Yes – if yes, what are the different controls used?

27. Have you seen any benefits or savings as a result of the removal of the two metre rule?

☐ No
☐ Yes – if yes, what are they and why have they happened?

28. Have you incurred any problems or additional costs due to the removal of the two metre rule in the Work at Height Regulations?

☐ No
☐ Yes – if yes, what were they and are you able to quantify the costs?

29. Have the risks associated with work at height by your employees been assessed?

☐ No
☐ Yes – if yes, when and by who (what is their position)? (Ask to view samples of the risk assessment documents and obtain copies of these documents, if possible - assess quality [details in briefing document]).

Have these been reviewed/amended in the last year?

☐ No
☐ Yes – if yes, how and why?

30. Do you have any specific policies for work at height?

☐ No – go to Q31.
☐ Yes – if yes, have they been reviewed/amended in the last year? If they have, why and how have they been amended?

31. If no, does the company have policies that are likely to reduce the likelihood of falls from height? (e.g. general health and safety policy, policies on work organisation for work at height, times when activities should be stopped due to adverse weather, policy on purchasing suitable equipment for work at height which will minimise falls from height).

☐ No
☐ Yes – if yes, have any of these changed in the last year? Please explain.

32. Do you have any evidence about how effective your policies are in reducing falls from height? (e.g. internal and external health and safety audits, site inspections).

☐ No
☐ Yes

Do you think you have been more/less successful in the last year?

☐ More successful
☐ Less successful
33. How are work at height issues communicated to the workforce?

*Prompt if necessary.*

- Toolbox talks
- Health and safety notice boards
- Training
- H&S committee
- Team meetings/briefings
- Via employee/TU representatives
- Intranet
- Inspections
- Other – please specify:

Has this changed in the last year?

- No
- Yes – if yes, why?

34. Who is responsible for making sure that work at height policies are correctly implemented? (e.g. managers and employees).

- Managers
- Supervisors
- Employees
- Other – please specify:

Has this changed in the last year? If so, how and why?

35. What measures are taken to ensure that employees/contractors follow safe procedures for work at height (e.g. supervision of work activities, permit to work systems)?

- Supervision
- Permit to work
- Training
- Written work guidelines
- Auditing
- Other – please specify:

Have these changed in the last year? If yes, how and why?

36. Have you any criteria laid down about who can work at height?

- Training
- Experience
- Physical/mental fitness
- Head for heights
- Understanding the risks
- Management decides
- Staff assessment procedures
37. What training is provided to employees who work at height? Has this changed in the last year? If yes, how and why? [Interviewer to assess whether to ask this question]

38. In relevant cases is training provided on how to rescue people involved in accidents when working at height (e.g. fall arrest users). Please explain. Has this changed in the last year? If yes, how and why?

39. Are training records kept? If yes, ask to view one or two samples of training records for people who work at height and obtain copies of these documents. (Records should contain: employee name, contact details, description of work at height training undertaken, details of when and who provided the training, and be signed and dated by the employee).

40. What access/safety equipment is provided for work at height? Has this type of equipment changed in the last year? If yes, how and why?

How effective do you think this equipment is at preventing falls from height?

41. How often do you inspect each type of access/safety equipment for work at height? (e.g. at the start of every shift, daily etc). Has this changed in the last year? If yes, how and why?

42. Do you keep inspection records for equipment used for work at height? If yes, please explain.

43. Any further comments?

5. Face-to-face questionnaire – Employees

To be used during face-to-face discussions.

Explain:

- This questionnaire forms part of a study commissioned by the Health and Safety Executive (HSE), on work at height and the impact of the Work at Height Regulations.
- This study is being carried out by System Concepts, a health and safety consultancy, on behalf of the HSE.
- All the information that you provide on this questionnaire will remain strictly confidential and will only be used for the purposes of this study. It will not be passed to your employer or to test in an attributable way.
- The information that you provide is very valuable, and will be used by the HSE to further develop programmes aimed at reducing work at height accidents.

1. What does your company do?

2. What is your job?

3. How long have you been employed in this role?
4. Are you aware of the Work at Height Regulations?

☐ No
☐ Yes

If yes, do you know what they require? Please explain.

5. How much of your work involves work at height?

- 0-20%
- 21-40%
- 41-60%
- 61-80%
- 81-100%

Comments:

Has this changed in the last year? If yes, please explain how it has changed and why you think this has happened.

6. What type of access/safety equipment is provided for work at height?

Has this type of equipment changed in the last year? If yes, how and why?

How effective do you think this equipment is at preventing falls from height?

7. What measures are taken to ensure that you (employees) follow safe procedures for work at height (e.g. supervision of work activities, permit to work systems)?

Have these changed in the last year? If yes, how and why?

8. Have the risks associated with your work at height been assessed by your employer?

☐ No
☐ Yes

If yes, please explain. (E.g. have they carried out risk assessments for their work at height?)

Do you know if they have been reviewed/changed in the last year? If yes, how have they changed and why do you think this has happened?

9. What training, information and guidance have been provided to you by your company to help you to work at height safely?

Has this changed in the last year? If yes, how has it changed and why?
10. From your work experience, what factors most commonly contribute to falls from height accidents within your company?

- Portable ladders
- Fixed ladders
- Stairs
- Scaffolding
- Work areas/platforms
- Vehicles
- Roof edges
- Fragile roofs
- Other

Provide details:

Comments:

Has your opinion changed in the last year? If yes, how has it changed and why?

11. What do you think were the main causes of these incidents/accidents? (Read through the list and tick the appropriate cause(s)).

- Unsafe work practices (I.e. no adequate safe system of work)
- Poor training
- Pressure to work too quickly
- Unsafe work equipment
- Lack of supervision
- Others

Provide details:

Comments:

Has your opinion changed in the last year? If yes, how and why?

12. What factors most influence your behaviour when working at height? How important are each of these. Please explain the reasons for each of your choices in the comments section.

- Pressure to meet deadlines
- Financial rewards e.g. bonuses
- Being supervised
- Training in work at height
- Work experience
- Compliance with Health and Safety laws
- The consequences of an accident

Is there anything else that affects how you work at height? Has your opinion changed in the last year? If yes, how have they changed and why?
13. How good is your company at protecting employees who work at height? Please explain.

Very well □ □
Well □ □
Average □ □
Poor □ □
Not sure □ □

Comments:

Has your opinion changed in the last year? If yes, how have they changed and why?

14. Are you aware of any specific precautions which previously had to be taken when working at height based on the height at which the work was being carried out?

□ □ Yes – if yes, please explain:
□ □ No – if they are not aware, inform them that there was a two metre rule

15. Do you know what has happened to the two metre rule in the Work at Height Regulations?

□ □ Yes – if yes, please explain:
□ □ No – if they are not aware, inform them that it has been removed

16. What do you think the absence of the two metre rule means in practice when working at height?

17. Did your employer use different control measures to prevent falls above and below two metres before the Work at Height Regulations came into effect?

□ □ No
□ □ Yes – if yes, what were the different controls you used?

18. Does your employer now use different control measures to prevent falls above and below two metres? ?

□ □ No
□ □ Yes – if yes, what are the different controls used?

19. Do you believe that your company can do more to make working at height safer? If yes, what?

20. Any further comments?
6. **Questionnaire – Trade Union Safety Representatives**

Letter accompanying questionnaire:

Dear Sir/Madam,

This questionnaire forms part of a study into the impact of the Work at Height Regulations introduced in 2005. This study is being carried out by System Concepts, a health and safety consultancy, on behalf of the Health and Safety Executive (HSE).

The aim of this questionnaire is to gather information about the awareness and understanding of the risks to those working at height. This includes all sorts of work from regular construction activities to occasional shelf stacking in retailing so that we can find out how aware workers are about the different hazards involved and what they need to do to prevent falls. We are therefore asking Trade Union Safety Representatives to provide information about the workers that they represent and the work that they do.

The information that you provide is very valuable, and will be used by the HSE to develop further programmes aimed at reducing work at height accidents. All the information that you provide on this questionnaire will remain strictly confidential and will only be used for the purposes of this study. It will not be passed to your employer or any other body, other than being amalgamated with similar information in the results of this study.

I hope you feel able to be part in this study, but if you require any further information including how to complete this questionnaire, please contact me on 020 7240 3388.

Yours faithfully,

Laura Peebles

1. What sort of work does your employer carry out?

2. What job do you do?

3. How long have you been a trade union safety representative?

4. How many workers do you represent?

5. What are the main sorts of jobs that they do?

6. How much time on average do the workers that you represent spend working at height?

   Has this changed in the last year?

   If yes, please explain how it has changed and why you think this has happened.

7. Are you aware of the Work at Height Regulations 2005? If yes, please explain what you believe they require.
8. Are the workers you represent aware of the Work at Height Regulations? If yes, do you think they understand what they require? Please explain.

9. Have the risks associated with the work at height carried out by the people you represent been assessed by your employer? If yes, please explain (e.g. have you seen evidence that risk assessments address work at height?)

10. Do you know if the risk assessments have been reviewed/changed in the last year? If yes, how have they changed and why do you think this has happened?

11. What type of access/safety equipment is used for work at height and has this changed in the last year? If yes, how has it changed and why?

12. What training, information and guidance have been provided to the workers you represent by your company to help them to work at height safely? Has this changed in the last year? If yes, how has it changed and why?

13. Are you aware of any work at height accidents or near misses that your company has had since the new Regulations were introduced? If yes, how many? Please provide details if known.

14. What equipment was most commonly involved in these incidents/accidents? Please read through the list below and tick the appropriate box(es)?

- Portable ladders
- Fixed ladders
- Stairs
- Scaffolding
- Work areas/platforms
- Vehicles
- Roof edges
- Fragile roofs
- Other

Provide details:

Comments:

15. What do you believe were the main causes of these incidents/accidents? (Read through the list and tick the appropriate cause[s]).

- Unsafe work practices (i.e. no adequate safe system of work)
- Poor training
- Pressure to work too quickly
- Unsafe work equipment
- Lack of supervision
- Others

Provide details:

Comments:

16. From consultation with the workers that you represent, what factors do you think most influence their behaviour when working at height? (Please read through the list, tick the
appropriate box and explain the reasons for each of your choices, in the comments section.

How important is each of these factors?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure to meet deadlines</td>
<td>☐</td>
</tr>
<tr>
<td>Financial rewards e.g. bonuses</td>
<td>☐</td>
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<tr>
<td>Being supervised</td>
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<tr>
<td>Training in work at height</td>
<td>☐</td>
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<tr>
<td>Work experience</td>
<td>☐</td>
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<tr>
<td>Compliance with Health and Safety laws</td>
<td>☐</td>
</tr>
<tr>
<td>The consequences of an accident</td>
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</tbody>
</table>

Do you think opinions have changed in the last year? If yes, how and why have they changed?

17. From consultations with the workers that you represent, how good do you think your company is at protecting employees who work at height?

   Do you think opinions have changed in the last year? If yes, how have they changed and why?

18. From consultations with the workers you represent, do you believe that your company can do more to make work at height safer? If yes, what?

19. Have you been provided with any information on the Work at Height Regulations? If yes, what information did you receive and who provided it to you?
APPENDIX 4 – STAGE 2 VERBATIM COMMENTS

In this section we provide a sample of verbatim comments from our interviews with equipment manufacturers and suppliers, HSE and LA inspectors and managers, as well as a selection of comments received from trade union safety representatives on their postal questionnaires.

1. EQUIPMENT MANUFACTURERS AND SUPPLIERS

Q – In the last year, have you seen a change in demand for the type of equipment you manufacture/supply?

- Yes, increase in fall arrest kits doubled.
- Yes, we are doing more low-level access equipment.
- Yes, platforms and podium steps have gone up dramatically but ladders have gone down.
- Yes, there has been a significant increase from industrial users due to the WAH Regulations. There is a big increase in demand for the smaller electric indoor platforms.
- Yes, we are selling fewer stepladders and more platforms and towers.
- Yes our ladder sales have dropped. Reps from the HSE were originally leading people to believe that ladders would be banned and as a result a number of large contractors did this, which has had a terrible effect on our business. This hasn't happened elsewhere in Europe where the European Directive has been interpreted more sensibly.
- Sales of ladders have dropped and podiums etc have increased. The Regulations have created a mist. Our customers have told us how the little adols in the building industry have created confusion and chaos. No, the Regulations don't ban ladders, but a lot of the main contractors seem to have adopted that approach and as a result lots of smaller outfits are going out of business.
- Not in type but certainly in volume.

Q – Has the change in demand led you to change your pricing structure?

- No, not at the moment.
- No, but we are talking about this.
- Yes, we have had to discount ladders.

Q – In the last year, has the range of equipment that you manufacture/supply changed?

- Yes, we have introduced scissor lifts, podium steps and telescopic booms.
- No, because we specialise in greater heights.
- We have recently introduced a number of new smaller machines for indoor use due to the demand as a result of the Regulations.
- We have developed more into rescue products.
- No, but we have upgraded it in line with the BS.
- Yes, we are starting to supply work platforms but we are so late getting into this area…there are so many other organisations better placed than us.
No, only the quantities.
Yes, we are always developing new products but this is not due to the WAH Regulations.

Q – In the last year, have you seen a change in the volume of sales for equipment you manufacture/supply (i.e. not selling as much or selling more of certain type(s) of equipment)?

Yes, we are selling more fall arrest.
More demand from new and existing customers, business has probably increased by 20%.
Yes, we are busier and selling more equipment across the board.
Yes, as a result of the removal of the two metre rule.
Yes, up approx 10%.
Not for equipment, but we also provide training and we have seen a massive increase in this which is a result of the new Regulations.
Yes, a significant increase of approx 5%.
Yes, because of the WAH Regulations we are selling more expensive products now and have seen an approx 10% increase.
We double in size every year. We can't separate what is natural growth from the impact of the WAH Regulations.
Yes, due to the WAH Regulations. The increase to our business is about 5%.
Yes, WAH Regulations have increased our sales by 15%.
Ladders have gone down and it would have had a negative effect on our business however we have responded to that and managed to keep things even.
Yes - decline in sales of air safety matting to construction sector. But generally the overall volume of sales is lower than last year (£750,000).
Yes - selling more horizontal and vertical lines - our figures for 2005 are £20 million compared with £16 million the year before.

Q – Have you gained or lost any customers in the last year?

Both, it's a very volatile industry and due to the new Regulations organisations are shopping around more. Safety costs money so our customers are sharpening their pencils.
Yes, gained those buying podium steps and towers, lost those buying ladders.”
Yes, gained in training.
No, people are just buying different stuff.
Local councils seem to becoming more safety conscious.
Yes – gained a few new customers.

Q – If yes, do you think this may have been due to the Work at Height Regulations?

It might possibly have something to do with WAH (Regs). People are taking it more seriously now. We have a policy in that we will only supply our equipment to people who are trained by us. I am ethically motivated. Lots of sites wrongly specify the type of equipment required or wrongly use it. We don't sell through distributors unlike our competitors.
• Yes, in part the Regulations and in part natural growth.
• Yes – definitely.

Q – Have customers mentioned the Work at Height Regulations when ordering equipment?

• 50/50.
• Yes, some have.
• Yes - a couple mentioned the Regulations when ordering.

Q – Do you think the Work at Height Regulations are a good selling point?

• Yes, we looked at the Regulations and tried to address the points raised and the requirements through our equipment.
• Yes and no, good in terms of improving safety but the problem for us is that different sites interpret things differently, for example some sites won't let anyone use a single width tower.
• Yes, b****y excellent.
• Potentially but we don't go in heavy-handed, we make clients aware of their responsibilities for providing safe access.
• Yes, they reinforce the need for training.
• Yes, our sales teams are targeting smaller industry. We are also getting more requests from people.
• Yes, because we are now selling more expensive equipment.
• Yes, but not as much as the BS could be. If the BS was more widely publicised you would see changes.
• Yes, we also provide consultancy services to explain the WAH Regulations and carry out risk assessments and training.
• Yes, it's ok if used properly but some companies are using scare tactics.
• We have not used them for this.
• No, I don't want to get into conversations with people. I am there to sell them things.
• No - as the decision to purchase equipment is related to cost, not the WAH Regulations. The mindset of many people is 'I've been doing it this way for years and don’t need to make any changes'.
• Yes - we have incorporated the WAH Regulations into our company literature and training courses.
• Yes, we are now providing more training. We are members of the British Ladder Manufacturers association and they provide advice on training. In addition we provide training with all of our products.

Q – Has your advice on the safe use or training needs for using work at height equipment changed since the Work at Height Regulations were introduced?

• Yes, we do advise people on the safe use of equipment in conjunction with the Regulations.
• We are a PASMA training centre. We train people in the safe use and erection of mobile towers.
Yes, we can no longer say they don't need guard rails etc under two metres.
Only in that we now refer to the new Regulations.
Not really, the Management Regulations were already in place.
We have updated the legislation part of our courses. We produce guidance documents, reports and DVDs on rescue products.
It is more focused on the Regulations.
Yes, referencing them.
Yes, incorporating info from the Regulations.
No - our information was always extensive.
Yes - user instructions and training courses have been revised to include WAH Regulations info and any reference to the two metre rule has been removed.

Q – Have you seen any other impact since the Work at Height Regulations were introduced?

Not yet, but the new Regulations on mobile towers are causing everyone problems.
The need for rescue has been highlighted and we are getting more enquiries regarding products and training for rescue plans.
Yes, we have had much more demand on the training side of things. Customers have asked for training and certificates on the Regulations. Of course there is no certificate but we are providing training on safe use of harnesses, how to operate our equipment safely etc.
We are now looking for replacement products for stepladders. In the past, companies would buy stepladders from us at £50 a time and now they are having to spend £200-300 on a podium. This can be tough for our customers. So we are looking at other options. The delays in releasing the WAH Regulations caused a lot of problems and confusion. As a result, there was a lot of misinformation, people really didn't know what would be permissible and what wouldn't. As a result, some of the larger sites started to ban equipment such as ladders to err on the side of caution.
Yes, more training companies are springing up.
More companies are offering training.
People have become more safety conscious. Prices for work has increased, particularly for homeowners.

Q – Any other comments?

No - there is no positive impact. Most customers are already aware of work at height risks and the introduction of the WAH Regulations has had no real impact.
Yes - we have positive feedback on the WAH Regulations. It’s a common sense approach in that the Regulations say you should avoid the risk of working at height in the first instance.
There is lots of confusion amongst our customers. H&S consultants are providing them with the wrong information. For example some people think that they are no longer supposed to use ladders when this is not the case. There have also been instances of HSE providing people with the wrong information. It seems to me that people are trying to cover their a**es.
I think that the WAH Regulations are diluted and hard to interpret. I don't think that they were what we expected. I tend to use BS 8437, which I am more excited by. I believe that the BS is what the WAH Regulations should have been. We deal with 25 of the largest construction companies in the UK and none of them have heard of the BS. Our competitors are not aware of it either.

2. **HSE AND LA INSPECTORS**

Q – How confident are you that duty holders are aware of the Work at Height Regulations (i.e. do they know they exist)?

- Larger companies are aware of the Work at Height Regulations more so than smaller companies.
- Most duty holders are aware of the Work at Height Regulations.
- Duty holders are not more aware than before the Regulations came into effect. Larger companies more aware than smaller ones. Smaller companies tend to be aware of general health and safety regulations, but not specifically the Work at Height Regulations.
- Not at all confident (based on talking with duty holders).
- Not many know they exist (based on site visits).
- Most companies are highly aware but there are some that are not aware.
- Bigger companies have heard of the Regulations but lots of smaller ones have not.
- Reasonably confident - larger companies who have their own health and safety adviser are more aware.
- Quite a few know but some don't - they know that generally they need to consider work at height but do not know about the specific Work at Height Regulations.
- Surprised at how knowledgeable duty holders are at being aware of the Work at Height Regulations.
- Not very confident - there are lots of smaller business in their geographical area that are not aware of the Regulations.
- Not sure that companies are aware. When I mention the Work at Height Regulations they are not aware of them.
- Not that confident. I deal mainly with warehouses and many are not aware of the Work at Height Regulations.
- Not confident - based on most businesses. They rely on LA to supply info. There is a WAH leaflet that they can distribute if inspection reveals WAH as an issue.
- Could be better. Some are aware. National chains are more aware as they have a health and safety adviser. Smaller companies are often not aware.
- Not very confident that managers are aware - I still observe dangerous activities during visits.

Q - How well do you think duty holders understand the main requirements of the Work at Height Regulations (e.g. may be misconceptions that ladders have been banned)?

- Larger companies generally understand to a better extent the main requirements of the Regulations compared with smaller companies.
• Variable - larger companies have resources to implement control measures and are aware of what the requirements are.
• Poor understanding of main requirements due to wording. Clearer in the Workplace Regulations than the Work at Height Regulations.
• Many are not aware of the Regulations so are therefore not aware of the requirements.
• Most duty holders understand the main requirements, but it is the application of managing work at height that is problematic as managers often fail to communicate the dangers of work at height …. to middle level staff who are responsible.
• There is a lack of knowledge about the main requirements - many duty holders don't know the specific details of the Work at Height Regulations.
• Most larger companies understand the main requirements as they can afford to retain a health and safety adviser.
• Not many understand. Companies who employ a health and safety adviser or specialist have an idea of what the main requirements are but do not always interpret the Regulations correctly.
• Larger companies understand more as they generally have a health and safety adviser.
• Generally, those duty holders that have heard of the Work at Height Regulations do understand the main requirements but some don't understand or correctly interpret the more detailed requirements. For example, some are aware of the hierarchy of control but do not choose the most suitable option i.e. wrong/unsuitable fall arrest system for work being done.
• We get a number of calls asking if its true that ladders are banned which suggests that people don't understand the requirements.
• Most are not aware of what the Regulations require.
• In general terms, some duty holders are aware of the requirements but only generally - no specifics.

Q - How well do you think duty holders are complying with the Work at Height Regulations?

• Larger companies don't always comply, despite the fact that they are aware of the Regulations and have the resources to do so. Smaller companies typically lack money and expertise.
• Most duty holders are trying to comply - they don't always get it right but things are improving.
• Variable - larger companies comply more then smaller companies.
• Average - there were requirements in the Workplace Regulations to deal with work at height so many manufacturers do assess risks and implement control measures.
• Any compliance is accidental. Duty holders take sensible precautions, which mean they comply but the control measures are not a result of the Regulations.
• Duty holders that are aware typically get 50-75% of the main requirements correct. But they often fail to consider contractors.
• Some are complying but this is mainly due to chance. They have precautions in place to prevent falls from height but they don't comply with other aspects i.e. no risk assessments.
• Many companies are good at complying - regardless of size. Although companies with a health and safety adviser are better at complying because they have the necessary skills/knowledge.
• Some duty holders do comply to some extent - but not with the letter of the law. Many are good with the practical/physical control measures but not with other requirements e.g. risk assessments.
• None are fully complying.
• Those that do know comply very well - but some don't even consider the first step in the hierarchy to avoid work at height. They don’t think about the work or plan it - they just grab stepladders and use them.
• Larger companies generally comply better than smaller companies as they have health and safety departments and the arrangements in place to disseminate information. Smaller companies often don't comply very well but it's not that they choose not to - they are not aware of what the Work at Height Regulations require.
• Not found any duty holder that is any good at complying with the Regulations – I think this is because there is no ACoP to give practical guidance.
• Companies only tend to comply following an inspection or investigation.
• Judging by what I've seen they are not complying very well. Duty holders have enquired about work at height issues so some have awareness.

Q - Have you seen any changes in the way that duty holders manage work at height in the last year?

• If companies have previously managed work at height then they continue to do so and have made no changes. Companies who didn’t control work at height issues prior to the Regulations still don’t.
• Yes - a lot of companies have moved away from using ladders and use other devices instead e.g. cherry pickers or MEWPs.
• A small number of companies have provided more suitable equipment and improved their training.
• Yes - following ladder initiative, duty holders are more aware of ladder safety and have implemented maintenance, inspection and recording systems.
• Yes - many of the larger construction companies now use different equipment e.g. crossover easy-decks instead of tower scaffold or platforms. The Work at Height Regulations have resulted in a wider range of equipment being available and many companies now have the option of choosing more suitable equipment.
• More duty holders now use cherry pickers when erecting steel structures. Also seen more use of safety nets. Whole culture of work at height has improved - due to the Work at Height Regulations and technical advances, particularly in the steel erection sector.
• Some duty holders have revised their risk assessments and provided different equipment due to increased awareness.
• Some companies have implemented additional control measures (e.g. podium steps or tower scaffold and not stepladders) and some have revised their policies and procedures (e.g. to ban stepladders).
• Yes - some larger companies particularly in food & drink sector have installed new equipment. Also, some companies have banned ladders.
• Yes - window cleaners now use long pole systems to avoid work at height. Other duty holders now provide and use MEWPs rather than ladders.
I have seen evidence of avoiding work at height - many theatres are bringing down rigging to change lights etc instead of working at height. Some companies have replaced old/worn ladders and now use different styles of ladders.

Q - Have you seen any benefits to duty holders since the introduction of the Work at Height Regulations?

- The Work at Height Regulations have increased awareness of work at height but have not improved the understanding of the Regulations.
- The Work at Height Regulations spell it out more clearly and it’s easier to explain to duty holders what is required. There are main headings in the Regulations and the absolute prevention of work at height is clearly conveyed.
- No - the Work at Height Regulations replace what was always there in other Regulations.
- No - not yet, it's too early. The Regulations make it clearer what is required to safely manage work at height but it's too soon to see any benefits.
- Yes - publicity of work at height issues and awareness of risks. Also, the Regulations specify requirements in one place - providing a focus. Duty holders now have regulations specifically for work at height that were previously dispersed in other Regulations.
- Employees have implicit duties and the Regulations make it easier for duty holders to enforce safe working practices and rules and make sure that they are followed. The Work at Height Regulations have also created an awareness of work at height. There are also cost benefits as companies save money in the long run if they purchase and provide suitable equipment that is correctly used.
- Safer work at height practices due to increased awareness of the Work at Height Regulations.
- Have re-focused attention on work at height.
- Yes - has made companies think more about work at height issues, particularly about maintaining and inspecting equipment. Also, has made companies more aware of contractors and the way they work.
- Less accidents and costs savings due to a reduction in lost time accidents.
- Yes - same as any new regulations or framework. They emphasis a particular hazard.
- The Regulations make it easier for inspectors to give advice on work at height. Greater awareness of work at height and use of ladders for access.

Q - Have you seen any costs/problems to duty holders since the introduction of the Work at Height Regulations?

- An increase in resources as there is more paperwork involved - e.g. documenting safe systems of work.
- No - no more than complying with other Regulations, which they should have been doing anyway.
- Yes - resource costs to read/implement new Regulations, time to deal with the issue of work at height. But no direct financial costs e.g. due to equipment.
- Many companies think stepladders have been banned. The Work at Height Regulations have not had a positive effect on industry.
- There is an overwhelming opinion that the Regulations will cost. People automatically think that providing more suitable equipment is costly but even if they used ladders then
they need to be maintained and replaced. There may be a small initial cost to buy equipment, but this will pay for itself at the end of the day when work at height is safer.

- Yes - increased costs of new equipment (i.e. scissor lift instead of ladders).
- Yes - increased cost of replacing old worn ladders and providing more suitable access equipment (i.e. cherry pickers).
- There is an initial outlay of costs involved in providing new equipment but this saves money in the long run.
- There are costs attached with providing more appropriate equipment - but this is balanced against the savings made by avoiding accidents.
- There is no ACoP for the Work at Height Regulations and so duty holders have problems with practical aspects of implementing the Work at Height Regulations.
- There is no ACoP for the Regulations so it is difficult for duty holders to know what to do in practice to implement the main requirements. Some pay for consultants to advise them – this increases the cost.

**Q - How confident are you that duty holders are aware of the removal of the two metre rule?**

- 65% are aware and 35% are not aware.
- Most are aware that it has been removed but are unsure of what it actually means.
- Many are not aware that it has not been removed. It will take a long time for company's to get it out of their head.
- Some are aware that it has been removed, but some are not.
- There are three types of companies. Those that don't consider or manage work at height and still don’t despite the new Regulations. Those that considered work above 2 metres to equal work at height and who control work at height above 2 metres but not below. Some companies now consider low falls i.e. less than 2 metres and have implemented new control measures due to the new Work at Height Regulations.

**Q - How confident are you that duty holders understand what the absence of the two metre rule means in practice when working at height?**

- Some do but others don’t as you still see people using different controls above and below 2 metres.
- Not very confident. Many duty holders are not aware of how serious low falls can be. They can understand the sense of removing the rule but what this actually means in practice causes confusion.
- Not very confident. You still have duty holders that have the attitude that working below 2 metres at, for example open edges, is OK.
- Some do and some don’t.

**Q - Have you seen any changes in the way that duty holders manage work at height in the last year as a result of the removal of the two metre rule in the Work at Height Regulations?**

- No, there are still companies who consider that working below 2 metres is safe and does not require control measures.
Yes, some companies now consider low falls and have implemented control measures below 2 metres.

Q - From your experience, do duty holders use different controls to prevent falls above and below two metres?

Yes, some believe that using ladders below 2 metres is acceptable but not above 2 metres. Many duty holders do not consider any other equipment below 2 metres. Yes, still use different control measures (i.e. none if work is below 2 metres). Yes, most companies think that working at a height at less than 2 metres is OK and that no control measures have to be provided/used. Yes, some still don't do anything for work at height below 2 metres and some do.

Q - Have companies incurred any problems or additional costs due to the removal of the two metre rule in the Work at Height Regulations?

Yes, confusion over ladder use.

Q - Have you seen any other effects since the removal of the two metre rule?

Yes, the Work at Height Regulations make it easier to enforce and discuss work at height activities. There is a clear hierarchy of control measures, which are flexible enough to be practical. The Regulations focus on avoiding work at height and where there is a risk, it must be controlled. So it’s easier to offer advice and enforce safe practices. Before the Work at Height Regulations came out the Health and Safety (HSE) Executive stated 'if you already comply then the removal of the 2 metre rule will make no difference'. Companies have taken this advice at face value and are confused when inspectors tell them they have to consider all work at height even if it is less than 2 metres. The advice coming from HSE and the Work at Height Regulations is inconsistent and causes confusion.

3. MANAGERS/DUTY HOLDERS

Q - How does your company define work at height?

When both boots are off the ground, otherwise it is walking. Any height at which serious injury could occur. Anything over 2 metres. Anything that can't be done with a MEWP. Anything over body height. Any work that requires the use of ladders and other equipment. Over two storeys. Where there is a foreseeable risk due to height, any height. Anywhere you can fall and cause a injury to yourself or someone. Or something can fall on you. Anything above a kick stool height. Anything above 6 feet.
• Over 11 foot.
• Anything higher than the height of a step ladder.
• Over 4 feet.
• Anything people can’t reach from arm’s length.
• feet.
• Any work where there is a significant risk of falling - either on the same level or down a hole.
• Any work without fixed steps/ladders for a duration of longer than 20 minutes.
• Anything above 1.2 metres. Our parent company is American so the safety programmes are driven by OHSA requirements and they have a specific height of 4 ft (1.2m).
• Tanker top working.
• Anything over 6 inches.

Q - In the last year, have there been any changes in how you manage work at height?

• Each site is now assessed for the use of MEWP’s due to Work at Height Regulations.
• We now tie in from two points as the Arboriculture Association has introduced new policy. This involved being tied in from two points all the time.
• We try and reduce the amount of time spent on ladders and use powered access equipment instead, for example MEWP’s, toucan lifts. This makes the work easier and more efficient. We also now wear harnesses and lanyards and hared hats when we work on the MEWP or cherry picker.
• An increased use of scaffold towers.
• More emphasis and consideration given to what access and safety equipment to use. More formal training is given and more tool box talks. Risk assessments have been updated. New mobile work towers.
• More fall arrest.
• We are using more mechanical aids and our management of the work is more improved and organised and we have checklists.
• More use of MEWP’s and other access equipment. Our contract managers have gone on the managing safety course. The managers also ask more questions now.
• We’ve restricted the use of ladders and stepladders. We’ve altered risk assessment and issued notification to eliminate use of stepladders.
• Risk assessments done using hierarchy of control for determining the best equipment to use. More planning occurs and risk assessments have been revised. We’ve changed control measures so were now using scaffolding instead of ladders. Also, employees are trained more in the use of scaffolds.
• Risk assessments have been revised. Equipment is now selected based on height. Occasionally, you can work from smaller platforms. Supervisors have undergone further training. This is a result of the incident rate in the industry and as a result of the change in Regulations.
• There’s been a revision in risk assessments and method statements. We’ve changed key safety performance indicators to include that sub-contractors are vetted for suitability. Safety meetings and a review of statements now occur before work starts at site level. A change in terms and conditions and a change in the use of equipment. For example,
stairwell systems are used internally in scaffold and not ladders; banned the use of trestles unless they have handrail systems. Were using soft landing systems on sites.

- We have new procedures on low level work including the use of trestles. They must have handrails now.
- Changes in training and ensuring were issuing people with the right equipment. More use of MEWP’s or scissor lifts rather than ladders.
- Looked at number of options to minimise ladder use, use platforms were possible. They must justify why they are not using a platform in any situation. Risk assessments have changed in relation to changes in our methods by which jobs are carried out. We've trained more people in the use of portable platforms and awareness of the new regulations.
- Refined safety instructions to adapt to the removal of the 2 metre rule. Contract management training has been updated. Guidance notes have been updated.
- No significant changes. The Work at Height Regulations have re-emphasised work at height.
- A change in the use of working platforms, enhanced equipment for fall arrest, more elimination of work at height, greater emphasis on training and more training. Work at height is mandatory now for risk assessment.
- Improvements with fall arrest equipment and shock absorbing lanyards. We’ve changed the policy and now mention Work at Height Regulations and have removed any reference to the 2 metre rule. We’ve revised the wording of various work guidance/procedures, etc.
- Introduced new work at height policy, for example, for working with towers. We've already been applying the hierarchy.
- Practices have changed. Personal equipment and policies are issued. Need to be permanently attached when working at height with at least one point of attachment. There is a constant change in equipment and its development to seek the best equipment. Risk assessments are constantly developed. We’ve been on refresher courses.
- We reassessed office work for height issues. We try to eliminate work at height but there is a limited scope for this. We've limited ladder use or they must be used sensibly. We've brought new ladders and had refresher training.
- We restricted ladder use, encouraged cherry picker use. We use step ladders instead of straight ladders. Were currently trialling podium steps (cargo steps). They have also put handrails round the walkways and work areas of some machines, for example, large mixers. Also, an extra guardrail on the mezzanine floor along with mesh to stop objects falling.
- We have a permit to work for working at height.
- General initiative in the UK is that any work at height should be assessed. We have raised the profile of working at height. There needs to be a risk balance in delivery operations though. We pay more attention to the use of stepladders.
- We stopped doing traditional ladder work (for several hours). If we can’t use a MEWP we use scaffolding and we have tried to engineer out some jobs altogether by using permanent platforms.
- Carried out rescue training for use on scaffolds.
- We have reviewed our risk assessments, method statements and training. Sites are banning the use of ladders.
- We now use the water fed pole system whenever possible to reduce ladder use and we don’t work any higher than 2 storeys’. We have also provided new ladder bases which prevent base-slip.
• More management time in inspecting work, more onsite activities. Reduction in use of ladders for window cleaning. Work at height Regulations didn’t impose much on us.

**Q - Have your employees raised any issues/objections to work at height arrangements?**

- On some jobs my contractors don’t like to double anchor because of time. However, we ensure that they do. They don’t like the PPE helmets either so we use climbing helmets.
- Feel that there is too much paperwork.
- They tell us things are getting stupid and that common sense has been taken out of the equation. They moan.
- They complain that the contractors get away with things.
- They are far more aware and will ask questions now.
- They initially objected to securing ladders as it was time consuming. But got used to it.
- Initially they were against the procedure of not using ladders. OK now.
- Initially, the Regulations were seen as being over the top. Considered unfair as they were applied to this sector but not others. There is acceptance now.
- The unsuitability of ladders questioned. Work from staging instead which takes more time and they questioned this increased use of time.
- They wanted clarification on what work at height was and there was a misconception that they couldn't use ladders.
- They feel that not being allowed to use any ladder, etc slows them down. They are confused as to what is allowed and they think the Regulations are over the top.
- I think it has helped staff in the retail outlets (better risk assessment and training).
- A few staff members have raised objections about the way cars are secured onto the transporter lorries. Some vehicles are secured under-body (under body tie down) and others are secured by ties around the wheel (wheel tie-down). Securing a car under body requires more work at height (i.e. standing on ladder at front of driver cab), compared with wheel tie-down that can either be done when standing on ground or on a vehicle platform next to a car (with side protection cables). Wheel tie-down is industry recommended standard.
- There is confusion about ladders. Some think that they are not supposed to use them.
- The water fed pole system introduced manual handling issues as staff had to work physically harder and move the tanks of water, etc. Staff also have to deal with complaints from customers due to wet paths, trailing pipes, smeared windows (as the windows are cleaned using purified water but not dried, they are using the traditional squeegee method). Also, some objections from staff who are reluctant to change method.

**Q - Have you seen any benefits or savings since the introduction of the Work at Height Regulations?**

- More Regulations shuts cowboys out of the market.
- More professional image for the industry, clients are reassured.
- We now work more efficiently. The staff feel more confident.
- There is a deeper interest shown in health and safety. It is a good way of selling to the operative that we are here to be concerned with their health and safety.
• It saves time on some jobs due to the mechanical aids and our clients expect to be charged for our equipment (they budget for it).
• I sleep easier at night and the company is better as a whole. We are improving our procedures and processes all the time.
• On one job the work was completed before the allocated time. More efficiency. Work at height has become safer because there is better access up scaffolding and better use of MEWP's.
• Reduced accident numbers.
• We’ve eliminated work at height with repetitive deliveries, thus the work is now more efficient and safer. Also developed two new forms of equipment for two specific work at height jobs. The work is now more efficient, safer and the quality of the work and finished product has increased.
• Safer method of working. We’ve learnt to appreciate methods.
• Safer painting of back cloths but not easier or the same effect.
• People more aware and conscious of work at height and what their doing. We have regular health and safety meetings. People know that if their not happy with the situation they shouldn’t do it.
• The Regulations have re-emphasised work at height.
• Reinforces work at height as a hazard.
• Makes work at height safer and staff are more aware of risk.
• Benefits are improved safety behaviour. People are focussed on planning and rescuing people and have a greater knowledge and awareness of possible problems.
• They're over the top, where do you draw the line? I think they're unenforceable.
• I think we'll have fewer accidents (but it's just a feeling nothing measured). Possibly quicker with contractors (they know what equipment they have to use and get on with it).
• Benefits not savings. Changes in behaviour and staff having more knowledge about how to use equipment safely and risk assess.
• There is a reduced risk and it creates a level playing field (although we are not there yet). The onus is on the operator to provide safe access.
• Not really applicable as we haven't made many changes but there is a potential to lose business and incur costs.
• Documenting the thought process and planning work at height now written down. Also, investigating new equipment to see if any practical improvements can be made. Temporary handrails and MEWP’s are used now.
• Money wise no but yes for peace of mind.
• Water fed poles are safer to use in terms of work at height and they are safer than ladders.
• It is keeping a lot of cowboys out.

Q - Have you incurred any problems or additional costs?

• Brought more kit thus equipment costs have gone up.
• Apart from the nominal costs of books and briefing.
• Clients accept that we are working safer so soak up the cost.
• Cost of safety harnesses and lanyards.
• Time constraints, not always safer to follow the new Regulations, for example, when moving scaffolds.
• Use of scaffolds has been more widespread which has incurred cost. Also, additional railings around roof edges has increased costs. However, this would have been carried out anyway although the Work at Height Regulations sped up the process.
• Cost of equipment and training (mobile towers).
• More cost in step-ups and hiring towers as well as the ongoing inspections of equipment. We buy these things then we can't use them half the time as they are not big enough for all ceilings and then we have to get a tower up.
• Some issues with contractors. They haven't understood the Regulations. All problems come from contractors.
• It takes longer to do jobs.
• Initially there were costs but the clients went along with it and paid the extra costs with no fuss.
• We lose some work because the client goes for the cheaper option.
• Reduction in production levels but accept this. Training costs.
• More inspections on fixed platforms and the training cost. We didn't buy any new equipment though.
• Costs of new cargo steps and time for revising risk assessments. Also cost of guardrails and handrails on a couple of machines.
• We brought cherry pickers and got access equipment for the factories.
• Costs, but it is an acceptable cost.
• Buying new equipment, modifying manufacturing. I can't believe the 2 metre rule has been replaced.
• Not off the top off my head, probably time and money. Also, knowing where the risks are (surveys and risk assessments).
• Cost of garment grabbers, approx £5 and each store has 12 x 180 stores. However, they are much more efficient to use than ladders and are safer.
• Costs were incurred converting to ground operations. There are also commercial sensitivities that we insist customers comply with the Regulations and they aren't keen to as it costs money. If the Regulations were applied more evenly we wouldn't be commercially disadvantaged by our stance.
• We estimate the cost of retrofitting the handrails at £350-£400k.
• We had to give up the power station job (where the straw had to be netted).
• Costs of installing additional gantries but we don't begrudge them. It’s a problem to make sure people use the collapsible handrails on top of the tankers.
• Scaffolds and added time as it takes longer to move the scaffold and climb up it.
• Minimal costs for training and risk assessments. Shortly will need to provide additional kit and replace/modify existing equipment.
• £15-20k for the new hydraulic platform and then purchasing new ladders but it was worthwhile.
• Equipment costs, however this would have been spent regardless of the Regulations.
• £30k for the tower scaffolds but they take less time to put up so save us time.
• Due to the confusion about ladders, some trainers are saying that ladders shouldn't be used. There is a lot of ignorance.
• We have had to purchase additional access equipment.
• More training and paperwork which has a cost implication.
• New equipment, policies, procedures, insurance, training.
• Equipment but that is being passed on to clients.
• Equipment needed per person costs £350 (safety harness, rope, rope grab, eye bolts, ratchet straps, hard hat, goggles, boots, jacket). Everyone working at height will soon have to do a health and safety check/qualification that will cost £120 per person.
• Costs for new equipment, management resources, training costs.

Q - Have you seen any changes in the number or type of work at height accidents or unsafe practice?

• Unsafe practices are reducing e.g. working on roof without edge protection sometimes occurs but less than previously (more with contractors)
• People are more aware so there are less unsafe practices
• Unsafe practices have improved
• Number has come down. Its below industry standard.
• No for accidents. Yes for a decline in unsafe acts - sub contractors are more accepting of regulations.
• Sub contractors do not understand requirements of the Regs. Control measures are being bypassed, their not complying. It’s a cultural issue. They don’t understand the importance. Were taking more enforcement action against them. Now providing training awareness to them.
• Reduction in unsafe practices. No more climbing on wooden step ladders.
• It's more safer and better because were now using more equipment for WAH.
• People are more aware now through training and it isn't the norm anymore to see people taking shortcuts
• We have become stricter with contractors and management are more aware of working at height so there are tighter controls, reducing unsafe practices
• Some contractors by-pass sheeting gantries which is regarded as non-compliance.
• Safer work conditions so safer working practices
• People are more aware
• There are less unsafe practices because we have improved the work by rigging it safely
• Can't comment on unsafe practices as not out and about enough to see them but as far as he is aware there are none and have had no serious accidents

Q - How confident are you that your company is fulfilling its legal obligation?

• Pretty good at following what's needed - business is professional
• We had a visit by the HSE and they were happy with what we do
• Sub contractors can be problematic, we try and tell them the correct way.
• There's always room for improvement.
• Don't know enough about the Regulations so don't know whether complying. People more aware in a common sense way - as awareness was increased following accident
80-90% confident. There are some areas where we use ladders - that may not be the best solution, but we do.

We have a long way to go in rolling out procedures and getting full compliances, workers will still steal ladders.

We have a health and safety consultant that we get in if we have any issues.

The WAH Regs have not changed our overall approach. The new regs drive forward improvements and we are working with engineers to look at improving side protection - i.e. gaps where additional protection could be provided.

Just need more clarity about the use of equipment for work under 2 metres and whether we always need guarding which can prevent suitable access.

Feel confused and would like additional guidance (ACOP) from HSE.

Regulations have added more weight to providing appropriate equipment. But there are still improvements to be made.

The company endeavours to work correctly but the men don't and you have to be on their backs all the time.

We have taken guidance from the legislation and we are implementing the recommendations but it is impossible to monitor employees 100% of the time.

95% confident. There may always be something that is missed when WAH due to the nature of their job.

Have done all that I can.

Don’t feel info is coming through about how to do it in their trade - needs to be specific to the trade - there are no answers as to how to do it in practice.

Very confident - 90% - there are still cases when field engineers find themselves without e.g. a ladder and just make do so it is about preparing them and getting them to check they have what they need before leaving.

100% except for ladder issue. Free-climbing is a dismissible offence for both employees and contractors. Info on contractors who do not comply is circulated company and industry wide.

Q – What do you think the absence of the two metre rule means in practice when working at height?

Greater thought goes into work at height where there is danger. Benefit to all involved. You used to get awful risk taking.

No effect as we never used the two metre rule anyway.

Jobs take longer to carry out, and there are cost implications.

It has had both positive and negative effects. Negative effects are that some employees now ask ‘when do I protect against a fall from height e.g. fall from a curb??’ They are confused as to what they now have to do and when they need to implement control measures. Positive effects are that it’s stopped people dismissing work below two metres.

We just ignore it.

It keeps it simple, there is no debate. If work at height needs to be done then measures need to be put into place. The penny has dropped.

It has made us more efficient at working at height and we have better working practices.

It’s good. People look more carefully below 2 metres now. So risks are more thoroughly assessed now.
• We are more inclined to look below two metres. With risk assessments, we've put our own levels in.
• It has not made a lot of difference as its removal didn’t apply to us, we assessed on case by case basis anyway.
• It’s taken a while to understand that work at height is now down to risk assessment. They can injure themselves at any height. For this company, it hasn’t made much difference as we didn’t follow it.
• It makes sense. We often work over two metres and someone could easily fall back. Using a risk based approach has helped address this issue. Need to modify work platforms that are less then two metres so that they have guardrails to protect against falls.
• I've never been a believer that the two metre rule was a good idea; it was a convenient cut off point to make things black and white.
• It’s all nonsense. Under two metres, we attempt to guard but it is not always practical.
• It takes a while for people to change their attitude and understanding. We have practical difficulties when we are working under a aircraft (below two metres). We used to have a flat platform with no handrail because the rail damages the plane on the outside and it stops them doing the job. There is a lot of resistance in the industry.
• Generally, an improvement in safety. Now there's no magic threshold, it makes people think about whether they are carrying out work suitably.
• Its sensible not to have it but the Regulations don’t give any guidance now. If you are not well trained in health and safety law, it may be ambiguous. You don’t know where the starting point is anymore.
• The 2 metre rule was confusing. For example, if the height of the person was 1.68 metres, did this mean they only had to be 0.3 metres off the ground to count? Or if stretching/jumping into the air, did this count?

Q - Have you made any changes in the way you manage work at height in the last year as a result of the removal of the two metre rule in the Work at Height Regulations?

• No, generally we didn't refer much to the two metre rule because we had incidents before that were below two metres so we disposed of it.
• Yes, we use trestles with hand rails. More use of MEWP's. Made supervisors aware of Regulations. Tool box talks for site operators focused on work at height. More training.
• Yes, we’ve changed our policies and procedures. We now use edge protection at lower heights and were more stringent on edge protection for excavation work. Training now includes implications of the removal of the two metre rule. We use working platforms at lower heights now instead of ladders.
• Yes, more restrictive use of ladders. The use of step ladders can be abused. This is a result of the Regulations and there is plenty of equipment to work more safely.
• Yes, using mobile towers more, ladders are only used for access or short durations. A change to risk assessments, more training including more toolbox talks and information on how to assemble mobile towers. These changes are as a direct result of the Regulations. They've highlighted it as well as the Health and Safety Executive (HSE) campaign.
• A change in risk assessments, policies and procedures.
• Yes, safe systems of work through methods, for example risk assessments. Retraining occurred.
Yes, we reassessed the use of equipment. We've outlawed the use of equipment not fit for a job. The equipment must be suitable and sufficient for risk assessment.

No, we didn’t recognise two metre rule but recognised risks to task.

No, the way it was written suggested that if it was a risk it should be assessed.

Yes, re-assessment of aspects/work at less than two metres. Some equipment change.

Yes, we revisited sites that used low working platforms and put guardrails on. Where this was not possible, we removed the panel from use. Also, risk assessments are different now to account for any height.

Yes, we reviewed equipment and training. Need to clarify risk assessments further to ensure appropriate equipment is provided.

No, it hasn't made any difference to us because we didn't work to that before.

Yes, changing equipment which doesn't have edge protection.

Yes, introduced a register system for stepladders and there is a central point for inspection and compliance.

Yes, we have a programme where even platforms below two metres should have handrails. So we have provided them with platforms where the rail goes up and down so they can get a flat platform, this cost several thousand pounds.

Yes, we have re-written the procedure manual to try to comply with the removal of the two metre rule.

Yes, we now assess every job as a work at height job.

Never considered 2 metre rule, always considered our work to be work at height.

**Q** - Did you use different control measures to prevent falls above and below two metres before the Work at Height Regulations came into effect?

Yes, permit to work above two metres.

Yes, work below two metres was generally dismissed.

Yes, above two metres we do risk assessments and below we use common sense.

Yes, we used to have toe boards and cordonning above two metre.

Yes, above two metres we used full edge protection and below 2 metres we used bandstands, trestles with boards and no edge protection. Now we use edge protection for all heights.

Yes, before we used handrails above two metres but now we realise that you can injure yourself at any height so it’s down to an assessment of risk.

No, all their work is on scaffolds and the height makes no difference.

Yes, we didn't use to use handrails to the same degree below two metres.

Yes, above two metres, edge protection was mandatory. Below two metres, the use of edge protection was dependent on the job. Now its use is based on risk assessment - more towards using edge protection at lower heights.

No, we've been following the "Construction, Health, Safety and Welfare Regulations 1996". This took the two metre rule out in 1996.

Yes, less stringent measures at both heights. We used no edge protection under two metres, only above two metres. At low levels we used ladders and above two metres towers in most cases. Now we use edge protection above and below two metres, tower systems above and below two metres.
• Yes, handrails only used above two metres. Now at any height.
• Yes, really only had written procedures for work above two metres.
• Yes, above two metres staff wore harnesses and had edge protection.
• Yes, previously only had rules if above two metres. Now have rules at all heights.
• Yes, below two metres ladders weren't always tied off which they now are and steps were free standing and not secured. Above two metres, harnesses are now sometimes worn but are not always effective.

Q - Do you now use different control measures to prevent falls above and below two metres?

• Yes, we review all working heights and carry out risk assessments. We’ve increased use of working platforms.
• Yes, bean bags for work over two metres.
• Yes, more towers with handrails.
• No, all based on risk assessment.
• Yes, we reviewed risk assessments to provide appropriate equipment.
• Yes, were looking to provide edge protection.
• Yes, were now considering edge protection from 0.5 metres and above.
• No, the men use the two metre rule as a yard stick though.
• Yes, a low platform for below two metre but it depends on the activity.
• No, the general principle is we do a risk assessment in any case.
• No, we do risk assessments now.
• No, all tasks are assessed regardless of what height is being worked at.
• 10 metres being threshold for counting as work at height but this is not set in stone. We do not have one set of measures for above and one for below.

Q - Have you seen any benefits or savings as a result of the removal of the two metre rule?

• The benefit is less unsafe practices.
• Yes, a deeper interest in health and safety now.
• Yes, accidents been reduced.
• Yes, more safety on site.
• Yes, protecting people from falls at lower heights now.
• Yes, less problems. Looking at work at height more thoroughly and less in terms of what height it is.
• Yes, it's made people realise you can be injured at any height. You do something to prevent at any height, be cautious.
• Yes, peace of mind.
• No, duration isn't long enough. Were in a process of educating sub contractors.
• No but longer term may drive additional work to be carried out for low access equipment.
• Yes, there has been a reduced risk but no cost savings. Also, it has helped changed managers' opinion. Before their opinion was below two metres they don't have to worry; now this is not the case.
• Yes, accidents have gone down and we save money by putting up the permanent staging once and then it stays there.
• Yes, risk assessing may lead to reductions in accidents.
• Yes, working in a safer environment and more emphasis on falls from height.
• Initial outlay but expecting long term gains.
• Yes, the men are happier.
• Yes, we can tell employees that there is now a statutory obligation.
• More safety conscious.
• Yes, it has given clarity. One set of standards for all so people can't try and get round it by keeping just below the two metre mark.

Q - Have you incurred any problems or additional costs?

• Yes, time issues, cost of equipment and cost of work taking longer.
• Yes, there is confusion.
• Yes, a scaffold tower costs money.
• Yes, investment time in training and the cost of equipment.
• Yes, additional costs for hiring equipment.
• Yes, time for boarding lifts.
• Scaffolding costs, costs of training.
• Yes, more equipment, handrails, etc.
• Yes, more costly and takes time to set up, but benefits outweigh the costs.
• Yes, costs of new systems, training, documentation and administration. A huge amount.
• Yes, the resistance to the reduced use of step ladders.
• Yes, equipment costs, costs of reassessing the situation/policies.
• Yes, time and effort spent reviewing procedures and regulations. Also, need clarity on the assessments of smaller equipment under two metres, it may not have side guarding. We accept that as part of the risk but where do we draw the line?
• Yes, cost of making everyone aware of how to climb a ladder.
• Yes, we modified the access platforms and steps which have associated costs.
• Yes, handrails added and we need extra time to set up.
• Yes we now carry out a risk assessment for everything so takes more time and resources.
• Yes, the design standard was to install hoop ladders on site where accessing roofs. HSE has now recommended that hoop ladders shouldn't be used as you can't install fall arrest equipment due to trip hazards. We can't replace hoop ladders (far too expensive). However, in the future not replacing ladders with hoop. Now only those issued with fall arrest personal kit can access.
• Yes, takes more time and people to do a job that costs more. Sometimes it seems ridiculous when they are only 2 feet off the ground and have to lash down, etc.
Q - Have you seen any other effects since the introduction of the Work at Height Regulations or the removal of the two metre rule?

- The 2 metre rule was a sensible data line to work to. There is over interpretation by some building managers.
- Any rule that comes in for safety is a good rule.
- It is a great thing. It is just a fact now like us wearing a seat belt whether we are driving 30mph or 70mph.
- Generates awareness across the board.
- There's more focus from clients/external parties. More buy in.
- Greater emphasis on need for forward planning and more careful of the design process at an early stage.
- Elements of the industry that have gone over the top. There are ridiculous misunderstandings in the industry. It's a lack of education and misunderstanding of the Regulations by people in the industry.
- Sub-contractors emphasising work at height in method statements. However, they write it but not always follow through with it.
- HSE have recognised that there is a problem with accessing undercarriages of aircrafts across the industry and work needs to be done to improve access.
- A lot of companies won't let you use ladders now. They want you to use scaffolding and platforms. We still use our steeplejack and extension ladders for access, egress and short duration jobs. We were originally told that the duration was 10 minutes and we have now been informed that it is 30 minutes.
- A number of sites are banning ladders, one of our staff was asked to leave a site because he was using a ladder.

4. TRADE UNION SAFETY REPRESENTATIVES

Q – Are you aware of the Work at height Regulations 2005?

- Yes, any change in work height above or below normal floor level requires a risk assessment prior to performing the task.
- Yes, management to do risk assessments and provide a safe system of work.
- Yes, to assess risks when working at height. Plan out work at height to avoid hazards. Use appropriate equipment to reduce potential risks. Employers to ensure employees are trained when using equipment to work at height, towers, lifting platforms, ladders etc.
- Avoid use of ladders, use scaffold where possible or mobile towers, use harnesses & PPE, risk assess job before start.
- Perform risk assessments on working at height and portable equipment.
- Yes, they require risk assessments for all work conducted at height, eliminate or minimise risk, safe system of work put in place to organise and perform work at height, safe systems for selecting suitable equipment.
- Employers must change working practices and reduce risks. Avoid work at height if practicable.
• Yes, to eliminate where possible work at height. To provide a safe system of work for workers e.g. handrails. If not possible then fall arrest equipment must be provided with training and instruction.

• Avoidance of risk from work at height, risk assess and identification of risks, take measures to prevent falls from height, provide suitable equipment and make sure staff are competent and use equipment safely.

• All work at height should be risk assessed and if possible work should be carried out without the need to work at height. Work at height can also be working from the floor of the building as if an employee was working at a pit edge; the likelihood of falling into the pit gives the same conditions as work at height. If work at height has to be carried out then it should only be done by trained employees and the relevant safety measures taken, which includes the use of mass protection such as nets and or the use of PPE such as harnesses.

• Requirement to ensure that the people who work at height are competent. That the safety precautions are taken, i.e. avoid working at height where possible, assess the risks, use platforms where possible. Use fall arrest equipment, nets or airbags etc.

• Yes, to ensure that work at height is planned, supervised and carried out in a safe manner. To make working at height safer for employee. Prevent falls from any height above ground level. Proper equipment and use of controls in place to ensure everybody's safety. Training on what hazards are present, choosing the right equipment for the job or task. Minimise and or eliminate the distance and risk of fall from height and equipment falling from height. Training and supervision for all people that manage and work at height.

• The Regulations require persons working at height or employers who have workers to comply with the Regulations, i.e. attached, use of fall arrest, correct use of PPE.

• People working at height must have training to know how to escape from their workstation.

Q – Are the workers you represent aware of the Work at Height Regulations? If yes, do you think they understand what they require?

• Some do and some don't. Some have done certain tasks for years and think they know best.

• All staff members are given instructions on work at height by the company, and this includes contractors.

• They are aware of the Regulations and know they must adhere to them to show compliance, to keep themselves safe and other workers who may be working in the area.

• No, they don’t understand the requirements.

• Those who do not work at height may be less aware than those who do.

• They were given toolbox talks and we have safety reps and full time safety officers if they require any information they forget.

• Those who it affects are aware of the reviewed company procedures, which were assessed against the new Regulations. The majority of other employees will not be aware of the Work at Height Regulations.

• Yes, after a safety briefing they sign a sheet stating that training has been given and that they understand it.

• All depots have quarterly meetings where health and safety is discussed including work at height. Staff were also shown a video about the new Work at Height Regulations.

• Maintenance employees have an understanding of the Work at Height Regulations but it is most likely to be of limited knowledge.
I think that all are aware and have a basic understanding of what they require, but not an in-depth understanding.

**Q - Have the risks associated with the work at height carried out by the people you represent been assessed by your employer?**

- There have been risk assessments made by the company health and safety rep, myself and other health and safety staff.
- Yes, but I have never seen evidence. I have asked for information in writing on a lot of things but have not received any. The company health and safety adviser has been on site visits and I have asked to be involved but have not been allowed time from my driving duties.
- We do risk assessments with management.
- Yes, I have personally brought it to the attention of all members of the health and safety committee. All has been documented in the minutes, agreed and included in staff training.
- Full risk assessments are carried out prior to any work.
- Risk assessments are carried out before any job.
- I have seen risk assessments but have found that these require a more safety conscious approach.
- They are carried out and are reviewed on a regular basis.
- Basic risk assessments are in place. Could do with more risk assessments to cover other activities.
- I have seen risk assessments that show evidence of work at height.
- Work at height risk assessments are not carried out. The company relies on the procedures in place to ensure the safety of employees who work at height. The company therefore fails to comply with the Work at Height Regulations.
- Yes, but the assessment that has been done is totally inadequate.
- I have seen evidence of risk assessments but these require re-evaluation in light of the Regulations.
- We have a new safety officer who keeps abreast of all current legislation. He has carried out some risk assessments.

**Q - From consultations with the workers that you represent, how good do you think your company is at protecting employees who work at height?**

- Good - the company does their best to advise of any important issues regarding work at height via the company intranet.
- Poor, because work at height is only a small amount of the working day it takes second place to other things.
- To be seen to be above board, but in practice its different - time is money and health and safety is a burden and cost.
- Very poor. We work at height alone in all weather conditions. There isn't even a system to check the lone workers. You may be injured alone for many hours without detection.
- Not very good. There is a ‘if you can cut corners without hurting yourself so be it’ attitude.
- The company is good and will support all requirements for working at height however the employees that it affects may not be aware of the new requirements.
• Excellent as the company always ensures the health and safety of its employees is paramount and ensure safe systems are adhered to at all time.
• The company are poor at offering preventative measures regarding employee safety. I have taken this problem up with the committee to no avail.
• Good. Employees believe the investment from the company in the health and safety area is significant and the manpower is loaded for compliance. The also know that the Union Safety Reps are voluntarily keeping abreast of changes.
• They supply good equipment that is checked at regular intervals.
• All staff trained on how to protect themselves at height.
• Poor, the bare minimum to comply with law.
• Not very good as they only put in place what they think is enough measures to ensure that a prosecution would not follow an accident.
• Excellent. The site is a top tier COMAH site therefore safety is of a high priority. The contractor who supplies the scaffold has to be vetted to a high standard.

Q - From consultations with the workers you represent, do you believe that your company can do more to make work at height safer?

• Better equipment and more safety checks.
• Inform workers of the Regulations, safer work training, monitor safe system of work and equipment if any is used.
• More use of MEWPs where possible.
• Better training for new and existing staff.
• Get rid of bonus scheme, have better equipment.
• More advice and training at what can be done from ladders.
• Provide suitable training, information and supervision of practices. Implement a recognised safe system of work for work at height and lone working.
• Training, supervision, ensuring work practices are adhered to.
• Specialised climbing equipment for difficult to reach situations
• Provision of different types of PPE and training in its use. More and better education and info to our clients requiring them to provide safe access.
• Better job planning.
• Do risk assessments, consult with the workforce and provide training.
• More training and tighter control on scaffolders and temporary workers.
• Introduce safe system of work, apply them with training and ensure compliance.
• Keep control of contractors at all times - you need to watch them closely.
• No, the company has to ensure compliance with the Regulations so employees are trained properly, safe systems reviewed on a regular basis. Workers are monitored to ensure they are adhering to the safe systems, wearing of harnesses etc.
• Managers need to be better trained and informed on health and safety.
• Take the Regulations seriously and not put cost before safety.
• Allowing staff to make suggestions on safer working environment, help workers to improve without company being condescending.
• Yes, continued re-assessments and monitoring.
Q - How confident are you that these Regulations will make the work at height of the workers that you represent safer?

- Don’t know – I haven’t seen the Regulations so cannot comment.
- I’m undecided at present. Regulations are fine if they are implemented and enforced.
- Confident, but only if people take time to follow procedures.
- If management act, the Regulations will make work at height safer. Management should be made to go on a HSE training day on the new Regulations. Safety Reps know about the Regulations from TU courses.
- It will make working at height safer but only if we get the message/information to the employees/contractors that it effects.
- What the company believed was above regulations standards (pre 2005) has been reviewed with the aim of improving standards above the new Regulations. However, until ‘design’ is tackled in a way that is at the top of any project/improvement we will always be tackling the effects of poor design.
- Will need HSE inspectors to monitor the implementation to ensure the regulations are adhered to.
- Confident as it must raise workers awareness - but the problem is breaking bad habits.
- I think the Work at Height Regulations will go a long way to make working at height safer for all.
First evaluation of the impact of the work at height regulations
First evaluation of the removal of the 'two metre rule'

The Work at Height (WAH) Regulations were introduced in Great Britain on 6 April 2005. The impact of the new Regulations needs to be evaluated to meet both formal European Commission and Health & Safety Commission (HSC) requirements and in order to guide future policy. In addition, the HSC decided to evaluate the impact of the removal of the two metre rule for construction work, which was repealed by the WAH Regulations. This study was conducted in two stages. The first stage (Stage 1) was conducted in early 2005 prior to the introduction of the Work at Height Regulations and the second stage (Stage 2) was conducted one year after the Regulations were introduced.

This report sets out how both stages of the research studies into the impact of the new Work at Height Regulations and the removal of the two metre rule were carried out. The findings from both studies (one into the overall impact of the Regulations and one into the impact of the removal of the two metre rule) are presented separately for Stages 1 and 2. Both studies included the key industries in which high falls (from above two metres) and/or low falls (up to and including two metres) were a risk.

This report and the work it describes were funded by the Health and Safety Executive (HSE). Its contents, including any opinions and/or conclusions expressed, are those of the authors alone and do not necessarily reflect HSE policy.