Working at Height

Listening to The Voice of Experience and Working Together to Reduce Risk

NAL

A CRH COMPANY

In 2019/20 statistics released by the Health and Safety Executive (HSE), specific to the construction industry, confirmed 40 fatal injuries and almost half of all accidents (47%) were caused as a direct consequence of falls from working at height.

This paper will demonstrate how, via a collaborative approach, the UK Government created the Health and Safety at Work Act (established in 1974) and, as a direct consequence, the Working at Height Regulations were established in 2005, and how NAL Ltd has emulated this approach. It will explain the emphasis NAL as a company place on Health and Safety and prove our commitment to the responsibilities we feel, as product providers, to manufacture solutions to minimise risk, and how these solutions subsequently have a positive impact upon costs. Ultimately, we will demonstrate how, in our collaboration and reaction to feedback, from those directly affected by risks associated with working at height (in this instance Traffic Signal Engineers) has led to the development of a system to overhaul historical and hazardous installation and maintenance processes.

The Health And Safety At Work Act - 1974

Billed as the 'primary piece of legislation covering occupational safety and health in the UK' the Health and Safety at Work Act was conceived following consideration from the UK Government that a broader, less prescriptive, regulatory regime was required. Prior to its enactment, some industries were overly burdened with uncompromising rules whilst others were subject to little or no regulation. Simply, yet effectively, The Act sets out guidelines for safe working practices, enabling businesses to establish their own working practices, whilst adhering to its perimeters. To summarise, the three main objectives of the Act, are:

- To secure the health, safety and welfare of persons at work
- To protect anyone within the premises – even if they do not work for the business
- To control the storage and use of explosive and highly flammable or otherwise dangerous substances

The Act imposes a range of duties on employers, the self-employed and employees, by providing the legal framework to promote and encourage high standards of health and safety in the UK.

Listening to the 'Voice of Experience'

Understanding that 'those who face risk are best placed to manage it', for the first time the Government listened to, and collaborated with both employers and employees to develop the Health and Safety at Work Act. In doing so, the existing health and safety framework was simplified and for the first time, the Government was able to promote legislation that had real, practical application, guaranteeing those who were to adhere to it, did so positively and without contest. The process identified situations and issues, previously unaddressed, thus helping to raise awareness of health and safety concerns in the workplace.

As a direct consequence, The Health and Safety at Work Act initiated the formation of the Health and Safety Executive (HSE). Established to absorb a number of different regulatory and scientific organisations, the HSE researches the effectiveness of relevant legislation by consulting with, and listening to, a number of industry advisory committees, to develop its policies and advise the government (based on its findings) concerning health and safety. In this collaborative approach, the HSE is able to ensure policies and health and safety legislation accurately address issues faced by today's key industries.

Between 1974, when HASWA was established, and 2014, fatal injuries to employees have fallen by 87%; whilst reported fatal injuries have fallen by more than 70%. There is no doubt that the Health and Safety at Work Act has stood the test of time as it continues to be viewed as the 'go-to' piece of legislation by which health and safety is governed; with its success and relevance largely attributable to the decision to 'listen and collaborate' with those most affected.

A Common Sight

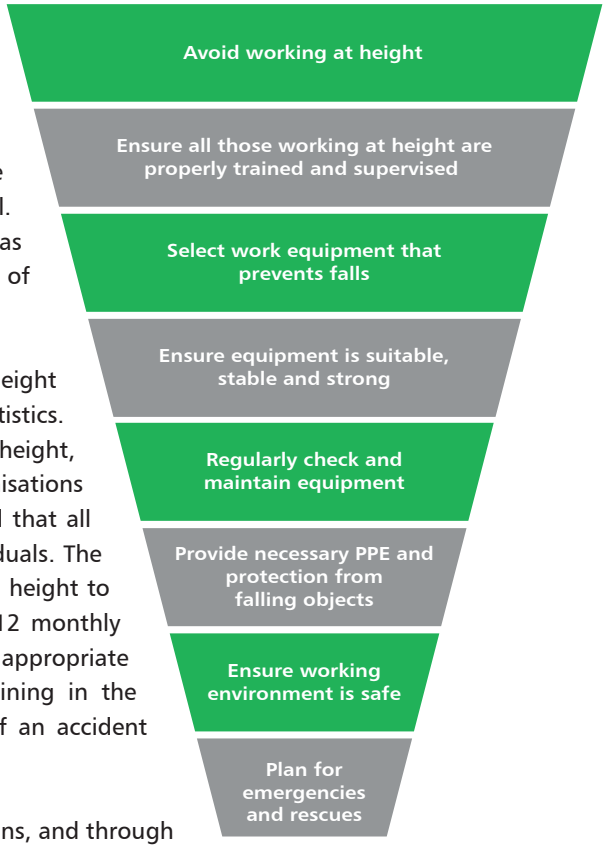
By today's standards, signage like this listing health and safety requirements for entering a live compound is a common sight and a legal requirement, thanks to the Health and Safety Act.

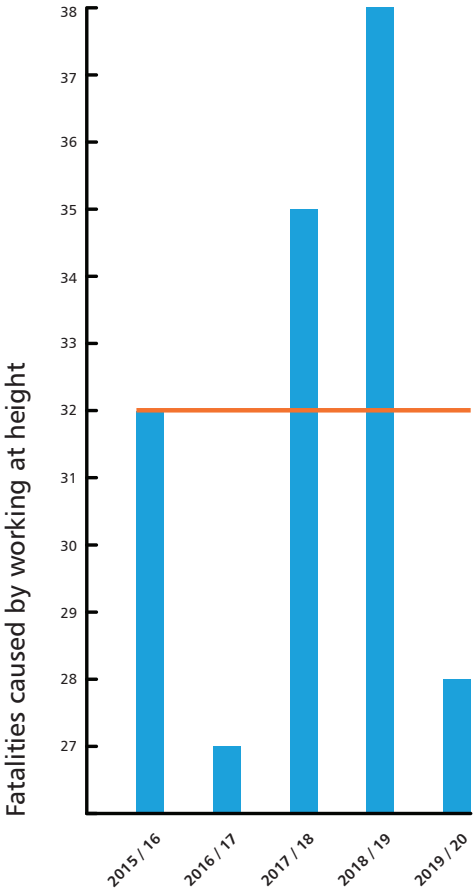
Work At Height Regulations 2005

The Health and Safety at Work Act addresses specific issues that are applicable to particular industry sectors, in more detail, in subsidiary regulations. However, an alarming trend in fatalities and injuries, identified by the HSE when consulting with advisory committees, established the requirement for a set of regulations specific to the risks associated with working at height. Working at height simply means, working in a place where a person could be injured by falling, even if it is at, or below ground level. In 2003/04 67 fatalities and nearly 4000 major injuries were reported, and as a direct consequence working at height remains the single, largest cause of workplace deaths.

The Work at Height Regulations apply to anyone who controls working at height and were introduced in 2005 in direct response to these distressing statistics. The paramount aim was to prevent death and injury caused by falls from height, therefore minimising the risks to workers. Stipulating all individuals and organisations have a legal responsibility to ensure that regulations are implemented, and that all activity is properly planned, supervised and carried out by competent individuals. The regulations also determined responsibility fell to those in control of work at height to ensure fall protection systems were inspected regularly at a maximum of 12 monthly intervals. Employers were to ensure that all workers had available to them the appropriate equipment including PPE, and should receive appropriate, supervised training in the utilisation of that equipment. Failure to comply, would result in liability if an accident occurred or if equipment was found to be faulty or uncertified.

Hierarchy of Control Measures





In addition to these regulations, and through collaboration with advisory committees, the HSE introduced a hierarchy of control measures, for those responsible for working at height to consider and apply, to further mitigate risks. Since the introduction of the regulations, the UK has consistently had some of the lowest workplace fatality and serious injury rates in Europe. In 2014, the UK had 0.55 fatalities per 100,000 employees; compared to similar industrial companies like France (3.14) and Germany (0.81).

However, in its publication of Construction Statistics in Great Britain 2020, the HSE identified there is still headway to be made in guaranteeing the health, safety and well-being of those who work within our industry; as falls from height remain the main cause of fatalities. The report reveals that 47% of fatal injuries were the result of working at height between 2015 and 2020. From 2019/20, 28 people lost their lives due to falling from a height, with an average of 32 fatalities per year for the last 5 years.

The Work at Height Regulations crucially provide a thorough and effective framework, without ambiguity, for those responsible for and for those faced with associated risks, to collectively adhere to. However, it can be argued, without strict enforcement and compliance, even the most stringent rules and regulations will not achieve full effect. From the statistics alone, it is essential we explore ways in which to reduce risks associated with working at height further and, as industry members, we must accept an element of responsibility to do so - initially within our own Health and Safety culture.

Health And Safety To Reduce Risks Of Working At Height - CRH Plc.

NAL Ltd forms part of the European division within CRH plc – our parent company. Employing approximately 87,000 people over 3,800 locations worldwide. The Health and Safety of employees is above all else, and the emphasis CRH place on this, is clear to see within their company values.

Putting safety first to achieve their aim of 'zero harm' helps guarantee employees should go home from work every day - unharmed. With an "it begins with me" approach, employees are expected to consistently work in a safe manner and, at all times, accept their responsibility should they "see something unsafe - to stop and do something". All employees are aware of reporting procedures, with clear guidelines in place as to who to approach with any concerns; with the additional provision of a dedicated hotline to allow employees, customers, suppliers and other stakeholders, to voice any violations of CRH policies. Listening to employee concerns and collaborating with all businesses has driven safety improvements across the construction industry and beyond, and has enabled CRH to implement best practice safety management systems and health and well-being programmes across all locations.

In synchrony with the Government approach to working at height regulations, NAL firmly believes procedures specific to working at height, must exist within the workplace to mitigate risk. Typically, most accidents are attributable to poorly constructed scaffolding, slippery surfaces, a lack of training and faulty equipment. NAL take additional steps internally by carrying out risk assessments that cover and address common and recurring issues, identified as primary causes, to further increase the health and safety of employees. Risk assessments are vital in preventing accidents - once an employer understands a potential risk, it is far easier to reduce the possibility of an accident occurring. More often than not, the full reality of any hazard only becomes apparent, after a risk assessment has taken place. NAL place huge emphasis on this and all staff, who may be required to work at height, undertake a thorough risk assessment prior to work commencing. The assessment identifies potential hazards, possible injuries these hazards may cause, and who would be affected. It encourages employees to identify if further additional control measures may be required and how these should be actioned and enforced.

CRH Values - Putting Safety First

NAL Risk Assessment Template

Risk Assessment Number:	Severity ↑	5	10	15	20	25
		4	8	12	16	20
Activity:		3	6	9	12	15
Working at height in man cage (stock taking)		2	4	6	8	10
Assessment Date:	↓	1	2	3	4	5
		← Likelihood →				

Likelihood	
1	Very unlikely
2	Unlikely
3	Fairly likely
4	Likely
5	Very likely

Severity	
1	**Insignificant** - no injury
2	**Minor** - minor injury needing first aid
3	**Moderate** - Potential moderate injury
4	**Major** - Potential severe injury
5	**Extreme** - Potential Fatal

Risk Score & Factors			
1-4	No further action, but ensure controls are maintained	Acceptable	Ref No:
5-9	Look to improve at next review	Adequate	Version: 1.0
10-16	Look to improve within specified timescale	Tolerable	Issue Date:
17-25	Stop Activity and make immediate improvements	Unacceptable	Issued By:

Hazard	Potential Injury	Persons Affected	Existing Control Measures	Existing -Control Evaluation			Existing Controls Risk Rank	Additional Control Measures / Actions Required	Post-Control Evaluation			Additional Control Measures - Risk Rank	Responsible (Action By Who)	Done (Tick)	Action (Date
				Likely hood	Severity	Risk Score			Likely hood	Severity	Risk Score				
Impact / Crushing	Sprains, bruises, fractures, broken bones, abrasions, cuts, fatal injury.	All operators	All un-authorised personnel to be excluded from area and area cordoned off.	1	5	5	Adequate								
Mechanical handling/working at height.	fractures, broken bones, abrasions, cuts, fatal injury.	All operators	Only authorised personnel to use Man Cage.	1	5	5	Adequate								
			All pre-start checks on Man Cage for operation to be completed before use.If any defects found equipment must not be used until defects rectified.	1	5	5	Adequate								
			Safety harnesses must be worn by operators.	1	5	5	Adequate								
			Safety harnesses to be inspected before use.	1	5	5	Adequate								
			If any damage is found to safety harnesses they must not be used and immediately withdrawn from service for	1	5	5	Adequate								

The Costs of Work at Height Safety Failures to Employers

Financial Penalties

Nothing is comparable to loss of life or the impact an accident can have on an individual's quality of life in the aftermath. However, in order to demonstrate further the importance of implementation and adherence to company and Government regulations, one must consider financial implications. Businesses found to be at fault for non-compliance after a subsequent HSE investigation, in the event of an accident, may face prosecution and significant fines. Recently, the HSE fined an Appliances Manufacturer £700,000 after an employee was fatally injured after a 5 metre fall from a Mobile Elevating Working Platform (MEWP). The investigation found a conflicting task destabilised the MEWP; which should have been identified in a risk assessment.

In addition to financial penalties being imposed for breach of health and safety laws, businesses may have to pay Fees for Intervention (FFI) if a 'material breach' is identified. Not only responsible for the initial cost of the time taken by the HSE to identify the breach, companies are then expected to pay to put things right. As of April 2019, the hourly rate charged by HSE inspectors stands at £154 and, when taking into account the time required to conduct a full health and safety investigation, costs can quickly escalate.

Potential Prosecution

Company officers can be held personally liable for breaches in health and safety regulations, and the HSE may deem it necessary to prosecute both the company and its officers simultaneously. In the most serious cases, if found guilty, the consequences can include imprisonment as well as disqualification as a company director for up to 15 years. HSE fines of up to £20,000 are commonplace and, in cases of serious negligence, can be unlimited. This may have serious implications for the future; potentially resulting in company insolvency and personal bankruptcy.

Additional Costs to Employers – Points to Consider

In addition to financial costs and the risk of potential prosecution, employers can incur further expenses such as extensive legal fees, compensation, sickness pay and excess payments of insurance claims. Whilst these costs can be calculated, perhaps the most expensive costs are those without measure – for example:

- Damage to reputation
- Damage to property, equipment, tools, plant and product damage
- Loss of production due to sick days that accompany most workplace injuries
- Contract loss and inability to meet deadlines
- Lost time

In addition to our internal health and safety procedures, NAL provide an essential external health and safety service to our customers to educate and support them - when utilising our systems. In our commitment to guaranteeing best practice procedures, we can mitigate health and safety risks, along with potential financial implications associated with faulty installations and improper use of equipment.

Supporting our Customers – Health and Safety

In conjunction with our commitment to guaranteeing the safety of our employees, NAL believe it is our responsibility to guarantee the safety of all personnel; when utilising the systems we provide. Our free of charge CPD demonstration days are held within our purpose-built facilities and provide the backdrop for all members of the construction industry to witness how products should be installed safely and for optimum usage. Alternatively, a technical member of our team will visit personnel on site to provide a 'tool box talk' to ensure a safe, best practice installation. With construction projects allowed to continue during the COVID-19 pandemic, our training provision was modified and delivered remotely, via webinars, to help guarantee the safety of site personnel; restrictions place upon us prohibited us from doing so in person.

Facilitating the opportunity to integrate with like-minded industry members, our training provision has often provided the platform to listen to those, with first-hand experience, of risks and issues faced, whilst working within the construction industry. Our innovations are often the result of such encounters, and, in our collaborations, we have been able to provide solutions to overhaul historical, costly, and often hazardous working practices. An initial conversation with a highly experienced Traffic Signal Team Leader, with reference to these risks, prompted us to re-evaluate our position as product providers, and consider our responsibility to manufacture solutions specifically to minimise risk.

Best Practice

A member of NAL gives a Toolbox Talk to traffic signal engineers, demonstrating how to correctly install and operate the NAL EasyWynd, a product developed to overcome Working at Height.

Product Providers - Listening to the Voice of Experience to Minimise Risk

With increased understanding in relation to the risks faced by Traffic Signal Engineers, when working at height to maintain or install applications upon highway structures, NAL assembled a task force to look at ways in which risks could be mitigated; with the aim of providing a solution. Further collaborations with clients and Local Authorities highlighted additional issues associated (such as cost implications due to the requirement of access equipment) which, due to obstruction, would often lead to road closures - thus negatively impacting projects in terms of time and disruption. Initially, and referring back to the HSE hierarchy of control, focus was directed towards the first measure ***"Can you AVOID working at height in the first place?"***

Subsequently design and production commenced and in February this year, NAL proudly launched "EasyWynd" to overhaul existing practices and optimise health and safety by eradicating the requirement to work at height under the circumstances previously discussed. The system enables works customarily conducted at height, to be carried out at ground level, due to its unique and patented hinge design. EasyWynd incorporates a 2m extension pole, to which a variety of equipment can be mounted - including Wimag repeaters, CCTV and Base Stations. The extension pole is secured to a hinged arm, which can be lowered to, and raised from ground level, with the use of a crank handle. Accommodating both round and square poles, the EasyWynd system can also be retrofitted swiftly and with ease, utilising a standard U-bolt.

Highways England selected to trial EasyWynd to assist in the maintenance of radar repeaters, secured on 115mm diameter poles, situated on junction 7 of the M5 in Worcester. Radar repeaters require regular maintenance in terms of alignment or battery related issues, and engineers were able to carry out necessary repairs safely, and without risk at ground level. Subsequently, Highways England was able to remove their usual requirement of a MEWP to conduct maintenance, which in turn ensured no road closures were necessary, causing minimal disruption to commuters - not to mention the beneficial impact this afforded in terms of expenditure and time.

You're Grounded

A traffic signal engineer demonstrates how with the use of the NAL EasyWynd, equipment can be lowered and accessed safely from ground level for routine maintenance.

"In listening to the voice of experience and collaborating with Local Authorities and clients, we have been able to eradicate certain health and safety risks, associated with working at height. EasyWynd has been developed in direct response to the issues faced daily by engineers when maintaining devices mounted at height. We look forward to witnessing all involved within the Traffic Signals Industry, benefiting from the advantages EasyWynd affords".

Ben Parsons, UK Sales Manager, NAL

Conclusion

The HSE continues to research the effectiveness of current legislation by continuing to consult and listen to industry advisory committees and experts, to develop its policies and advise the Government on health and safety. This collaborative approach should continue to guarantee the effectiveness of HSE policies and health and safety legislation, to accurately address the issues faced by the construction industry. However, demonstratable via statistics alone, it is apparent further steps need to be taken to ensure the safety of those tasked with working at height. The fatal injury rate in construction is four times the all-industry rate and, 47% of the fatalities recorded in 2019/20, were attributable to working at height.

As industry members, we have a responsibility to challenge that 'risk comes with the territory' and as proven by emulating the collaborative approach adopted by the HSE, and also 'listening to the voice of experience', we can continue to mitigate risks, to ensure working at height no longer remains ***"the most dangerous task within the construction industry"***.

High Risk

A traditional method of installing equipment upon a traffic signal pole, requiring the use of a ladder for all routine maintenance, imposing a greater risk of serious injury or worse.

Minimising Risk

The NAL EasyWynd is a patented hinged system which enables engineers to access and perform routine maintenance on equipment safely from ground level, greatly reducing risk of injury.

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