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HEALTH AND SAFETY EXECUTIVE ARBORICULTURE AND FORESTRY ADVISORY GROUP

Proposed New AFAG Project Groups 2010-11

Paper for AFAG Meeting: 1 December 2009

ISSUES

1. Three new issues have been highlighted for consideration and development by new AFAG Project Groups. These are described briefly in this paper.
2. It is proposed that small project groups (ie maximum of 5 members) should be formed to take forward these projects to completion. The projects relate to the following issues:
 - i. The use of 'alpine' tractors in forestry
 - ii. Chainsaw felling of large trees
 - iii. Hand signals used in cable crane operations.
3. Draft project plans for the above projects are attached as Annex 1.

BACKGROUND

A. Use of Alpine Tractors in forestry

4. Small-scale 'alpine' tractors (small self-propelled machines) are commonly used in the UK for horticulture or ground maintenance purposes. Their use in forestry has so far been limited, although interest is increasing and there are now many models available in the UK that show great potential for forestry. Alpine tractors offer an efficient means of managing sites where larger machines would prove too expensive or would be restricted by their dimensions or weight. As such, they may also bring environmental benefits.
5. Alpine tractors are usually compact in size, with engine horsepower below 50 HP, although more powerful models are available up to and over 80 HP. They provide an

alternative to larger machines, offering the principal benefit of lower site impact. They can also prove a more versatile option than many purpose-built small-scale machines, such as mini forwarders, and typically have better ergonomics than sit-astride, all-terrain vehicles (ATVs).

6. Despite the advantages of this type of machine in some areas of tree work, their use introduces a number of health and safety issues. Most machines will not be fitted with a recognized tractor cab and therefore lack the Falling Object or Operator Protective Structures (FOPS/OPS) present on traditional agricultural tractors converted for forestry.

7. AFAG 501 *Tractor Units in Tree Work* states that FOPS should be fitted where there is a risk of trees, cut timber or other objects falling into the operating position and that OPS need to be fitted where there is a risk of injury from objects entering the cab (for example whipping saplings; branches; broken winch lines and chain shot).

8. AFAG 501 does not contain guidance on the use of alpine tractors. This has created some confusion with the industry, with reports that attitudes to the use of these machines varies across Great Britain. AFAG has been requested to provide guidance on the appropriate use of alpine tractors in forestry and the associated controls that should be considered.

B. Felling of Large Trees

9. AFAG has been asked to consider its current guidance in relation to the felling of large trees, contained in AFAG 307 *Chainsaw Felling of Large Trees*. This states that chainsaw operators should *ensure that no other person is within a distance equal to twice the height of the tree to be felled*. AFAG have been requested to revisit this issue by many in the industry who believe that, for certain large trees, two persons should be allowed to work at the tree stump, ie the chainsaw operator and a colleague to apply wedges into the cut.

10. Those calling on AFAG to revisit this issue state that the results of their risk assessments and resulting method statements identify this as the safest method of felling large trees. A number of arguments have been put forward to support this. These include the practical difficulties for one person in felling large trees, and the effects that exhaustion has on a single chainsaw operator when carrying out this type of work throughout a working day. It is considered that these hazards are not properly addressed by the current AFAG guidance.

C. Hand Signals Used in Cable Crane Operations

11. Hand signals are used during forestry cable crane operations in situations where communication via radio is not possible. The traditional system of hand signals described in AFAG 504 *Extraction by Cable Crane* differs from the signals used for winching operations in other industries (such as the use of cranes in construction) which conform to British Standard BS 7121.

12. Importantly, the signals for emergency stop in the British Standard (two hands held above the head) is the signal described in AFAG 504 (and currently used by cable crane operators) for 'haul in'. Representation has been made to AFAG to consider whether the hand signals traditionally used in forestry should be changed to harmonise with those used in other industries and described in the British Standard.

13. It is proposed that this work initiates the work of the AFAG project group already proposed to examine cable crane operations generally (as agreed at the previous AFAG meeting, 21 May 2009).

RECOMMENDATIONS

14. Members are invited to:

- i. Comment on the proposed AFAG projects
- ii. Comment on the proposal to restrict these Project Groups to a maximum of 5 persons to improve the delivery of the projects
- iii. Identify Members to take these project groups forward.

15. If agreed, these will be added to Annex 1 and 2 in the current AFAG Workplan.

**HSE Agriculture & Food Sector
November 2009**

Annex 1

AFAG Project B9 – Small scale self-propelled machinery in forestry

Background	<ol style="list-style-type: none"> 1. Small scale self propelled machinery, such as Alpine tractors, are increasingly used for forestry applications. Many units are available with 4-wheel drive and articulated axles, and offer power-assisted steering. The operator platforms are usually more comfortable and ergonomic than those of other small-scale machines, with a flat deck free of obstructions enabling the driver to easily get on and off the machine. 2. Compared to larger machines, the small size of alpine tractors enables better manoeuvrability and can provide better access e.g. among standing trees. Their proportionally low weight and large footprint area (the area of the machine in contact with the ground), makes them more suitable for operations on sensitive sites. They also require lower access track specifications. 3. In financial terms, these machines represent a relatively lower investment compared to the price of larger machines. They are easy to move from one place to another and are not restricted to specialised tasks and can be used with a variety of attachments, making them very versatile machines. Most of them are fitted with a standard three point linkage and PTO drive 4. However, these machines do not offer the standard of operator protection normally associated with mobile, self-propelled forestry machinery. They are not fitted with a protective cab as standard and therefore the operator is at risk from falling and protruding objects. Furthermore, initial examination of these machines suggests that the ROPs fitted would not comply with current regulations. 5. Despite their increasing use, there is currently no guidance available on the use of these machines in forestry. Therefore, it is essential that good practice guidance is developed to inform Risk Assessments relating to their use and to identify acceptable levels of operator protection. In addition, it is essential to ensure that the basic level of operator protection provided as part of the machine is fit for purpose and complies with UK legislation.
Objectives:	<ol style="list-style-type: none"> 6. Review the range of machines currently available in the UK; 7. Confirm that their integral protective structures are fit for purpose and comply with the legislation; 8. Work with suppliers and manufacturers to ensure that any issues identified are addressed; 9. Develop guidance for the industry on the suitable risk assessment process that should be applied to the use of these machines and provide good practice guidance on their safe use; 10. Promote guidance and communicate risk management and project messages

	directly through the Forestry Commission, industry associations and exhibitions/demonstration events, as well as via specialist trade publications.	
Resources:	<ul style="list-style-type: none"> • Group to consist of AFAG members, co-opted members from industry and staff from HSE (Ag Sector) and the Forest Enterprise Technical Development Branch, as required; • Research needs and sources of funding to be identified; • Cost of production and publishing guidance from Communications budget – to be determined. • Input from the industry to be gathered throughout the project via the AFAG Public Community Website. 	
Milestones:	TBC	
Output:	<ul style="list-style-type: none"> • Notes of meetings circulated to all AFAG members; • Dissemination of all results to members and industry; • Production of AFAG Safety Guide or Forestry Commission Technical Development Branch Note, to be made available via the HSE/Treework website; • Identification of key communication messages, communication approaches and target audiences for future articles, etc (to be determined). Information used for development of articles in trade journals, etc and dedicated page on HSE/Treework website. Dissemination of results to the relevant organisations; • Communication plan developed and initiated at the start of the project which aims to bring about cultural change; 	
Members of Working Group	TBC	

AFAG Project B10 - Felling of Large Trees

Background	<ol style="list-style-type: none"> 1. The industry have called on AFAG to consider its current guidance in relation to the felling of large trees. Current AFAG guidance contained in AFAG 307 Chainsaw Felling of Large Trees states that chainsaw operators should <i>ensure that no other person is within a distance equal to twice the height of the tree to be felled</i>. However, many in the industry consider that, for certain large trees, it is safer to allow two persons to work at the tree stump – the chainsaw operator and a colleague to apply wedges into the cut. 2. This is on the basis that risk assessments and resulting method statements indicate that two persons working at the base of the tree reduce the practical difficulties for one person felling large trees. This system of work also reduces the effect of exhaustion throughout a working day. These hazards are not properly addressed by the current AFAG guidance.
Objectives:	<ol style="list-style-type: none"> 3. Review the current guidance in relation to the felling of large trees; 4. Examine the risks associated with the current good practice guidance and those associated with having two people work at the base of the tree; 5. Examine risk assessments / method statements submitted for consideration by the project group 6. Make recommendations to AFAG on whether the current guidance should or should not be changed and, in the case of the former, to develop new good practice guidance for this type of felling. 7. Promote guidance and communicate risk management and project messages directly through the Forestry Commission, industry associations and exhibitions/demonstration events, as well as via specialist trade publications.
Resources:	<ul style="list-style-type: none"> • Group to consist of AFAG members, co-opted members from industry and staff from HSE (Ag Sector) and the Forest Enterprise Technical Development Branch, as required; • Research needs and sources of funding to be identified; • Cost of production and publishing guidance from Communications budget – to be determined. • Input from the industry gathered throughout the project via the AFAG Public Community Website
Milestones:	TBC
Output:	<ul style="list-style-type: none"> • Notes of meetings circulated to all AFAG members; • Dissemination of all results to members and industry; • Possible revision of AFAG Safety Guide 307. • Identification of key communication messages, communication approaches and target audiences for future articles, etc (to be determined). Information used for development of articles in trade journals, etc. Dissemination of results to the relevant organisations and made available via the HSE/Treework website ;

	<ul style="list-style-type: none">• Communication plan developed and initiated at the start of the project which aims to bring about cultural change.	
Members of Working Group	TBC	

AFAG Project Group B11 - Extraction by Cable Crane

<p>Background</p>	<ol style="list-style-type: none"> 1. Cable crane extraction is a method of extracting timber over rough and/or steep ground using a system of pulleys and line wires. The tractor, which provides the power for the system, remains on the forest road. Although there are relatively few forestry contractors who carry out this type of work in GB, it has been reported that the numbers are increasing. 2. The current AFAG leaflet 504 <i>Extraction by Cable Crane</i> provides long-standing good practice guidance to the industry. This was reviewed by AFAG in 2002 and a revised leaflet published in 2003. The guidance refers mainly to cable crane systems that were used traditionally in GB. However, there have been a number of advances in cable crane technology over the recent past and AFAG members have identified the need to review this system of extraction to identify any need to supplement or revise current AFAG guidance. 3. Hand signals are used during forestry cable crane operations in situations where communication via radio is not possible. The traditional system of hand signals is described in AFAG 504 <i>Extraction by Cable Crane</i> differs from the signals used for winching operations in other industries (such as the use of cranes in construction) which conform to the current British Standard <u>BS7121</u>. 4. Importantly, the signals for emergency stop in the British Standard (two hands held above the head) is the signal described in AFAG 504 (and currently used by cable crane operators) for ‘haul in’. Representation has been made to AFAG to consider whether the hand signals used in forestry should be changed to harmonise with those detailed in the British Standard.
<p>Objectives:</p>	<ol style="list-style-type: none"> 5. Review the issue of hand signals in cable crane operations and make recommendations as to whether these should be harmonised with the current British Standard; 6. Review the range of types of cable crane operations used currently in GB and, in light of this information, evaluate whether current AFAG guidance is fit for purpose. 7. Work with suppliers and manufacturers to ensure that any issues identified are addressed; 8. If necessary, develop guidance for the industry on the suitable risk assessment process that should be applied cable crane operations and provide good practice guidance on safe use; 9. Promote guidance and communicate risk management and project messages directly through the Forestry Commission, industry associations and exhibitions/demonstration events, as well as via specialist trade publications.

Resources:	<ul style="list-style-type: none"> • Group to consist of AFAG members, co-opted members from industry and staff from HSE (Ag Sector) and the Forest Enterprise Technical Development Branch, as required; • Research needs and sources of funding to be identified; • Cost of production and publishing guidance from Communications budget – to be determined; • Input from the industry gathered throughout the project via the AFAG Public Community Website. 	
Milestones:	TBC	
Output:	<ul style="list-style-type: none"> • Notes of meetings circulated to all AFAG members; • Dissemination of all results to members and industry; • Production of AFAG Safety guide or Forestry Commission Technical Development Branch Note, to be made available via the HSE/Treework website; • Identification of key communication messages, communication approaches and target audiences for future articles, etc (to be determined). Information used for development of articles in trade journals, on the HSE/Treework website, etc. Dissemination of results to the relevant organisations; • Communication plan developed and initiated at the start of the project which aims to bring about cultural change; 	
Members of Working Group	TBC	