

# HI-LINE GENERIC RISK ASSESSMENT

Document No: HSMS002  
Issue: 3  
Date: 30<sup>th</sup> September 2011

## 1:0 EMERGENCY CONTINGENCIES

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
1.1	Staff or other personnel on site suffer injury, including infection with communicable disease, e.g. HIV, Hepatitis B and TB  See also <b>Section 2: Site considerations</b>	Fatality, ill health, worsening of injury, worsening of condition, complications. Viral infection, psychological trauma	Work team/ client/gene ral public	AFAG Safety Guide 401,402, 802: "A Guide to Good Climbing Practice", "Aerial Rescue Guidance Notes": HSE INDG317 "Chainsaws at work". HSE: "RIDDDOR	Appropriate First Aid Kit on site. Climbers carry personal First Aid Kit. All staff trained and certificated in First Aid. At least one of ground staff trained, equipped and certificated in Aerial Rescue. All staff know site location and means of contacting emergency services. All staff trained to complete Accident Book. Be aware. Items of concern should be carefully handled with protective gloves and disposed of correctly.	NAR  Some employees have received training and training for others will be scheduled if the need arises.	
1.1.2	Young Persons	As Above	Young Person	As Above: Also see HSG165	As per the law. Less than 40hr week to be worked. Team leaders aware of age and supervise at all times.	NAR	
1.2	Fire/ explosion	Burns/blast injuries	Work team/ client/gene ral public	AFAG Safety Guide 301, 302, 401, 802: HSE HSG47 "Avoiding danger from underground services"	As above and fire extinguishers fitted in works vehicles: staff trained in their use. Also located in Offices	NAR	

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## 1:0 EMERGENCY CONTINGENCIES – Continued

Ref	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
1.3	Contact with energised power lines  See also 2.2 <b>Power lines – over and underground</b>	Serious injury/fatality. Third party electrocution.	Work team/client/general public	AFAG Safety Guide 302, 401, 402, 802, 804: HSE HSG47 “Avoiding danger from underground services”	As above, and all staff trained. Emergency procedures known. Accurate assessment of situation. Means of contacting Regional Electricity Company is known to all staff WPD Training undertaken	NAR	
1.4	Emergency call-out work: night-time work. Poor weather conditions.	Cut/crush/impact injury due to poor visibility/unstable trees or structures/ other people/ vehicles on site.	Work team/client/general public	AFAG Safety Guide 301, 302, 303, 304, 306, 307, 308, 310, 501, 802, 804: HSE INDG317 “Chainsaws at work”, HSE HSG47 “Avoiding danger from underground services”: NPTC CS 34, 35:	All operators trained and certificated. Co-ordination with emergency services, local authorities, utility company etc. Portable lighting on site. Unauthorised personnel excluded from work area: signs, barriers, etc. PPE. Procédures known by staff	NAR	

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## 2:0 SITE CONSIDERATIONS

### 2.1 WORK SITE – Common Factors

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
a	Works vehicles	Personal injury from contact with sharp edges (doors, lockers, tailgates, etc.). Jump/fall from load bed, trailer, cab, etc. Crush injuries from tipper bed, trailer, unexpected movement, etc.	Work team/ client/general public	AFAG Safety Guide 403, 501, 502, 503, 603, 701, 702: routine preventative maintenance in accordance with internal procedures and manufacturers' recommendations  All serviced in house	All operators trained. Vehicle manufacturers instruction manual available. All guards and warnings in place. Regular vehicle maintenance and servicing. Loading and securing of load in accordance with Department for Transport guidelines. Appropriate PPE, such as safety helmet, safety boots and suitable gloves.	NAR	
b	Theft of work equipment from works vehicles. Theft of works vehicles, including trailed loads	Serious injury/fatality arising from untrained use/abuse/ misuse of stolen work equipment. Severe injury from contact with stolen vehicle moving at speed. Jump/fall from load bed, trailer, cab, etc. Crush injuries from tipper bed, trailer, unexpected movement, etc.	User/abuser/ mis-user/ general public/ work team/ client/ emergency services personnel	Internal procedures designed to ensure security of work equipment on site	Awareness training for all operators. Comply with all in-company security instructions. Do not leave machinery running when unattended; do not leave ignition keys in unattended vehicles or idle plant such as brushwood chippers or stump grinders. Timing of operations in sensitive areas (see also <b>2.6 Working in sensitive/emotionally charged locality</b> ). Regular vehicle servicing and maintenance. All guards and warnings in place. Loading /securing of load in accordance with Department for Transport guidelines.	Toolbox talk for operatives, also to cover in induction	Ongoing

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### 2.1 WORK SITE – Common Factors – Continued

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
c	Use of hand tools	Cuts, muscular strain	Work team	AFAG Safety Guide 201, 302, 304, 307, 401	Edged tools guarded. Safe stance/positioning. Safe working distance from colleagues. PPE		
C/1	Use of hand tools. Adjacent to power lines	Serious injury/fatality. Third party. Electrocutation	Work team/client/general public	NPTC: AE1, 2b, WPD: OH1C/2 AFAG: 201,804	All staff trained and certified. Appropriate authorisation from relevant electricity board. Emergency procedure known. Accurate risk assessment of situation. Means of contacting the electricity company is known to all staff. Work planning. Approved insulated work tools and PPE. OHC1 C/5 distributed to all staff	NAR	
d	Access equipment:: Ladders, steps and temporary platforms  See also <b>5.7 Mobile elevated work platform (MEWP)</b>	Falling, injury from falling object, concussion, crushing	Work team/client/general public	AFAG Safety Guide 401, "A Guide to Good Climbing Practice";	All staff fully trained and competent. Ensure stability, especially on soft or uneven ground. Ladders should be secured at the top if used as a working platform, and operator independently secured. Follow manufacturer's safety instructions. Regular inspection of all access equipment.	NAR	
e	Powered tools and machinery	Cut injuries, crushing, electrocution, infection from hydraulic oil	Work team/client/general public	Operator's certificates; AFAG Safety Guides 105, 203	All staff fully trained, with full access to machinery manuals and records. Manufacturers guidelines to be followed, as is guidance published by AFAG, HSE etc	NAR	

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### 2.1 WORK SITE – Common Factors – Continued

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
f	Manual handling	Muscular strain/ back injury, crush injuries	Work team	HSE INDG317 "Chainsaws at work": AFAG Safety Guide 301, 302, 303, 304.	Avoid manual lifting where practicable: use mechanical aids. Move smaller pieces. Use hand aid tools. Use ergonomic work systems, work planning. PPE.	Manual Handling Training	Induction and refreshers
g	Weather: Extremes of temperature; wet, windy, electrical storm	Poor visibility, loss of grip/ slipping, physiological stress, hypothermia, electrocution	Work team	AFAG Safety Guide 302, 401, 802: "A Guide to Good Climbing Practice"	Change task. Stop work. PPE. Thermal blanket available		
h	Terrain	Slipping/ tripping	Work team/ client/general public	AFAG Safety Guide 302, 307, 401, 802	Prepare site. Change task. Change access. Appropriate footwear for staff / tyres for vehicles	NAR	
i	Staff or other personnel on site suffer injury from communicable disease, e.g. HIV, Hepatitis B, TB See also: 2.1k and <b>Section 1: Emergency contingency</b>	Fatality, ill health, worsening of condition, complications. Viral infection, psychological trauma	Work team/ client/general public	Health monitoring and surveillance	Appropriate First Aid Kit on site. All staff trained and certificated in First Aid. Site location and means of contacting emergency services is known to all staff. Treat all blood or body fluid as infected and take universal precautions i.e. use of gloves, wash hands thoroughly, bag items carefully and seal bag. Be aware. Items of concern should be carefully handled with latex gloves and disposed of correctly.	Toolbox talk on H&S policy  Any involved in litter-picking to have received jabs.	See 1.1

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### 2.1 WORK SITE – Common Factors – Continued

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
j	Stings or bites  From Small insects or larger mammals	Transmitted infections (bacterial or viral)/ allergic reactions Possibility of rabies from bats (v low risk)	Work team/ client/ general public	Health monitoring and surveillance	Identify any team member with specific allergy. Identify the animal / insect / vegetation with the potential to cause harm and monitor position, activity and movement and treat with caution. Where the risk of injury is real then use the appropriate PPE. First Aid training. Guidance published by AAIS, AA, HSE etc. Programme work for most appropriate time/season.	Identify such information at induction or appraisal.  Coshh Sheets	Ongoing
k	Needle stick injuries	Viral infection, psychological trauma	Work team/ client/ general public	Health monitoring and surveillance	Identify sites with the potential to harbour discarded hypodermic syringes and treat with caution. Where the risk of injury is real then use "sharps" containers for the acceptable disposal of syringes. Under no circumstances shall syringes be re-sheathed because of risk of needle stick injury. Appropriate PPE. Appropriate First Aid and post exposure treatment, counselling. Guidance published by AAIS, Arboricultural Association, HSE etc.	Include on Site Specific RA  Toolbox Talk  Litterpicking staff trained	Done  Done  See 1.1

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#### 2.1 WORK SITE – Common Factors – Continued

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
l	Deer tick bites	Lyme disease, infection from the bacteria carried by deer ticks, irritation of areas affected by ticks	Work team/ client/ general public: most likely from May to October	Reporting of any ill health. Operatives at risk should maintain regular health checks.  "Tick bites and Lyme disease", Kingston and Richmond & Twickenham PCT	Where deer are believed to be present wear long trousers tucked into socks, long sleeves buttoned at wrist and tucked in at waist during May – October	Mention in next newsletter	Done
m	Salmonella	Fatality, ill health	Work team/ client/ general public	Reporting of any ill health. Operatives at risk should maintain regular health checks	Be aware, wear gloves. Wash hands thoroughly before eating, smoking etc		
n	Tetanus	Fatality, ill health	Work team/ client/ general public	Regular booster injections. Reporting of any ill health. Operatives at risk should maintain regular health checks	Keep anti-tetanus injections up to date	Remind employees in future newsletter	To be done by end 2011
o	Dog and cat faeces: Toxicara	Toxocariasis: Loss of sight, ill health	Work team/ client/ general public	Health monitoring and surveillance	Be aware, wear gloves. Wash hands thoroughly before eating, smoking etc	NAR	

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### 2.1 WORK SITE – Common Factors – Continued

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
p	Weils Disease (Leptospirosis) – transmitted to humans by contact with urine from infected rats	Fatality, ill-health	Anyone who is exposed to rats, rat or cattle urine: those in contact with canal and river water are also at risk	Reporting of any ill health. Operatives at risk should maintain regular health checks. HSE INDG84 Leptospirosis – are you at risk	Wear protective clothing. Cover all cuts and broken skin with waterproof plasters before and during work. Wash hands after handling contaminated clothing or other materials and always before eating, drinking or smoking. See local Public Health Laboratory Service or hospital consultant microbiologist for advice and serological testing. Info put on Coshh sheets	Site specific Risk Assessment	Sept 09
q	Sunburn	Short term pain and discomfort long term damage and illness possible from prolonged exposure over a period of years	All outdoor operatives	INDG 337	Clothing provided	Issue leaflet with newsletter  HG to organise sunglasses (see 7th safety meeting)	Done Summer 2011.

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Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
2.2	Power lines – over and underground	Electrocution, contact with live lines	Work team/ client/general public	AFAG Safety Guide 401, 804; HSE HSG47 “Avoiding danger from underground services”. NPTC suite of certificates of competence in Utility Arboriculture (if working within vicinity zones)	All staff trained. Observe safe working distances: No work within 15 m of any overhead power line without contacting Regional Electricity Company supplier (REC). If working within vicinity zone, follow instructions and procedures of REC. Shut down power	NAR	
2.3	Other utility wayleaves (e.g.: Telephone lines, gas mains, water or sewage pipes)	Rupturing gas/water/ telecomm supplies: explosions, flooding loss of communication ability, loss of data	Work team/ client/general public	AFAG Safety Guide 401: HSE HSG47 “Avoiding danger from underground services”:	Establish existence / position of wayleaves: Utilities’ site plans; CAT scanner used by trained operator. Avoid excavation or excavate only using hand tools; Avoid significant ground impact from falling timber; Avoid contact with overhead telecomm lines.	NAR	
2.4	Buildings or other obstructions	Trees/parts of trees in contact with building or obstruction	Work team/ client/general public	AFAG Safety Guide 302, 307, 310, 401: NPTC Certificates of Competence: CS31, 32, 33, 41, 44	Work planning. All staff trained and certificated in felling and dismantling operations. Buildings evacuated as necessary.	NAR	

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Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
2.5	Working near roads/ footpaths/ public areas	Trees/parts of trees hitting passing traffic/ pedestrians. Workers struck by passing traffic	Work team/ client/general public	AFAG Safety Guide 401: Department for Transport Approved Code of Practice "Safety at street works and road works" to support NRSWA.	All staff trained to appropriate level. AT least one certificated operator on site on public roads. Adequate staff on site to maintain traffic control. Use of "Hi-viz" clothing/PPE. Public excluded from work area: signs, barriers, tape.	NAR	
2.6	Working in sensitive/ emotionally charged locality	Offending or alienating the general public. Work team becoming the victim of verbal or physical abuse	Work team/ client/general public/local special interest group/anti-social element of local community	In-company code of practice / instruction.	Use of hand tools where possible for pruning works; clear work site: Take brush off-site without chipping to reduce the risk that noise may cause nuisance and/or signal the presence of the work team. Refer situation to supervisor/ team leader/manager/client. Seek to calm the tensions. Guide and educate the general public.	NAR	

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## 3:0 ENVIRONMENTAL CONSIDERATIONS

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
3.1	Mineral oil/ herbicides/ pesticides in or near watercourses.  Tree work adjacent to watercourses	Pollution threat to aquatic life forms, be they plant or animal  Sawdust, chippings, brushwood, timber causing blockage to watercourse	Work team, client, general public	BS 3998:1989 "Recommendations for Tree Work", BS 5837: 1991 "Guide for trees in relation to construction".  Forestry Commission: "Forests and water guidelines"  Countryside and Rights of Way Act 2000  EC Directive 2000/60/EC Water Framework Directive	All staff to receive training. Refuelling of vehicles, plant and equipment to be carried out away from watercourses.  No mixing and decanting of pesticides and herbicides or other chemicals in the vicinity of a watercourse.  Gain Environment Agency licence for herbicide application within 20m of a watercourse.  Ensure watercourses and banks are kept clear of arisings from tree work	NAR	

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### 3:0 ENVIRONMENTAL CONSIDERATIONS Continued

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
3.2	Proposed work adjacent to protected species / habitat	<p>Damage to protected species or habitat: Damage to badger setts and so community of badgers.</p> <p>Disturbance to nesting or roosting places.</p> <p>Disturbance to habitat.</p>	Work team, client, general public	<p>Wildlife and Countryside Act 1981 as amended. EC Directive on the Conservation of Wild Birds 1979 (79/409/EEC). EC Directive on Conservation of Natural Habitats and Wild Flora and Fauna 1992 (92/43/EEC). EC Directive 2000/60/EC Water Framework Directive. Badger Act 1981. The Deer Act 1991. The Protection of Badgers Act 1992. Countryside and Rights of Way Act 2000. English Nature "Bat mitigation guidelines" 2004. Arboricultural Association Guidance Note 1 "Trees and Bats" 2003</p>	<p>Experienced surveyor to carry out visual check before works commence. If protected species present either:</p> <ul style="list-style-type: none"> <li>• delay works until animal moves off of its own accord (e.g. otter, snake etc.). or</li> <li>• delay works until a non-critical season – out of nesting, breeding or migration season, or</li> <li>• change scope of works to avoid disturbance of habitat, or</li> <li>• obtain relevant licence from English Nature (badger sett, bats, crayfish, watervoles).</li> </ul> <p>as appropriate for the species or habitat present. Groundworks within 50 m of an active badger sett will require a license from English Nature.</p>	NAR	
3.3	<p>Excessive noise or noise at inappropriate times.</p> <p>Excessive dust.</p>	Loss of enjoyment of property through noise or dust	Work team, client, general public	Noise at Work Regulations 1989	Only use correctly maintained and silenced vehicles, plant and equipment. Unless emergency work, limit working hours to 8:00 to 18:00 Monday-Friday. Site chipping equipment to avoid wind blowing debris onto private property.	NAR	

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### 4:0 OPERATIONS

#### 4:1 CHAIN SAWS – Common Factors

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
a	Fuelling	Fire/explosion: burns/blast injuries	Work team/client/general public	HSE INDG317 "Chainsaws at work"; AFAG Safety Guide 301, 308; NPTC CS30.1	All operators trained and competent. Shaded fuelling site. Safe distance from any ignition source. Correct sealed containers. Saw fuel caps replaced securely.	NAR	
b	Maintenance: chain / bar	Cuts from chain / bar / hand tools	Work team	HSE INDG317 "Chainsaws at work"; AFAG Safety Guide 301; NPTC CS30.1	Avoid bare hand contact with chain and bar. Ensure files have handles. PPE.	NAR	
c	Noise	Deafness	Saw operator/work team	HSE INDG317 "Chainsaws at work"; AFAG Safety Guide 301, 801; NPTC CS30.2	Correct saw maintenance (exhaust baffles, chain and bar). Hearing protectors. PPE Any defects put on timesheet	NAR	
d	Vibration	Vibration-induced White Finger (VWF), Hand Arm Vibration Syndrome (HAVS)	Saw operator, and particularly operators of large chainsaws	HS (G) 88 "Guide to Hand Arm Vibration"; INDG317 "Chainsaws at work"; HSE 246/31 "Reducing Risks of HAV Injury From Hand Held Power Tools"; AFAG Safety Guide 301; NPTC CS30.2	Select appropriate equipment, monitor and carefully regulate exposure times against published data. Correct maintenance for A/V systems, chain and bar. Gloves worn. PPE. Use of lorry-mounted crane to reduce the need to cut large diameter or long lengths of roundwood into manageable pieces. Defects put on Timesheet. HAVS Monitoring	NAR	

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## 4:0 OPERATIONS

### 4:1 CHAIN SAWS – Common Factors - Continued

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
e	Poor handling	Muscular strain/ long-term injury	Saw operator	HSE INDG317 "Chainsaws at work": AFAG Safety Guide 301, 302, 303, 304; NPTC CS30 - 45	All operators trained and competent. Use of ergonomic work systems. Work planning.	NAR	
f	Contact with moving chain/ kickback	Cut injuries / laceration	Saw operator	HSE INDG317 "Chainsaws at work": AFAG Safety Guide 301, 302, 303, 304, 306, 307, 308. Appropriate level of chainsaw competence as per NPTC CS units 30 to 45.	All operators trained and competent. Saw safety features fitted and working. Correct bar and chain maintenance. PPE	NAR	

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### 4:0 OPERATIONS

#### 4:2 TREE CLIMBING – Common Factors

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
a	Weak tree structure.  See also 5.4 <b>Mobile Elevating Work Platform</b>	Failure of climber's anchor point, climber falls from tree, limbs fall on climber/ ground crew	Climber/ ground crew	AFAG Safety Guide 401, 403: "A Guide to Good Climbing Practice; NPTC CS38; HSE Research Report 123 Use and effectiveness of mobile elevating work platforms for tree work	All operators trained and certificated. Assessment of anchor points and tree. Ensure strength of anchor points. Use of supplementary anchor points. Avoid climbing: Consider the use of a Mobile Elevating Work Platform (MEWP) as means of access and/or as working platform. WAHR regs- Hierachry on site specific risk assessment	NAR	
b	Equipment failure	Climber falls from or within tree: major or minor contact injuries	Climber/ ground crew	AFAG Safety Guide 401: "A Guide to Good Climbing Practice", NPTC CS38. HSE AIS 30: "LOLER: How the Regulations apply to Arboriculture"	Daily checks of equipment. Worn/damaged equipment withdrawn from service. Thorough Examination of Lifting Equipment (PPE climbing equipment every 6 months) On new Job Sheets	NAR	
c	Poor climbing technique: Free climbing, unprotected position, loss of balance	Climber falls from, or within, tree: major or minor contact injuries	Climber/ ground crew	AFAG Safety Guide 401, "A Guide to Good Climbing Practice", NPTC CS38	All operators trained and certificated. Use of correct equipment and procedures. PPE. Auditing	NAR	
d	Falling objects: equipment, tools, branches	Injury to persons and /or property below	Work team/ client/gene ral public	AFAG Safety Guide 401, "A Guide to Good Climbing Practice"; NPTC CS38, 39, 40, 41, 45	All operators trained and certificated. Correct use of tools, equipment and tool strops. Identified hazard areas. Communication procedures.	NAR	

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#### 4:2 TREE CLIMBING – Common Factors - Continued

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control measures	Further Action Required?	By (date)
e	Awkward movements when working in tree	Muscular strain, back injury	Climber	AFAG Safety Guide 401: "A Guide to Good Climbing Practice": "Aerial Rescue Guidance Notes": NPTC CS38, 39.	All operators trained; Planned work programme. Ergonomic climbing techniques and routing of ropes to achieve best working positions. Use of supplementary anchors.	NAR	
f	Climbing adjacent to power lines	Serious injury/fatality. Third party. Electrocution.	Work team/ climber/ client/ general public	WPD: OH1C/2 NPTC: CS30-41 NPTC : AE1-4	All staff trained and certified. Appropriate authorisations from relevant electricity board. Emergency procedures known. Accurate assessment of situation Means of contacting electricity board is known to all staff. PPE work planning	NAR	

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### 4:0 OPERATIONS

#### 4:3 CHAIN SAW IN TREE – Common Factors

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control Measures	Further Action Required?	By (date)
a	Top-handled saw use by climber	Kickback, cut injury / laceration. Cutting climbing rope causing fall injury / fatality	Saw operator/ ground crew	HSE INDG317 "Chainsaws at work": HSE CRR 402/2001 "Safe working methods with top-handled chainsaws"; AFAG Safety Guide 301, 308, 401; "A Guide to Good Climbing Practice"; NPTC CS30, 38, 39, 40 41	All operators trained and certificated. Top handled saws used only in tree (apart from warm-up). Operator in correct position. Ropes kept in safe position. Use of supplementary anchor. Use of cut-proof strop if applicable. Chain brake applied before and after cutting. Two-handed use wherever possible, never "cut and hold". PPE.	NAR	
b	Passing saw to or from climber	Saw falling on ground staff. Rope damage	Saw operator/ ground crew	HSE INDG317 "Chainsaws at work": HSE CRR 402/2001 Safe working methods with top-handled chainsaws: AFAG Safety Guide 308, 401: "A Guide to Good Climbing Practice": NPTC S30, 38, 39, 40, 41, 45.	All operators trained and certificated. Good communication. Correct methods of attaching/ securing saw. Use of tool line if appropriate. PPE.	NAR	
c	Large saw use.  See also <b>4.1 d</b> <b>Vibration</b>	Kickback, cut injury / laceration, Vibration. Muscular strain, back injury. Cutting climbing rope/strop leading to slip or fall injury / fatality	Saw operator/ ground crew	HSE INDG317 "Chainsaws at work": AFAG Safety Guide 301, 401: "A Guide to Good Climbing Practice": NPTC CS30, 39, 41, 45.	All operators trained/certificated. Saw is appropriate to task. Saw supported centrally on harness or on tool line if appropriate. Operator in correct position. Ropes kept in safe position. Use of supplementary anchor. Use of cut-resistant strop if applicable. Chain brake applied before and after cutting. Two-handed use at all times. PPE.	NAR	

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Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control Measures	Further Action Required?	By (date)
4.4	Branch removal	Cuts, impact/crush injuries,	Climber, ground crew, client/general public	HSE INDG317 "Chainsaws at work": AFAG Safety Guide 301, 401, 403, 308: "A Guide to Good Climbing Practice": NPTC CS30, 38, 39, 40, 41	All operators trained and certificated. Correct climber position. Accurate severing cuts. Team communication. Work equipment, plant and machinery stored securely at suitable distance from tree. PPE. Client / General public excluded from work area	NAR	
4.5	Use of lowering equipment.	System failure, impact/crush injuries. Rope friction burns	Climber/ground crew/	AFAG Safety Guide 301, 308, 401,403: "A Guide to Good Climbing Practice": NPTC CS38, 39, 40,41. HSE AIS 30: "LOLER: How the Regulations apply to Arboriculture	All operators trained and certificated. Equipment inspected regularly by a competent person. Thorough Examination of Lifting Equipment (lowering equipment every 12 months). Correct routing of ropes. Appropriate position and strength of anchor points, pulleys, etc. Working within Safe Working Load. Team communication	NAR	
4.6	Tree felling	Impact/crush injuries	Work team/client/general public	HSE INDG317 "Chainsaws at work": AFAG Safety Guide 301, 302, 303, 304, 306, 307, 310, 501; NPTC CS30, 31, 32, 33, 44.	All operators trained and certificated. Safe working distances. Escape routes maintained. Accuracy of cuts. Use of felling aids. PPE.		
4.6b	Tree felling adjacent to power lines	Electrocution Serious injury/fatality		NPTC; AE1-4 WPD; CH1 C/2	Appropriate authorisations from electric board Means of contacting electric board known to all team members	NAR	

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### 4:0 OPERATIONS Continued

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control Measures	Further Action Required?	By (date)
4.7	Delimiting and cross cutting.	Chainsaw injury: Kickback, cut injury/ laceration. Impact/crush injury.	Work team/ client	HSE INDG317 "Chainsaws at work": AFAG Safety Guide 301, 303, 304. NPTC CS30, 31, 32, 33	All operators trained and certificated. Work planning. Safe working distances. Escape routes maintained. PPE	NAR	
4.8	Storm damaged trees: Extreme tension	Chainsaw injury: Kickback, cut injury/ laceration. Impact/crush injury.	Work team/ client/ emergency services personnel	AFAG Safety Guide 302, 304, 306, 310; NPTC CS31, 32, 34, 35	All operators trained and certificated. Work planning. Safe working distances. Escape routes maintained. Correct assessment of tension and compression. Safe use of winch. PPE	NAR	
4.9	Chemical spraying.	Contamination, poisoning.	Operator/ work team/ client/ general public	AFAG Safety Guide 102, 202; NPTC PA1, PA2, PA6	All operators trained and certificated. Choice of application method. Safe and secure storage. Operation in accordance with COSHH assessment. Data information available. Accurate calibration and mixing. PPE. Washing facilities. Correct disposal of waste. Medical surveillance.	NAR	

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## 4:0 OPERATIONS Continued

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control Measures	Further Action Required?	By (date)
4.10	Litter Picking	Physical injury from contact with sharps. (see also 2.1k)  Infection of open cuts leading to sickness. Toxocara. Hepatitis. leptosporosis, Tetnus (see 2.1 n,o,p)	Operatives	Sharps course <i>Tackling drug related litter. Guidance and good practice</i> Defra October 2005  HSE waste19 info note	<ul style="list-style-type: none"> <li>•All operators trained and certificated.</li> <li>•Up to date injections for Hepatitis and Tetnus.</li> <li>•Awareness of Toxocara (on coshh sheets).</li> <li>•Heavy Duty gloves to be worn at all times to EN388</li> <li>•Litter picking tools to be used (not hands).</li> <li>•Sturdy bags to be used</li> <li>•Hypodermic needles require specialist equipment and training.</li> </ul>	Full washing facilities available on site/in vehicle (not wipes). Litter picking tools used at all times. Jabs up to date. Training in sharps. Operatives to have info listed in ibest practice.	See 1.1

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## 5.0 MACHINERY

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control Measures	Further Action Required?	By (date)
5.1	Brushwood chippers	Cuts, noise (deafness), limb injury, eye injury.	Operator/ work team/ client/gene ral public.	AFAG Safety Guide 604: HSE Agricultural Information Sheet 38: "Power-fed mobile wood chippers: Operator protection at infeed chutes"; NPTC Certificate of Competence in Brushwood Chipper Operations	All operators trained. Manufacturers instruction manual available. All guards and warnings in place. Regular machine maintenance. Safe fuelling and storage of fuel. Unauthorised personnel excluded from work area: signs, barriers, etc. PPE. Inductions on chippers	NAR	
5.2	Stump grinders	Cuts, noise (deafness) injury from flying debris. Injury from contact with cutter wheel or contact with underground services	Operator/ work team/ client/gene ral public.	AFAG Safety Guide 606: HSE HSG47 "Avoiding danger from underground services": NPTC Certificate of Competence in Stump Grinding Operations	All operators trained. Manufacturers instruction manual available. All guards and warnings in place. Regular machine maintenance. Safe fuelling and storage of fuel Adequate barriers for flying debris. Unauthorised personnel excluded from work area: signs, barriers, etc. PPE	NAR	
5.3	Winches – hand or mechanical	Injuries from: failure of equipment, whiplash, and worn cables	Operator/ work team/ client/gene ral public.	AFAG Safety Guide 310, 502: HSE AS15 "Farm and estate forestry operations": NPTC CS32, 34, 35, 44.	All operators trained. Regular machine maintenance. Equipment inspected regularly by a competent person. Thorough Examination of Lifting Equipment (every 12 months). SWL known: all strops, shackles and cables to SWL minimum. PPE.	NAR	

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### 5.0 MACHINERY Continued

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control Measures	Further Action Required?	By (date)
5.4	Brushcutters / Clearing saws	Cuts, noise (deafness) injury from flying debris. Injury from contact with cutting head / blade	Operator/ work team/ client/general public.	AFAG Safety Guide 203; NPTC Certificate of Competence in Brushcutting Operations	All operators trained. Regular machine maintenance. Safe fuelling and storage of fuel. Correct fitting of harness. Unauthorised personnel excluded from work area: signs, barriers, etc. PPE.	NAR	
5.5	Hedge-trimmers <b>(See also: 2.1 d: Access equipment)</b>	Cuts, noise (deafness) Injury from contact with cutting knives	Operator/ work team/ client/general public.	Manufacturer's operator manual. NPTC AO 11: "Specialist pruning"	All operators trained. Regular machine maintenance. Safe fuelling and storage of fuel. Unauthorised personnel excluded from work area: signs, barriers, etc. PPE.	NAR	
5.6	Mechanised pole pruner	Cuts, noise (deafness); Injury from contact with chain, severed sections falling on operator / others	Operator/ work team/ client/general public.	Manufacturer's operator manual. NPTC CS 48: "Mechanised pole pruner"	All operators trained. Regular machine maintenance. Safe fuelling and storage of fuel. Observe working height / angle limits. Unauthorised personnel excluded from work area: signs, barriers, etc. PPE	NAR	

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### 5.0 MACHINERY Continued

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control Measures	Further Action Required?	By (date)
5.7	Mobile elevated work platform (MEWP)	Injuries from: Operator falling from MEWP. MEWP falling over. Equipment failure. MEWP colliding with power lines/vehicles/other structures	Operator/work team/client/general public.	AA - Guide to use of MEWPS in Arboriculture AFAG Safety Guide 403; NPTC Certificate of Competence in Mobile Elevated Work Platforms. HSE Research Report 123: "Use and effectiveness of mobile elevating work platforms for tree work", HSE information sheet MISC 614: "Preventing falls from boom-type mobile elevating work platforms"	All operators trained and certificated. Familiar with AA Guide. Manufacturers instruction manual available. Regular machine maintenance. Regular inspection by a competent person. Thorough Examination of Lifting Equipment (every 12 months) Appropriate work restraint / fall arrest system used. SWL clearly marked and observed. Safe positioning in accordance with manufacturer's recommendations. Safe working area clearly defined. No work within power line exclusion zone. PPE.	Purchase of additional guides	
5.8	Cranes	Equipment failure. Crush injuries from falling or swinging material. Working from hook/basket. Contact with power lines.	Operator/work team/client/general public.	AFAG Safety Guide 504:	All operators trained. Trained crane operator conversant with tree work. All guards and warnings in place. Regular machine maintenance. Unauthorised personnel excluded from work area: signs, barriers, etc. Team communication. Agreed work plan. PPE. Insurance covering any hire agreement is adequate.	NAR	

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### 5.0 MACHINERY Continued

Ref:	Hazard	Risk	Persons at risk	Industry best practice/guidance	Control Measures	Further Action Required?	By (date)
5.9	Lorry mounted hydraulic loading arm, e.g. HIAB	Equipment failure. Crush injuries from falling or swinging material. Working from hook/basket. Contact with power lines	Operator/ work team/ client/general public.	Manufacturer's instruction manual	All operators trained and conversant with tree work. All guards and warnings in place. Regular machine maintenance. Unauthorised personnel excluded from work area: signs, barriers, etc. Team communication. Agreed work plan. PPE. Insurance covering any hire agreement is adequate.	NAR	

### NOTES: