

U.S. Department of Agriculture Forest Service	1. WORK PROJECT/ACTIVITY	2. LOCATION	3. UNIT
	General Chain Saw Use	Region 5	R-5
JOB HAZARD ANALYSIS (JHA)	4. NAME OF ANALYST	5. JOB TITLE	6. DATE PREPARED
References-FSH 6709.11 and 12 (Instructions on Reverse)	R-5 Chainsaw & Crosscut Working Group	Chain Saw Use	03/13/2008
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE	
Training Requirements	Personal Injury	<ul style="list-style-type: none"> <li>• Successful completion of S-212 course or MTDC Chain Saw/Crosscut saw training course.</li> <li>• Certified in basic first-aid and CPR</li> <li>• Do not exceed your level of training. If you are a trainee you must have a qualified person supervising your activities.</li> </ul>	
Training Certification		<ul style="list-style-type: none"> <li>• Chainsaw operators shall be properly certified prior to operation and will adhere to any restrictions or limitations placed upon them.</li> <li>• Chainsaw operators may only exceed the restrictions or limitations placed on them if they are under the supervision of a qualified individual who is certified at a higher level of saw operation.</li> <li>• For the purposes of training, additional individuals besides the saw operator may be allowed with-in a 2 ½ times tree height radius if under supervision of a qualified instructor.</li> </ul>	
Personal Protective Equipment	Cuts, Eye Injuries, Hearing Loss, Burns	<ul style="list-style-type: none"> <li>• Appropriate gloves (cut resistant for sharpening), hardhat, hearing protection, long sleeve shirt, chaps(recommended to overlap top of boots 2”), Boots-8” high with skid resistant soles. and eye protection.</li> <li>• Proper PPE must be worn at all times.</li> </ul>	
Equipment	Injury, Damage to equipment or Adjacent resources	<ul style="list-style-type: none"> <li>• Ensure chainsaw is in proper working order.</li> <li>• Ensure chain is properly sharpened.</li> <li>• Ensure falling axe of appropriate size and weight.</li> <li>• Ensure proper size and amount wedges.</li> </ul>	

Pre-work Briefing/Tailgate Safety Session	None	<ul style="list-style-type: none"> <li>• Brief employees on work assignment and objectives.</li> <li>• Insure required PPE is being utilized.</li> <li>• Review applicable JHAs, hazard tree indicators and mitigation measures including LCES (lookouts, communications, escape routes). Refer to attachment at end of this JHA.</li> <li>• Brief employees on the plan that would be executed in the event of a serious employee illness/injury that would require medical evacuation.</li> </ul>
Transporting Saws	Fire, Damage to Equipment, and Personal Injury	<ul style="list-style-type: none"> <li>• Saw should be transported either purged of all fuel, or completely full.</li> <li>• Bars should be covered during transportation.</li> <li>• Saws should be secured in compartments away from people in a manner that will minimize shifting to prevent damage to saw and apparatus.</li> <li>• When transporting saws by rotor or fixed wing aircraft follow direction of pilot of qualified person in charge.</li> </ul>
Walking with Chain Saw	Cuts, falls, sprains and strains	<ul style="list-style-type: none"> <li>• Engage chain brake or shut off chain if walking more than 50 feet.</li> <li>• While carrying chain saw on shoulder ensure that chain and dogs are covered.</li> </ul>
Size Up	Head Injury, Cuts, Falling, and slipping	<ul style="list-style-type: none"> <li>• Size up the tree considering the tree species, height, diameter, lean, soundness, current and previous fire damage, split or broken top, widow makers, and other hazard tree indicators.</li> <li>• Bore tree if necessary to determine soundness.</li> <li>• Walk anticipated lay of tree and check for hazards.</li> <li>• Clear work area of hazards and obstructions.</li> <li>• Determine and clear primary and secondary escape routes.</li> <li>• Ensure that area 2 1/2 times the height of the tree to be felled is clear of personnel.</li> <li>• Be alert for environmental conditions that could increase risk. (strong/gusty winds, steep slopes, etc.)</li> <li>• Ensure adequate traffic control measures are taken on roads and trails.</li> <li>• If the identified tree cannot be safely removed and presents a hazard, the area will be flagged off at a safe distance and an alternate mitigation used.</li> </ul>

Starting procedure	Loss of control, Cuts	<p><i>The methods to safely start and operate a saw can vary with the model and size. The following basic precautions generally apply regardless of the saw model:</i></p> <ul style="list-style-type: none"> <li>• Maintain a secure grip on the saw at all times.</li> <li>• Start the saw on the ground or ensure saw is firmly supported.</li> <li>• <b>Do not "drop start" a chain saw.</b></li> </ul>
Felling Process	Head Injury, Eye Injury, Cuts, Amputation, Crushing Injuries, and Death	<ul style="list-style-type: none"> <li>• <b>No employee shall approach a faller closer than 2-1/2 tree lengths of trees being felled until the faller has acknowledged that it is safe to do so, unless it is demonstrated that a team of employees is necessary to manually fell a particular tree.</b></li> <li>• Follow proper felling procedure as outlined in S-212 or MTDC chainsaw course</li> <li>• Initiate undercut at a level that ensures adequate footing and balance throughout cutting sequence.</li> <li>• Prior to starting the back cut, the saw should be stopped and the area surveyed to ensure that nobody has entered the area. A warning should be sounded as to the intentions of your actions. (i.e. "tree coming down, sidehill")</li> <li>• At the first sign of the tree committing to the undercut proceed to safety zone.</li> <li>• <b>No felling operations will be conducted at night or during times the top of tree being felled is obscured.</b></li> </ul>
Working in a group using a chainsaw.	Struck by trees, limbs. Head injury, Crushing injury, Death	<ul style="list-style-type: none"> <li>• Space employees so that activities of one will not create a hazard for another.</li> <li>• Have workers and felling crews on the same contour rather than some working above and below others on steep slopes.</li> </ul>
Limbing	Cuts, Injury from, limbs whipping back, Crushing injuries	<ul style="list-style-type: none"> <li>• Beware of other logs, branches, or rocks immediately behind the area where you are bucking, brushing, or limbing for possible kickback potential or rocking of the chain.</li> <li>• Watch for limbs under tension, and be aware of kick back and bar pinch.</li> <li>• Be cautious when limbing on the downhill sides of trees. Limbs may be holding tree in place, be aware that the log may roll after a limb is cut.</li> <li>• Know where the tip of your bar is at all times.</li> </ul>

Bucking	Cuts, Injury from, limbs whipping back, Crushing injuries	<ul style="list-style-type: none"> <li>• Beware of other logs, branches, or rocks in work area.</li> <li>• Avoid bucking on the downhill side.</li> <li>• Ensure log is stable.</li> <li>• Check area for overhead hazards.</li> </ul>	
Saw Team operations	Cuts, Struck by trees, limbs. Head injury, Crushing injury, Death	<ul style="list-style-type: none"> <li>• <b>No employee shall approach a faller closer than 2-1/2 tree lengths of trees being felled until the faller has acknowledged that it is safe to do so, unless it is demonstrated that a team of employees is necessary to manually fell a particular tree.</b></li> <li>• Do not allow swamper to “reach in” to grab brush.</li> <li>• Ensure swamper in clear of hazards when conducting limbing and bucking operations.</li> <li>• .Sawer and swamper communicate with each other when pulling brush and working close together.</li> </ul>	
Traffic Control	Injury to public, Damage to vehicles.	<ul style="list-style-type: none"> <li>• Ensure road guards are in place along travel routes when felling trees that are along the travel routes.</li> <li>• Establish radio communications between road guards and the sawer when needed.</li> </ul>	
Fueling Chainsaws ref (22.48 )	Burns, Possible fire	<ul style="list-style-type: none"> <li>• Allow chain saw to cool for at least 5-minutes before refueling.</li> <li>• Fill the tank on bare ground or other noncombustable surface.</li> <li>• Immediately clean up spilled fuel / use a funnel.</li> <li>• Refuel out doors and at least 20 feet from an open flame or other sources of ignition.</li> <li>• Start the saw at least 10 feet from the fueling area.</li> </ul>	
Pre-work Briefing/Tailgate Safety Session	None	<ul style="list-style-type: none"> <li>• Brief employees on work assignment and objectives.</li> <li>• Insure required PPE is being utilized.</li> <li>• Review applicable JHAs, hazard tree indicators and mitigation measures including LCES (lookouts, communications, escape routes). Refer to attachment at end of this JHA.</li> <li>• Brief employees on the plan that would be executed in the event of a serious employee illness/injury that would require medical evacuation.</li> </ul>	
<b>10. LINE OFFICER SIGNATURE</b>		<b>11. TITLE</b>	<b>12. DATE</b>
Previous edition is obsolete	(over)		

**JHA Instructions (References-FSH 6709.11 and .12)**

The JHA shall identify the location of the work project or activity, the name of employee(s) involved in the process, the date(s) of acknowledgment, and the name of the appropriate line officer approving the JHA. The line officer acknowledges that employees have read and understand the contents, have received the required training, and are qualified to perform the work project or activity.

Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory.

**Block 7:** Identify all tasks and procedures associated with the work project or activity that have potential to cause injury or illness to personnel and damage to property or material. Include emergency evacuation procedures (EEP).

**Block 8:** Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:

- a. Research past accidents/incidents.
- b. Research the Health and Safety Code, FSH 6709.11 or other appropriate literature.
- c. Discuss the work project/activity with participants.
- d. Observe the work project/activity.
- e. A combination of the above.

**Block 9:** Identify appropriate actions to reduce or eliminate the hazards identified in block 8. Abatement measures listed below are in the order of the preferred abatement method:

- a. Engineering Controls (the most desirable method of abatement). For example, ergonomically designed tools, equipment, and furniture.
- b. Substitution. For example, switching to high flash point, non-toxic solvents.
- c. Administrative Controls. For example, limiting exposure by reducing the work schedule; establishing appropriate procedures and practices.
- d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines (chain saws, rock drills, and portable water pumps).
- e. A combination of the above.

**Block 10:** The JHA must be reviewed and approved by a line officer. Attach a copy of the JHA as justification for purchase orders when procuring PPE.

Blocks 11 and 12: Self-explanatory.

**Emergency Evacuation Instructions (Reference FSH 6709.11)**

Work supervisors and crew members are responsible for developing and discussing field emergency evacuation procedures (EEP) and alternatives in the event a person(s) becomes seriously ill or injured at the worksite.

Be prepared to provide the following information:

- a. Nature of the accident or injury (avoid using victim's name).
- b. Type of assistance needed, if any (ground, air, or water evacuation).
- c. Location of accident or injury, best access route into the worksite (road name/number), identifiable ground/air landmarks.
- d. Radio frequencies.
- e. Contact person.
- f. Local hazards to ground vehicles or aviation.
- g. Weather conditions (wind speed & direction, visibility, temperature).
- h. Topography.
- i. Number of individuals to be transported.
- j. Estimated weight of individuals for air/water evacuation.

The items listed above serve only as guidelines for the development of emergency evacuation procedures.

**JHA and Emergency Evacuation Procedures Acknowledgment**

We, the undersigned work leader and crew members, acknowledge participation in the development of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of each of these documents:

SIGNATURE      DATE

SIGNATURE      DATE

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