

Chainsaw Training and Certification Program

Branch of Wildland Fire Management

I. Purpose and Need

Branch of Wildland Fire Management employees perform a variety of jobs requiring the use of chainsaws. Among these are firefighting, timber stand improvement, road maintenance, trail clearing and other maintenance activities. Currently, the Branch of Wildland Fire Management has a national standard for training employees in the safe use and operation of chainsaws. In addition there are specific federal regulations relating to chainsaw safety, operation and training requirements developed by the Occupational Safety and Health Administration (OSHA).

OSHA is the primary federal agency responsible for development of regulations regarding work place safety and ensuring compliance to the regulations by private and government employers under the provisions of the Occupational Safety and Health Act (29 CFR). As a federal agency, Bureau compliance with OSHA regulations is mandatory. OSHA provides very specific guidance for the development of a chainsaw training and certification program (29 CFR 1910. 266 Logging Operations). These same statutes are the basis of chainsaw training and certification programs developed and currently used by private industry and the U.S. Forest Service.

OSHA requires maintenance of written records documenting the training and certification of employees in required job procedures and safety requirements. "The employer shall verify that each affected employee has received and understood the required training through written certification that contains the name of each employee trained, the date(s) of training, and that identifies the subject of the certification."

In addition, OSHA requires that a Job Hazard Analysis be developed and made available to employees. As directed in OSHA "The employer shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). (2) The employer shall verify that the required workplace hazard assessment has been performed through a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date of the hazard assessment; and, which identifies the document as a certification of a hazard assessment."

Many have assumed that the chainsaw training provided to firefighters in the S-212 *Wildfire Powersaws* course to be the national standard for chainsaw certification. However, the Branch of Wildland Fire Management still has many employees using chainsaws who are not firefighters and may not have taken, or

have access to the course. It should be recognized that the National Wildfire Coordination Group (NWCG) which developed the S-212 course, is not a regulatory agency responsible for job safety, underwritten by federal law. NWCG provides a means for agencies to agree upon standards of training, equipment, qualifications and operational functions. NWCG currently does not have a national interagency standard certification program for chainsaw operation within the "Red Card" qualification system or a "Task Book" specific to chainsaw operation.

The S-212 course makes specific references to OSHA and development of a Job Hazard Analysis. It is mandatory that all instructors be fully certified chain saw operators. The success of this course depends on the instructors' own chain saw operation skills, as well as their ability to articulate those skills to a diverse audience. Specifically for the S-212 course, the lead instructor must be certified at the Faller B level and Single Resource Boss Crew or above. Unit instructors must be certified at the Faller B level or above. Each instructor needs to be well versed in the procedural approach and cutting techniques described in the course.

In addition, the S-212 Trainee Evaluation Form states that *certification is the responsibility of each agency* and that local unit managers must develop and approve a Job Hazard Analysis for each project. The S-212 course package fully recognizes that OSHA is the basis for chainsaw operation training and safety standards and that it is the responsibility of each individual agency to develop their own certification program as required by OSHA regulations.

The Branch of Wildland Fire Management has developed a chainsaw training and certification program that meets OSHA requirements and the needs of our agency. Specifically, it is the intent of our agency to insure a high degree of safety and professionalism in the operation of chainsaw use on the fireline and the home unit. This program has been in existence since 2001.

II. Program Objectives

The objectives of this program were to:

1. Maintain a chainsaw operation training and certification program that meets OSHA requirements for all employees that operate chainsaws as part of their job duties.
2. Ensure that all employees who operate chainsaws are properly trained in the chainsaw operation, safety and use of personal protective equipment.

3. Ensure that all supervisors understand OSHA regulations regarding their responsibilities to provide employees with personal protective equipment, training and certification in chainsaw operation.
4. Develop a formal process to establish written documentation of OSHA compliance by maintaining training records and providing employees with required Job Hazard Analyses.
5. Prevent accidents and injuries to employees by providing ongoing training, safety refreshers and periodic re-certification of qualifications by proficiency testing. This will include periodic first aid and CPR training.

III. Federal Laws, Policies and Regulations relating to the development of the Chainsaw Training and Certification Program

1. The Occupational Safety and Health Act of 1970
Section 19 - Federal Agency Safety Programs and Responsibilities.
2. Executive Order 12196. Occupational safety and health programs for Federal employees.
3. 29 CFR Part 1960 – Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters
4. The Occupational Safety and Health Act of 1970
29 CFR Section 1910.266, Logging Operations
5. Intro to 29 CFR Parts 1910 and 1928, Logging Operations
Section V: Summary and Explanation of the Final Standard
6. Part 485: Safety and Occupational Health Program.
Chapter 7: Incident/Accident Reporting/Serious Accident Investigation

IV. Program Responsibilities and Implementation

Regional Director: The Regional Director is responsible for the safety and health of all the employees and will ensure that agency line officers implement the chainsaw training and certification program as required by OSHA and Branch of Wildland Fire Management policy.

Regional Safety Officer: The Regional Safety Officer in coordination with Regional Fire Staff, will be responsible for the implementation of the Chainsaw Training and Certification program at the field level. Regional Staff will provide direction, training materials and qualified chainsaw instructors to Agency

Administrators. The Regional Safety Officer and Regional Fire Staff are responsible for field proficiency testing and approval of chainsaw operator ratings, consistent with the training policy described below. The Regional Safety Officer is responsible for compliance with OSHA requirements, including maintenance of safety training certification records for all employees involved in the use of chainsaws in performance of work duties.

Agency Administrator / Line Officer: The Agency Administrator or Line Officer is responsible for ensuring that all employees receive training in chainsaw operation and safety that meets agency policy, before assigning the employee to job tasks involving the use of chainsaw. The Agency Administrator will be responsible for maintaining written records for each employee receiving training and certification in chainsaw operation as part of their official personnel file.

Supervisor. The supervisor will ensure that all Branch of Wildland Fire Management employees are certified and qualified for assigned chainsaw operation tasks. The supervisor will perform a Job Hazard Analysis for each assignment involving chainsaw operation and provide a written copy to each employee. The supervisor is also responsible for conducting periodic safety sessions with all employees and evaluation of chainsaw operation and safety for ongoing performance reviews with each employee.

Chainsaw Training Instructors and Certifiers: Instructors are responsible for complete and thorough instruction in chainsaw operation and safety and the supervision of trainees during the course. A certifier is anyone who is qualified to evaluate and certify operators at the appropriate proficiency level. For example, a FALB is authorized to perform an operator proficiency evaluation in the field and certify FALA operators. (Refer to Chainsaw Operator Evaluation Form and Job Hazard Analysis for required training course elements of instruction). Typically, the Instructor and the Certifier are the same person.

V. OSHA Regulations and Branch of Wildland Fire Management Responsibilities

The following chainsaw training and certification program requirements are quoted directly from OSHA regulations (29 CFR 1910.266) and refer to the program administration responsibilities of the employer.

- *"The employer shall provide training for each employee, including supervisors, at no cost to the employee."*
- *"The employer shall assure that each employee, including supervisors, receives or has received first-aid and CPR training. The employer shall*

assure that each employee's first-aid and CPR training and/or certificate of training remain current."

- *"The employer shall assure that all training required by this section is presented in a manner that the employee is able to understand. The employer shall assure that all training materials used are appropriate in content and vocabulary to the educational level, literacy, and language skills of the employees being trained."*
- *"The employer shall verify compliance with paragraph (i) of this section by preparing a written certification record. The written certification record shall contain the name or other identity of the employee trained, the date(s) of the training, and the signature of the person who conducted the training or the signature of the employer. If the employer relies on training conducted prior to the employee's hiring or completed prior to the effective date of this section, the certification record shall indicate the date the employer determined the prior training was adequate."*
- *"The most recent training certification shall be maintained."*

(NOTE: The IQCS incident qualification and certification system is the official database for chainsaw qualifications. As required by OSHA, written certification must also be maintained. The IQCS incident qualification and certification system allows for entry of the S-212 Wildfire Powersaws course. It also provides for the certification of chain saw operators at four levels of proficiency: Apprentice Sawyer (FALA), Intermediate Faller (FALB), and Advanced Faller (FALC), and "C" Faller Certifier (CCRT). These qualifications can then be printed on the employee's "Red Card" and certified by the agency certifier.

- *"The employer shall hold safety and health meetings as necessary and at least each month for each employee. Safety and health meetings may be conducted individually, in crew meetings, in larger groups, or as part of other staff meetings."*
- *"The employer will provide the employee with personal protection equipment including OSHA approved Hard Hat, Goggles or Face Shield, Ear Protection, Gloves and cut resistant Saw Chaps which extend at least 2 inches below the top of the boots. Employee is required to wear cut resistant heavy duty leather boots."*
- *"The employer will provide first-aid kits for each work site which reflect the degree of isolation, number of employees and hazards anticipated at the work site."*

VI. Chainsaw Training Program Elements

The basic elements of the Branch of Wildland Fire Management Chainsaw Training and Certification program are:

1. Classroom instruction in chainsaw safety, maintenance, operation and cutting procedures.
2. Field demonstrations of chainsaw operation and cutting procedures by qualified instructors.
3. Hands on instruction for employees in chainsaw operation and cutting procedures.
4. Field evaluation by a qualified trainer, based on qualification level, including chainsaw safety, operation, situational awareness, size-up procedures, felling, limbing, and bucking techniques.
5. Providing employees with a Job Hazard Analysis prepared by the supervisor and approved by the line officer, or designee.

OSHA provides specific direction for the content of a chainsaw training course. Refer to the "Chainsaw Operation Job Hazard Analysis" and "Chainsaw Operator Evaluation Form" for specific information to be included in the course content. Agencies are strongly encouraged to utilize the S-212 Wildfire Powersaws course for basic instructional purposes. The course covers all of the required OSHA training elements for chainsaw operation and safety.

29 CFR 1910.266 (excerpts from OSHA regulations):

"At a minimum, training shall consist of the following elements:

- Safe use, operation and maintenance of tools, machines and vehicles the employee uses or operates, including emphasis on understanding and following the manufacturer's operating and maintenance instructions, warnings and precautions;
- Recognition of safety and health hazards associated with the employee's specific work tasks, including the use of measures and work practices to prevent or control those hazards;
- Recognition, prevention and control of other safety and health hazards in the logging industry;

- Procedures, practices and requirements of the employer's work site;
- The employer is responsible for ensuring that each current and new employee can properly and safely perform the work tasks and operate the tools, equipment, machines, and vehicles used in their job.
- Each new employee and each employee who is required to be trained as specified in paragraph (i)(2) of this section, shall work under the close supervision of a designated person until the employee demonstrates to the employer the ability to safely perform their new duties independently.

VII. Evaluation and Certification

In order to meet the requirement of having employees demonstrate "the ability to safely perform their new duties independently", the Chainsaw Training and Certification process includes a final evaluation by a qualified Bureau Certifier (do not confuse the term "Certifier" with C-Faller Certifier. A Certifier could be a Supervisor, FALB, FALC, or CCRT. The only restriction is that the Certifier can only certify operators at lower levels.) The evaluation process is conducted in the field with the employee demonstrating knowledge and proficiency in the use of safety equipment, saw maintenance, saw operation, situational awareness, size-up, felling, limbing and bucking procedures.

The evaluation process includes demonstration of physical skills, employee discussion of safety information, hazard identification, environmental factors and a numerical rating by the Certifier of each of eight critical chainsaw operational procedures (Refer to the Chainsaw Operator Evaluation Form). Ratings are totaled and averaged for a final qualification rating based upon user experience and the complexity of the procedures undertaken by the employee.

The Certifier has the responsibility of approving a qualification rating level based upon the employees overall evaluation score and judgment of overall capabilities. The various levels of chainsaw qualifications are described in the next section. The instructor and evaluator are responsible for signing the evaluation form. The agency administrator, line officer or fire management officer is responsible for certifying the qualifications in the Incident Qualification and Certification System (IQCS). The evaluation form will be used as formal written documentation as required by OSHA and copies shall be maintained at the unit level and provided to the employee/operator.

VIII. Proficiency Complexity Rating

Chainsaw safety experts recognize that the diameter of a tree does not necessarily represent the hazards encountered in felling, limbing and bucking a tree. Many chainsaw operator injuries occur from small diameter trees in seemingly low complexity situations. The following are felling proficiency levels for chainsaw operators recognized by the Branch of Wildland Fire Management.

“A” Apprentice Sawyer (FALA): Chainsaw operators at this level of proficiency will be able to explain and field demonstrate necessary personal protective equipment, chainsaw maintenance, start procedures, as well as basic felling, limbing and bucking techniques with assistance from the field instructor. This individual may be involved with road maintenance, timber stand improvement, facility maintenance, as well as low complexity tree felling and simple fire line construction. Individuals at this level of proficiency will be supervised in the field by someone who has a higher saw certification level. Work activities should be limited to felling, bucking and limbing trees typically under 12 inches diameter at breast height (DBH). Under no circumstances should hazard trees, trees adjacent to buildings or power lines, large complex trees, or trees in dense canopies be felled by chain saw operators with this classification level.

“B” Intermediate Faller (FALB): Chainsaw operators at this level of proficiency will be able to explain and field demonstrate necessary personal protective equipment, chainsaw maintenance and starting, as well as multiple felling, bucking and limbing techniques with limited assistance from the field instructor. These individuals may be involved with road maintenance, timber stand improvement, facility maintenance, and moderately complex tree felling and fire line construction. An individual at this level of proficiency will be able to work independently, with periodic assistance and direction from a field supervisor with equivalent or higher chainsaw operations training. Work activities should be limited to felling, bucking and limbing trees typically under 24 inches DBH. Trees adjacent to buildings, powerlines and other hazards should be attempted only by FALC. FALB, Intermediate Fallers are authorized to certify FALA, Apprentice Sawyers. When a FALC is present and providing oversight and instruction a FALB can fall larger diameter, more complex trees.

“C” Advanced Faller (FALC): Chainsaw operators at this level of proficiency will be able to explain and field demonstrate necessary personal protective equipment, chainsaw maintenance and starting, as well as complex felling, bucking and limbing techniques with no assistance from the field instructor. These individuals may be involved with road maintenance, timber stand improvement, facility maintenance, and be able to effectively and efficiently plan complex tree felling and fire line construction operations. An individual at this level of proficiency will be able to work independently with limited direction from a field supervisor with equivalent or higher chainsaw operations training. FALCs are qualified to fell the largest most complex trees with diameters that may exceed 36 inches DBH. They are qualified to instruct and certify FALA and FALB

level operators. They are not allowed to certify other FALC Advanced Fallers but may assist in the certification process when accompanied by a CCRT.

“C” Faller Certifier (CCRT): Chainsaw operators at this level of proficiency will be able to effectively instruct and evaluate individuals about necessary personal protective equipment, chainsaw maintenance and starting, and felling, bucking and limbing techniques. These individuals will be able to apply the appropriate level of instruction and evaluation for each level of proficiency. They will have formal advanced chainsaw operations training in proper maintenance and usage of personal protective equipment and chainsaws, as well as formal advanced training in tree felling, bucking, and limbing techniques. The CCRT is the highest qualified faller recognized by the agency and is relied on to provide expert advice and leadership pertaining to national chainsaw operations policy.

IX. Chainsaw Operator Evaluation Form

The Chainsaw Operator Evaluation Form is used by the Branch of Wildland Fire Management to document the proficiency of an operator and serves to certify their qualification level. The evaluation form will include the employee name, agency or tribal affiliation, date of the evaluation, and the trainer and/or evaluator's full name. This information should be printed or typed. The form is taken to the field to be filled out by the instructor during the evaluation process. The employee will demonstrate chainsaw skills and proficiency based upon assigned tasks from the evaluator at an appropriate level of complexity based upon previous experience and qualifications. As the employee completes assigned tasks in felling, limbing and bucking trees, the evaluator will assign an adjective rating (good, fair, or poor) based upon the employee's knowledge and proficiency of tasks within the eight categories of chainsaw operation on the evaluation form.

Explanation of Rating Procedures for the Eight Chainsaw Operation Categories

1. Safety Equipment

In this category, the individual must be able to explain the need for and properly utilize necessary personal protective equipment and tools prior to operating the chainsaw.

2. Hazard Analysis

The operator will be asked to make an assessment of the hazards associated with the tree assigned to them, and then articulate those hazards to the trainer and others observing the felling operation. This

assessment should include hazards associated with the tree as well as other aerial and ground hazards.

3. *Felling Area Safety Plan*

The operator will be asked by the trainer to communicate to all observers what the felling plan will be. The operator should visualize and then communicate the cutting method and desired outcome of their felling plan. They are to explain the necessary steps that will use when they are actually cutting. They must communicate to all observers the expected outcome and make sure everyone understands what they have said, especially as it pertains to escape routes and placement of observers during cutting operations. Once the trainer is satisfied with this briefing, the operator will then be asked to commence with the felling operation. The trainer will observe and note any deviations from the plan that the operator described during the briefing. If at any time the trainer feels that safety is being grossly compromised, he will intervene, stop cutting operations, and provide advice and instruction to the operator.

4. *Saw Condition, Start-up, and Use (handling)*

The operator's equipment and accessories will be evaluated to determine condition and suitability to the job. The chain saw will be started using approved technique. At no time will a saw be drop started. The saw can be started on the ground, between the legs, or using the opposing forces method. The operator will be evaluated based on how they handle the saw.

5. *Felling Procedure*

The operator will be evaluated on how they clean up their felling area, provide for escape routes, approach the tree, size the tree up, gun the tree, and generally manage the area of operation. The operator is considered to be in charge of the area of operation and the trainer will observe how the operator commands the situation and communicates felling intent to all observers. Prior to commencement of cutting operations the operator will be expected to summarize his plan for implementing the gunning cut, sloping cut, and back cut to the instructor.

6. *Felling and Stump Evaluation*

This is the evaluation of the felling size up and the cut plan after the tree is felled. Refer to what was said in the previous evaluation categories to assess if the verbal plan was followed or not. If during the felling procedure the individual stops and verbally modifies the initial plan, the

evaluation should be based on the modified plan. The trainer will evaluate the lay of the felled tree to the original or modified plan. The stump will be evaluated to determine accuracy of cuts, suitability of holding wood and stump shot, and the proportion of face cut to back cut relative to the specific tree.

7. *Limbing procedures*

The operator will be evaluated on various procedures related to how they limb their felled tree. This will include their recognition and mitigation of overhead dangers, how they position their body relative to limbing operations, mitigation of spring poles and their understanding of tension and compression wood. In addition the operator will be evaluated in terms of their ability to size up conditions when cutting limbs could result in movement of the tree when it is on the ground. Finally they will be evaluated on the sequence of limb removal, the use of their bar tip and recognition of kick back.

8. *Bucking procedures*

Many of the considerations addressed during limbing operations apply to bucking particularly regarding tension and compression wood. The evaluator will assess how the operator addresses a felled tree with respect to slope as they commence bucking operations. The operator will be evaluated in terms of the bucking sequence they employ to include items such as bore cutting, drop cutting, angle cutting and pie cutting (all methods of release cutting).