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Subject						
H-1112-1 – Safety and Health Management (Chapter 5)						
Chainsaw Operator Training and Certification Policy (Public)						

- Explanation of Material Transmitted: This Manual Release Supplement updates the Oregon/Washington (OR/WA) Chainsaw Training and Certification Policy adding web links, removing two illustrations and clarifying language regarding recertification standards.
- 2. Reports Required: None
- 3. Materials Superseded: Page 1-8 through 1-9; Illustrations 1 & 2
- 4. Filing Instructions: File as directed below.

<u>REMOVE</u>: Policy Release 1-334

INSERT: Policy Release 1-340

Signed by James G. Kenna Associate State Director Authenticated by Mary O'Leary Records Section H-1112-1 SAFETY AND HEALTH MANAGMENT

Safety and Health Program Chainsaw Operator Training and Certification Policy

United States Department of the Interior BUREAU OF LAND MANAGEMENT OREGON STATE OFFICE

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SAFETY AND HEALTH PROGRAM CHAINSAW OPERATOR TRAINING AND CERTIFICATION POLICY

OR/WA Supplement to BLM Manual Handbook H-1112-1 Safety and Health Management

> MARCH 2007 Oregon State Office

BLM Manual Supplement Oregon/Washington State Office

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5.9.1 Policy Statement

The Oregon/Washington (OR/WA) Bureau of Land Management (BLM) is committed to providing a safe and healthful work environment for all employees. The BLM has various work procedures (including administrative and engineering controls) in place which reduces employee exposure to hazards. The agency requires that all OR/WA BLM employees, volunteers, and/or students who are required to operate chainsaws within the scope of their duties will be fully trained and certified at the appropriate skill level. Employees who have not met the requirements of this policy shall not operate chainsaws *except* for training purposes and only then under the direct supervision of an individual approved, in writing, by a District/State Office Chainsaw Certification Coordinator. A Risk Assessment must be completed prior to the use of chainsaws, whether in the field or in training.

The intent of this policy is not to encourage regular participation by BLM employees in large-scale, complex falling activities. Rather, it is to provide, through proper training and certification, for the safety of all employees who may use chainsaws and/or fall trees on a limited or occasional basis. Primary applicable standards, manuals and handbooks, and relevant Instructional Memorandums and Bulletins [IMs and IBs] are listed below. Interagency resources are also noted for reference.

- Occupational Safety and Health Administration (OSHA) General Industry Standard 29 Code of Federal Regulations (CFR) 1910.60 *Basic Program Elements for Federal Employees*
- OSHA General Industry Standard 29 CFR 1910.261 & 266 Special Industries Logging Operations
- BLM Manual Handbook 1112-1 Safety and Health Management, Chapter 5 Training & Certification
- BLM Manual Handbook 1112-2 Safety and Health for Field Operations, Chapter 12.3(J) Chainsaws
- IM No. Office of Fire and Aviation (OF&A) 2004-010 *Certification of Agency Chainsaw Operators* (Fire Program Policy)
- IM No. OF&A 2005-063 Chainsaw Operators Training and Certification
- Forest Service Handbook (FSH) 6709.11 Health and Safety Code Handbook
- Interagency Standards for Fire and Fire Aviation Operations 2007 (National Fire Equipment System (NFES) 2724) Chapter 14 *Chainsaw Operators and Fallers*
- Forest Service Manuel (FSM) 5108

Additional information may be found in American National Standards Institute (ANSI) B175.1-1991 Safety Requirements for Gasoline-Powered Chainsaws

5.9.2 Purpose and General Information

It is recognized that all chainsaw operations are hazardous. However, these operations are considered essential activities to accomplishing the Bureau's mission in natural resource management. The purpose of this policy is to provide guidelines for the safety of BLM employees who operate chainsaws in the performance of their duties. This policy complies with all applicable sections of the OSHA regulations

29 CFR 1910.261 & 266, Subpart R – Special Industries - Logging Operations. (Reference <u>Appendix A-1</u> <u>OSHA Reference Checklist for Chainsaw Operations</u>)</u>

5.9.3 Scope

All OR/WA BLM personnel who operate chainsaws in performance of their duties are *required* to meet the standards set forth in this policy. Chainsaw operation is prohibited unless an operator has successfully completed training and certification except in emergency situations where life is threatened.

These standards meet or exceed the Interagency Wildfire Qualifications Standard as established through the National Wildfire Coordinating Group (NWCG). <u>IM No OF&A 2004-010 Certification of Agency</u> <u>Chainsaw Operators</u> addresses the fire program policy for training and certification of chainsaw operators and provides task books for the positions of Faller Class A, B, & C for use on incidents. <u>IM OF&A 2005-</u><u>063</u> details procedures for certification of task book items coded "O" through attendance at an OR/WA BLM Chainsaw Operators Training and Certification Policy.

<u>Reciprocal Agreement</u> OR/WA BLM employees who are certified under this policy will be recognized under the <u>US Forest Service Region 6/Pacific Northwest (PNW) Chainsaw Operator Policy</u> as qualified and certified to perform as a chainsaw operator commensurate with their skill level. The OR/WA BLM will, in turn, recognize all Forest Service employees trained and certified under the Region 6 policy to be qualified to perform chainsaw operations per training and indicated skill levels.

5.9.4 Responsibilities

Several levels of responsibility exist to ensure the safe and effective operation of chainsaws by employees.

The <u>OR/WA State Director</u> is responsible for issuing policy and providing for staff support and resources necessary to implement policy requirements.

The <u>State Safety Manager</u> has primary responsibility for management oversight and coordination of the OR/WA Chainsaw Operator Training and Certification Program. The Safety Manager will provide administrative support and facilitate interagency communication to ensure program standardization.

The <u>Interagency Chainsaw Training and Certification Coordinator</u> is assigned responsibility for management, coordination, facilitation and monitoring¹ of the chainsaw operator training and certification program for both the Forest Service and the Bureau. This individual is directly responsible for training, evaluating, certifying and recertifying chainsaw instructors. The coordinator monitors chainsaw training

¹<u>Monitoring</u> is critical in preventing chainsaw incidents. The coordinator is designated to observe conditions of chainsaw use in the course of activity reviews or other periodic inspections to ensure that employees are using acceptable procedures for tree felling and other chainsaw applications.

sessions conducted by instructors and assists as needed. Additionally, the coordinator recertifies the district/field lead program instructors who have taught or assisted in at least one chainsaw operator training course in the previous 3-year period. The coordinator must be currently certified as a Class C Certifier.

District Manager (DM) This individual is responsible for ensuring compliance with the state policy and issuing additional policy and/or updates if local conditions warrant. The DM demonstrates a commitment to the specified training and certification requirements of the chainsaw operator policy and selects a *District Lead Chainsaw Training Program Instructor/Coordinator* to be responsible for management, coordination and facilitation of the OR/WA BLM Chainsaw Program at the field level.

District Lead Chainsaw Training Program Instructor/Coordinator The Lead is responsible to coordinate, train, recertify and jointly certify all levels of chainsaw operators on the district and is additionally responsible for ensuring that all operators are certified at a level commensurate with their demonstrated ability as described in this policy. This individual annually reviews training needs for all chainsaw users and forwards this information to the State Safety Office. The lead has the ultimate authority in determining which employees will be trained and certified as chainsaw operators and to what class of certification. The lead instructor serves jointly as instructor or monitor with the outside professional faller when conducting Class C training and certification of operators. The lead is authorized to impose time, project, or size limitations for individual sawyers and also has the authority to revoke certification of an individual chainsaw operator at any time for cause. This individual serves as the primary contact for all other instructors on the district/unit and, in consultation with the work supervisor, is responsible for completion of the <u>Chainsaw Incident Report Form OR -1112-29</u>. (Reference <u>Illustration 2</u>)²

The lead chainsaw training program instructor *must* be currently certified as a <u>Class C Certifier</u> and be further trained through the formal <u>Chainsaw Operator Training and Certification Program</u> to organize and conduct the classroom and field training sessions. This individual must demonstrate good communication skills and the ability to relate critical training concepts to others. Current knowledge of policy and regulations pertaining to chainsaws and related equipment is required.

District Instructors Each district or field office may have one or more chainsaw instructors who are responsible to coordinate, train, certify (or recertify) individual sawyers in concert with the lead instructor. These individuals *must* be currently certified as Class B instructors.

The <u>Work Supervisor</u> is responsible to ensure that all chainsaw operators are provided with proper personal protective equipment (PPE) and are trained and certified for the tasks assigned. The supervisor is also responsible to use the Risk Management (RM) process to ensure that critical factors and risks associated with chainsaw use are considered. The Risk Assessment is conducted with each operator using

 $^{^2}$ This form is similar to the Region 6 USFS Form - FS 6700-03 - which has been in use since 1997 to report chainsaw incidents and close call situations. Use of the form provides additional focus on incidents involving chainsaw use and ensures a thorough review by the State Safety Office and the Interagency Chainsaw Training and Certification Coordinator.

the <u>*RM Worksheet*</u> (BLM Form 1112-5), and operator performance is closely monitored. (Reference <u>*Illustration 1*</u>) Following an incident involving chainsaw use, the supervisor completes the <u>*Chainsaw*</u> <u>*Incident Report Form*</u> in cooperation with the District Lead Chainsaw Training Program Instructor/Coordinator.

Requests for chainsaw operator training/certification are forwarded to the district lead instructor. (Note: Reference the <u>Background Information</u> below regarding the BLM transition to the use of the RM process and requirements for interagency fire suppression activities.)

<u>Chainsaw Operators</u> All chainsaw operators are responsible to wear and maintain their PPE and operate chainsaws **only** within the scope of their duties and certification level. The ultimate responsibility for personal safety rests with the employee. All operators have the right to refuse an assigned task which they deem to be beyond their ability or certification level.

<u>Background Information</u> The BLM is in the process of phasing out and discontinuing the use of the Job Hazard Analysis (JHA) form and implementing the Risk Assessment and Management Policy³ with accompanying RM Worksheet for all Bureau operations. This process is to be used for all workplace and operational hazard assessment requirements, including justification for the authorization, purchase and use of protective clothing and equipment. These assessments are to be documented on the RM Worksheet, BLM Form 1112-5. (Reference <u>Illustration 1</u>)

Due to the interagency nature of fire fighting, the <u>use of the JHA is allowed for all fire suppression</u> <u>operations</u>. The RM Process is identified in the NWCG Incident Response Pocket Guide (IRPG) and is intended to ensure that critical factors and risks associated with fire line operations are considered during the decision making process. The guide states that this process must be applied to all fire operations *prior* to taking action. The guide also states that, for the BLM, a Risk Assessment (in lieu of the JHA) must be completed for all non-suppression work practices/projects that have potential hazards.

The <u>Interagency Standards for Fire and Fire Aviation Operations 2007</u> discusses the RM Process for fire operations (See inside back cover), as well as the use of the Job Hazard Analysis (JHA) form. Requirements for the use of the JHA/Risk Assessment are identified in Chapter 07-11.

5.9.5 Equipment and Safety Requirements

Operators are required to wear appropriate PPE while operating chainsaws. Each chainsaw placed into service must be equipped with a chain brake and must otherwise meet the requirements of ANSI B175.1-1991 *Safety Requirements for Gasoline-Powered Chainsaws* as well as the requirements of this policy. All PPE will meet safety standards as set by the ANSI, OSHA, and BLM).

³ Reference IM No. 2004-167 *Implementation of the Bureau's Risk Assessment and Management Policy*, published April 2004.

The following lists the minimum PPE required for chainsaw operators.

- Hardhat
- Eye protection
- Hearing protection (specific for chainsaw operations)
- Gloves (cut resistant for chain filing)
- Chainsaw chaps (chaps should overlap boots at least 2 inches)
- Non-skid boots (lug soles or caulks) with a minimum of 8-inch tops
- Appropriate field attire (long-sleeved shirt, etc.)

All chainsaws, axes and wedges used by BLM employees will meet or exceed applicable safety standards. Minimum safety requirement for live tree and snag felling may be referenced in <u>Appendix B-1</u>.

5.9.6 Certification

All operators will be certified in accordance with the OR/WA BLM or the US Forest Service Region 6/PNW Chainsaw Certification Policy. Certification records will be kept as part of the employee personnel file. In addition, certification levels may be recorded in the Fire Qualification System (FQS) as needed for those sawyers involved in fire fighting activities.⁴ Sawyer cards commensurate with each level will be provided to each operator.

<u>Class A - Apprentice Sawyers and Class B Intermediate Sawyers</u> may certify at the next applicable level at any time before their current recertification is due. First-line supervisors will forward requests for employee certification class advancement to the appropriate Field Office/District Manager depending on project need. Managers should forward these requests to the Lead Chainsaw Training Program instructor in advance so that adequate time is allowed to plan and conduct training and certification. All operators will be certified by a qualified *certification* instructor according to the *proficiency level* exhibited by the trainee.

Class A – Apprentice Sawyer

Employees certified at this level are required to complete a nationally recognized course such as the <u>National Wildfire Coordinating Group Course</u> (NWCG) <u>S-212–Wildfire Chainsaws</u>,⁵ including the field exercises, or those portions of the program that are appropriate for Class A Sawyer duties; the <u>Falling and</u>

⁴ Reference *Instruction Memorandum (IM) No OF & A 2004-010 Certification of Agency Chainsaw Operators* (Fire Program Policy) [Task Books for Faller Class A (FALA), Faller Class B (FALB), and Faller Class C (FALC)]

⁵ The S-212 course, <u>Wildland Fire Chainsaws</u>, was updated in February 2004. Course materials include an Instructor's Guide and a Student Workbook with accompanying video. All instructor materials are available in CD format. A Power Point® program is also included. These materials are available on the <u>BLM Safety Intranet training website</u>.

<u>Bucking Training Standard</u> produced by the Workers' Compensation Board of British Columbia; or, a comparable classroom course for chainsaw operations. Additionally, each operator is to satisfactorily complete a field exam under the supervision of a qualified certifier. Class A certification is primarily *limited* to brushing, bucking and felling in the least complex situations. The size of material to be cut shall be limited to a diameter of eight inches or less.⁶

Initial <u>classroom instruction</u> will typically last six to eight hours. The certifier shall introduce and review BLM policy and procedures, proper maintenance and care of the chainsaw, proper chainsaw technique (brushing, bucking and felling) and the use and care of required PPE.

Upon completion of the class, the students will be required to successfully complete a <u>written examination</u> and a field test to obtain certification. The certifier may modify the certification requirements at the request of the operator's supervisor to meet specific work requirements. Based on the trainee's previous experience and the field examination, the certifier will determine if additional field training is required.

The <u>field portion⁷</u> of the certification process shall be under the guidance and supervision of an instructor/certifier. The session shall focus on hands-on chainsaw operation in the practices of felling, brush cutting, and bucking of material.

Class B – Intermediate Sawyer

Employees certified at this level are required to complete a nationally recognized course such as the <u>National Wildfire Coordinating Group Course</u> (NWCG) <u>S-212 – Wildfire Chainsaws</u>, inclusive of the field exercises; the <u>Falling and Bucking Training Standard</u> produced by the Workers' Compensation Board of British Columbia; or, a comparable classroom course for chainsaw operations. Additionally, sawyers are to satisfactorily complete a field exam under supervision of a qualified instructor/certifier. Class B Intermediate Sawyer certification is limited to brushing, bucking and felling <u>material 24 inches or less in diameter</u>.

Initial <u>classroom instruction</u> shall typically last six to eight hours. The certifier shall introduce and review BLM policy and procedures, proper maintenance and care of the chainsaw, proper chainsaw technique (brushing, bucking and felling) and the use and care of required PPE. The <u>field portion</u> of the certification process shall be under the guidance and supervision of an instructor. The session will focus on the hands-on chainsaw operation in the practices of felling, brush cutting and bucking of material not to exceed 24 inches in diameter.

 $^{^{6}}$ The diameter of a tree is not necessarily consistent with the complexity presented to fall the tree. For example, a <24" diameter tree can contain challenging components which essentially create a situation requiring a level B or C skill level.

⁷ The <u>Chainsaw Operator Field Evaluation Form</u> (included in the S-212 course) is <u>Attachment 2</u> of this policy.

At the end of the course, the students shall be required to complete a <u>written examination and a field test</u> to obtain certification as a Class B Intermediate Sawyer. The certifier may modify the certification requirements at the request of the operator's supervisor to meet specific work applications. Based on the trainee's previous experience and the field examination, the certifier will determine if additional field training is required.

Class C – Advanced Sawyer

Employees certified at this level are required to complete a nationally recognized course, such as the <u>National Wildfire Coordinating Group Course (NWCG) S-212 – Wildfire Chainsaws</u> (advanced) including the field exercises; the <u>Falling and Bucking Training Standard</u> produced by the Workers' Compensation Board of British Columbia; or, a comparable classroom course for chainsaw operations. Class C Advanced Sawyer certification includes a working ability in felling, bucking, and brushing of materials <u>that may</u> <u>exceed 24 inches in diameter</u>. Operators certified at this level of proficiency are expected to handle complex sawing and felling operations inclusive of fire line construction.

<u>Classroom instruction</u> generally lasts six to eight hours. The certifier will introduce and review BLM policy and procedures, proper maintenance and care of the chainsaw, proper chainsaw technique (brushing, bucking and felling) and the use and care of applicable PPE.

The <u>field portion</u> of the certification will focus on hands-on operation of chainsaws in the practice of complex brushing, bucking, and felling activities. Tree diameter may exceed 24 inches. At the end of the course, the students shall be required to complete <u>a written examination and a field test</u> to obtain certification as a Class C Advanced Sawyer. The certifier may make modifications to the certification requirements to meet specific work applications.

Class C – Sawyer Instructor/Certifier

This individual must maintain a Class C Advanced Sawyer certification and be trained through a formal OR/WA BLM or US Forest Service Chainsaw Training program designed to review instructional techniques in conducting field certification sessions. This training may be accomplished during the annual chainsaw training and certification program. A field exam must be successfully completed. The certifier must also demonstrate good communication skills and the ability to relate important training concepts to trainees. Current knowledge of policy and regulations pertaining to chainsaw use and the use of related equipment is required.

The <u>field portion</u> of the certification process will be completed under the guidance and supervision of the Interagency Chainsaw Training and Certification Coordinator **and** a person identified as an independent professional faller. The field portion of the certification process will include hands-on operation of chainsaws.

Specialized Certification

This interagency training and certification program provides instructors the option of certifying individual saw operators for skills required of specialized projects, e.g., seed orchard tasks, clearing and brushing pathways for survey crews, etc. Certificates can indicate limitations as needed and may not fall into one of the three sawyer classification levels (A, B, or C) as described in this policy.

5.9.7 <u>Re-Certification</u>

<u>Class A and B Sawyers</u> will re-certify each <u>three years</u> prior to field season. Recertification for <u>Class C</u> <u>Advanced Sawyer and Sawyer Instructor/Certifier</u> is also valid for <u>three years</u>. This policy *differs* from the *Region 6/PNW Forest Service Chainsaw Certification/Recertification Policy (FSH 6709.11 – Safety and Health Code Handbook*) in that the Forest Service requires *annual* recertification for A & B sawyers and *bi-annual* requirements for C-level sawyers. **It is highly recommended that some type of yearly recertification refresher be conducted for all sawyer classes**. Recertification accomplished by personnel from either agency will be honored by the employee's home agency. Sawyers will perform duties under the recertification requirements in effect at the home agency at the time of recertification. It is intended that this agreement will serve to eliminate any confusion between the two agency policies as well as to increase attention to safe procedures and methods for sawyer work. (The *Interagency Standards for Fire and Fire Aviation Operations*)⁸ provides additional information regarding minimum qualifications and the certification process for BLM Chainsaw Operators and Fallers who participate on wildland fire incidents. These standards require *annual* refresher recertification training for operators and fallers.)

<u>Re-certification for Class A/B</u> will consist of a minimum of two hours classroom review and four hours of field-testing exercises under the supervision of a Sawyer Instructor/Certifier, or through annual recertification training opportunities. Requirements remain the same.

<u>Re-certification for Class C Advanced Sawyer</u> requires a minimum of a one-day class which will include classroom review and field-testing exercises. A two-day class schedule is recommended to provide sawyers with sufficient field training experience. Class C sawyers may be recertified by a Class C Sawyer Instructor/Certifier **in combination** with an individual professional faller.

<u>Re-Certification for Sawyer Instructor/Certifiers</u> will be a minimum of a one-day class which will include classroom review and field-testing exercises. Again, a two-day class schedule is encouraged to provide sawyers with sufficient field training experience. The <u>Interagency Chainsaw Training and Certification</u> <u>Coordinator</u> and an outside professional faller, both with demonstrated instructor skills, will conduct this training.

⁸ The Interagency Standards ("Red Book") which is published each year by the National Interagency Fire Center states references or supplements policy for the BLM and other cooperating agencies. Task Books for Faller Class A, B, and C are included in <u>IM No OF & A 2004-010 Certification of Agency Chainsaw Operators</u>.

It is recognized that a diameter limit need not be the only measure of an employee's skill when engaging in falling and bucking activities. Emphasis is also placed on knowledge and demonstrated ability. Additionally, a good understanding of situational awareness, e.g., understanding the individual complexity of the assignment, must be determined by the individual sawyer. [Reference <u>Appendix D</u> for additional information. This document is also included in the S-212 training course.] The refresher training shall include but not be limited to the following areas:

General Safety Educational Resources and Materials Fire Line Construction Techniques Equipment and Standards Field Exercises Environmental/Topographical Concerns

H-1112-1 SAFETY AND HEALTH MANAGEMENT OSHA References for Chainsaw Operations

Subpart R – Special Industries 29CFR 1910.266

Logging Operations 1910.266

Personal Equipment Checklist [29CFR 1910.266(d) and 1910.95] Hard Hat [1910.266(d)(1)(vi)]

Hard Hat	[1910.266(d)(1)(vi)]
Eye/Face Protection	[1910.266(d)(1)(vii)]
Hearing Protection	[1910.95]
Foot Protection	[1910.266(d)(1)(v)]
Hand Protection (wire rope)	[1910.266(d)(1)(iii)]
Leg Protection	[1910.266(d)(1)(iv)]
First Aid Kits	[1910.266(d)(2)(i)]

Chainsaw Checklist [29CFR 1910.266(e)(1) and (e)(2)

Chain Brake	[1910.266(e)(2)(i) and (e)(1)(ii)(E)]
Throttle Interlock	[1910.266(e)(1)(ii)(H)]
Chain Catcher	[1910.266(e)(1)(ii)(H)]
Chain Tension	[1910.266(e)(1)(ii)
Muffler	[1910.266(e)(1)(ii)(D)]
Chainsaw Kickback	[1910.266(e)(2)(i)]
Chain Sharpness, cutter shape	
Depth usage setting, lubrication	[1910.266(e)(1)(ii)(G)]
Handles, Guards	[1910.266(e)(1)(ii)(A)]
Chain Movement/Idle Engine	[1910.266(e)(2)(iii)]

Required Work Practices [29CFR 1910.266(e)(2)

Continuous Pressure Throttle	[1910.266(e)(2)(ii)]
Operation/Adjustment	[1910.266(e)(2)(iii)]
Fueling	[1910.266(e)(2)(iv)]
Starting	[1910.266(e)(2)(v)]
Footing/Body Position	[1910.266(e)(2)(ix)]
Clearing of area	[1910.266(e)(2)(x)]
Cutting Stance/Area	[1910.266(e)(2)(xi)]
Transport of Saw	[1910.266(e)(2)(xii)]
Retreat with Saw	[1910.266(e)(2)(xiii)]
Moving with Saw	[1910.266(e)(2)(xiv)]
Starting Methods	[1910.266(e)(2)(vi)]
Chain Brake Engagement	[1910.266(e)(2)(vii)]
Hand Position/Handles	[1910.266(e)(2)(viii)]

Considerations Prior to Felling

Identification of Hazards in felling area	[1910.266(h)(2)(i-iv)]
Determination of felling direction/leans	[1910.266(h)(2)(ii)]
Provision of retreat paths to safety	[1910.266(h)(2)(i)]
Determination of hinge size	[1910.266(h)(2)(vi)]
Proper felling methods	[1910.266(h)(2)(v-vii)]

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Policy Statement

BLM employees may *only* be authorized for live tree and snag felling through the <u>OR/WA BLM Chainsaw</u> <u>Operator Training and Certification Policy</u>. The following safety requirements are *required* for all BLM live tree and snag felling operations. Due to the infrequency in which BLM employees are involved in live tree and snag felling operations, a thorough review of this felling policy and all associated safety procedures is required prior to initiation of individual projects.

Personal Protective Equipment

The following personal protective equipment shall be used during operations and tree felling and bucking operations:

- Hardhat
- Hearing Protection (specific for operations)
- Eye Protection
- Gloves (cut resistant for chain filing)
- Long-sleeved shirt (optional for crosscut saw)
- Chaps (chaps should overlap boots at least 2 inches)
- Non-skid boots (lug soles or caulks) with a minimum of 8-inch tops
- Appropriate field attire (Reference BLM Manual Handbook 1112-2)

Operation Equipment

The following equipment shall be available for use during all operations and tree felling and bucking procedures:

- A saw of the proper size and bar length for the assigned task which meets the requirements of ANSI B175.1-1991, *Safety Requirements for Gasoline-Powered Saws* (a full wrap handlebar is recommended for felling activities)
- All saws must be maintained in a serviceable condition and be equipped with an approved chain brake, spark arresting muffler, anti-vibration handle, and a positive shut-off switch
- A wrench and saw file with handle and guard
- An approved safety container for carrying gas and bar oil (clearly labeled)
- A minimum of two wedges of proper size and a single bit ax or maul
- A portable fire extinguisher of the size and type required by the state forest fire prevention rule
- A first-aid kit adequate for serious cuts or trauma situations
- A safety whistle carried by the operator

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Situational Awareness and Safety Considerations in the Cutting Area

Employees contemplating any felling assignment must analyze each job by considering the following:

A. Location of people, structures, and power lines:

- Evaluate the situation to determine if spotters should be used.
- Ensure that the felling operation does not endanger nearby workers. Employees shall be spaced and the duties of each employee must be organized so the actions of one employee will not create a hazard for any other employee.
- Do not allow workers who are *not* in the felling crew to proceed closer than two and one-half (2.5) times the height of the tree(s) being felled.
- Have workers and felling crews working on the same contour, rather than some working above others on steep hillsides.
- If a tree to be cut is near a power line, electrical utility authorities must de-energize the line. Keep personnel clear until it is safe to proceed.
- Ensure that adjacent structures will not be damaged during felling operations.
- B. Terrain, Roadways, and Felling Conditions:
 - Ensure that adequate traffic control measures are in place when felling or bucking across or alongside roads. Maintain <u>two and one-half (2.5) times</u> the tree height of the tree(s) being felled between the sawyer and all personnel and vehicles.
 - Consider the topography and steepness of the ground slope.
 - Analyze the area for nearby hazards (e.g., trees, low-hanging and dead limbs, rocks, and brush)
 - Consider wind direction and velocity
 - Analyze all trees: determine diameter, height, lean and limb distribution. Check for lopsided crowns. Identify widow makers.
 - Consider the soundness of the tree (e.g., split, lightning struck, broken top, rotted areas, deterioration or physical damage to the root system, trunk, stem, limbs, or bark). Bore the tree if necessary.
 - Never work under loose debris.
 - Determine if tree has spiked, forked or burning top.
 - Consider moisture content (rain, snow or ice).

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- C. <u>Observers and Spotters</u>: No employee shall approach a sawyer closer than <u>two and one-half (2.5)</u> <u>times</u> the height of the trees being felled until the sawyer has acknowledged that it is safe to do so; or, unless it is demonstrated that a team of sawyers is necessary to fell a particular tree manually. The lead sawyer will determine if spotters are needed during tree felling operations.
- D. <u>Obscured Vision</u>: The falling, driving, wedging or hand pushing of standing or learning snags is extremely hazardous and is prohibited when inadequate light or darkness impairs visual inspection.
- E. <u>Adverse Weather Conditions</u>: Never start or continue to fell trees during high winds, electrical storms or when heavy fog, low clouds, or smoke obscures treetops.

Primary and Secondary Escape Routes, Safe Zones, and Alternates

Escape routes are predetermined paths taken by the sawyer once the tree is committed to fall or is committed to the bucking cut. Sawyers must select and prepare the work area by clearing a primary escape path as well as an alternate route before starting the cut. When felling a tree, sawyers must be aware that the quadrant <u>opposite</u> the planned fall of the tree is extremely dangerous. Sawyers are to choose an escape path that extends diagonally away from the expected felling line and always have an alternate retreat path to a safe zone.

Sawyers must walk out and thoroughly check the intended lay or bed of the tree. Look for dead tree tops, missing tree tops, widow makers, snags, and ground debris that may cause kickbacks, rolling, or may result in another tree or limb becoming a hazard.

Sawyers should carefully **plan** the route from the stump to the safe zone. (Usually, the route is not less than 20 feet away, although a greater distance is preferred.) If possible, sawyers are to stand behind another tree, preferably quartering back from the planned direction of fall, and wait and watch for <u>at least half a minute</u> after the tree hits the ground for whiplash branches and the scatter of broken tree parts. The shielding tree should be sound and of sufficient size to provide protection to the sawyer.

Sawyers should never cross behind the falling tree to reach the safe zone. Exit should always be from the side being cut. The saw should be carried for one or two steps before being set down as the sawyer continues to the safe zone. (It is not necessary to stop the saw at this time. This action will place the saw in a safer location away from the stump of the falling tree but will not jeopardize the safe retreat of the faller.)

Handling Techniques

A. Carrying the Saw.

- The saw should be carried in such a way as to prevent body contact with chain, muffler, or bucking spikes.
- When carrying the saw on the shoulder, in the off position, extra care must be taken due to the sharpness of the chain and "*dogs*." Long sleeved shirt, gloves, and a shoulder pad should be worn. The bar and chain should be covered. Use of a manufactured bar and chain guard is recommended.
- The saw shall be at idle speed and chain brake activated when carried short distances.
- The saw should be shut down when being carried for a distance greater than simply from tree to tree. Shut down is also recommended in hazardous conditions such as slippery ground or areas of heavy underbrush, and, in all cases if carried more than 50 feet.
- B. <u>Starting/Operating the Saw</u>. The methods to safely start and operate a chainsaw vary with the model and size of the saw.
 - A secure grip is to be maintained on the saw at all times, ensuring that the thumb is wrapped around the handle bar.
 - The saw should always be started with the chain brake engaged.
 - The saw should always be started on the ground or with the bar extended over a solid object (stump or log). The sawyer must ensure that the tip of the bar is not in contact with any object. This situation will cause a kickback.
 - The "*drop start*" method of starting a saw should <u>not</u> be used.
 - Generally, it is better not to throttle down before the cut has been completed. This depends on the size of the tree, the lean, and the progress of the cut.
 - In general, cutting with the power head positioned between the waist and shoulders should always be considered "a danger zone." Cutting with the power head positioned <u>above</u> shoulder height <u>is not recommended</u>. However, the following exceptions may apply: (1) while holding the saw and standing flat footed, the best control for the sawyer is with the knees slightly bent and the arms out in front and down slightly. This stance will place the power head of the saw slightly above the waist; and, (2) when cutting big timber on steep ground, it may, at times, be necessary to hold the saw up as high as feasible to complete the face cut.
- C. Fueling the Saw. An area of bare ground should be selected for storing fuel and oil.
 - If the saw is hot, allow it to cool before refueling.
 - Fill tank on bare ground or other noncombustible surface.
 - Refuel outdoors and at least 20 feet (6 m) from open flame or other sources of ignition.
 - Start the saw at least 10 feet (3 m) from the fueling area.

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Felling, Bucking, Brushing and "Limbing" Techniques

A. Felling

- Ensure the saw has a sharp chain and sufficient fuel to completely fell the tree.
- Establish firm footing.
- Determine lean of the tree using equipment such as a straight handled hatchet, axe, or plumb bob. Recheck primary and secondary escape routes.
- Fell problem trees or snags first.
- All trees exceeding eight inches diameter breast height (dbh) must be undercut before making the back cut.
- Inspect the tree for dead top, loose bark, limbs, split tops, and other leaning or hanging debris. Use a hatchet or an axe to sound completely around the trunk of the tree to check for rot. (This procedure is especially important for large trees). Remove the bark from snags.
- Be alert for other trees and tops that may fall when hit by the tree being felled.
- Undercut and back cut all trees at a safe standing height.
- Never trust "holding wood" in partly rotted trees. Consider all snags as rotten.
- Do not make any side or corner cuts in hollow trees or trees with heart rot unless an adequate hinge of holding wood can be maintained.
- Make the proper face/undercut with the opening large enough to control the tree nearly to the ground. The undercut should be <u>one-quarter to one-third</u> of the diameter of the tree. The opening should be at least one-third of its depth (one inch vertical for every three inches horizontal).
- Ensure sloping/horizontal cuts do not cross one another. Ensuring that a "*Dutchman*" is not created.
- Make the downhill or offside cut first.
- Before starting the back cut, the saw should be shut off and a warning given to nearby crews.
- Begin the back cut, ensuring that an appropriate amount of stump shot is established according to the size of the tree. Insert wedges into the *"kerf*" as soon as practical. (Wedges may not be needed if the tree has a definite lean in the direction of the planned fall.)
- Continue cutting until the desired amount of wood holds the tree. Do not cut off the hinge wood.
- Always watch the top of the tree throughout the felling operation.
- Before completing the cut, stop and idle the saw, shout warnings twice (or use mechanical signal devices such as whistles or horns) to alert nearby crews.
- As tree lift begins, check the direction of the fall. Proceed along the predetermined escape path to the safe zone. Remain alert for falling debris and kickback.
- Never leave a tree partially cut unless the job is unsafe to complete. Always finish the felling job before leaving for break, lunch, or at the end of the day or shift.

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- Never climb a lodged tree. Notify nearby workers and your immediate supervisor of the hazard.
- Whenever possible, pull the lodged tree down by tractor, winch, or other mechanical means.
- Consider all options including marking the hazard and reporting it to your supervisor. Do not hesitate to reevaluate the situation.
- Before returning to work on the felled tree, check all snags and adjacent trees for broken limbs, log chunks, loose bark, and overhead hazards.
- B. Bucking, Brushing, and "Limbing":
 - Never buck a tree that is considered unusually dangerous.
 - Consider all bucking hazards (including those overhead).
 - Anticipate log reaction when the tree is severed.
 - Select bucking cut location very carefully.
 - Be aware of other logs, branches, or rocks immediately behind the area where you are bucking, brushing, or "*limbing*" for possible kickback potential and rocking of the chain.
 - Touching any object with the tip of the chain and bar can cause a kickback. Know where the tip of the bar is at all times.
 - Remove limbs and brush before bucking.
 - When topping, brushing, or "*limbing*," be cautious about any tree held off the ground by branches. To prevent rolling, do not cut limbs or branches that support the tree off the ground. If possible, walk on top of large downed logs while "*limbing*" to prevent rolling hazards.
 - Be aware of side, top, bottom, and internal bind possibilities due to natural unevenness of the ground and other trees, stumps, windfalls, and rocks.
 - Initiate bucking slowly; observe kerfs closely to determine the bind.
 - Use wedges to prevent pinching the bar.
 - Cut a sapling (spring poles) or branch that is bound down only when it is necessary for safety, as unintentional severing may cause serious hazards. Initiate a series of small cuts on the decompressed side of the sapling or branch to release the bind.
 - Completely saw off log chunks; finish the buck.
 - When bucking trees on sloping ground, use blocking devices that prevent bucked sections from rolling or sliding. Always work from the uphill side.
 - Buck windfalls only after examining each tree to be cut for strains, breaks, binds, and the chance of root wads falling, rolling, or setting upright when the weight of the tree is removed. Be aware of trees that are underneath the one being bucked. Assume that these trees are under pressure and could move in any direction when the overhead weight is cut or removed.
 - When using chainsaws for brushing of fire lines, survey lines, etc., crewmembers should maintain a minimum of 20 feet between themselves and the sawyers.

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Significant Hazards

Trees with undercuts or back cuts must <u>not</u> be left standing if at all possible. Where a lodged tree or hazardous situation must be left unattended due to safety considerations, the hazardous area must be distinctly marked with approved hazard identification ribbon.

Explosives

The use of a blaster who is currently certified specifically for tree felling with explosives may be considered as an alternative to chainsaw felling operations.

H-1112-1 SAFETY AND HEALTH MANAGEMENT Quick Reference Guide for Tree Felling Safety

- A secure felling area, a minimum of <u>two and one-half (2.5) times</u> the height of the material being felled, must be established in **all** directions, and be maintained by the faller during all tree felling operations. An additional secure area should be established on the entire downhill side on slopes where material can roll for long, unpredictable distances.
- No one shall be permitted in the secured felling area during tree felling operations without the express authorization of the faller.
- The faller shall establish a safety zone outside the secured area, and ensure that EVERYONE remains there until ALL FELLING is completed and an "all clear" signal has been communicated.
- The faller shall establish "lookout(s)." These individuals shall have reliable communications with the faller, as well as with the individuals in the safety zone, to ensure no one enters the secured felling area during operation activities.
- "Lookouts" shall be directed by the faller to remain at all major access points on roads and trails that may afford unauthorized access routes to the identified secured felling area. Positive communication must be established and maintained between "lookouts" and the faller at all times during the felling operations.
- The faller will ensure that no hazards remain in the area, such as hang-ups, unstable logs, or other dangers, before approving access to any other individual or prior to leaving the secured area.

H-1112-1 SAFETY AND HEALTH MANAGEMENT Situational Awareness – Individual Complexity of the Assignment

The complexity of the assignment must be determined by the individual sawyer.

Complexity is based on individual skill, knowledge and understanding of personal capabilities and limitations. The final decision to cut any tree rests solely with the individual sawyer, therefore providing the choice to say "No," and walk away from the sawing situation when a sawyer has determined it to be beyond their individual capabilities.

If a thorough assessment of the complexity of the individual situation has been completed, the decision to cut or not to cut will be determined by the "Go, No Go" process. A straight forward interpretation is as follows:

"I feel comfortable with the sawing situation. I will cut it." OR *"I don't feel comfortable with the situation and I will walk away."*

Do not base a decision on an attitude of "I think I can do it."

PERSONAL SAFETY CONSIDERATIONS AND ATTITUDE

- How do you feel about this sawing assignment?
- Are you exercising sound judgment and awareness?
- Is your attitude convincing you to go against your better judgment (gut feeling)?
- Is your mind on your work?
- Do you have self confidence?
- Are you over confident?
- Are you doing this against your will?
- Is peer pressure a factor?
- Do you feel professionally confident to decline the assignment and/or ask for assistance?
- Are you complacent?

PHYSICAL CONSIDERATIONS

- General health
- Physical conditioning
- On medication or under the influence of intoxicants
- Fatigue (can affect good judgment)
- Time of day
- Work/rest cycles (adequate rest)

ENVIRONMENTAL CONSIDERATIONS

- Light conditions
- Rain/Fog/Snow
- Smoke/Dust
- Wind Direction and Speed
- Insect damage
- Heat/Cold
- Other factors that may affect decision making or the actual operation

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H-1112-1 SAFETY AND HEALTH MANAGEMENT Situational Awareness – Individual Complexity of the Assignment

FELLING

Analyze the Felling Job

- Species live or dead
- Size and length
- Soundness/defects
- Twin tops or school marm
- Widow makers and hang ups
- Heavy branches/weight distribution
- Burning top
- Spike top
- Splits and frost cracks
- Deformities such as mistletoe
- Damage by lighting or fire
- Heavy snow loading
- Bark soundness or slippage
- Direction of lean
- Degree of lean-slight or heavy
- Head lean or side lean
- Nesting and/or feeding holes
- Rusty [discolored] knots
- Punky [swollen and sunken] knots
- Frozen wood
- Footing
- Observe the base of the tree for:
- "Thud" sounding
- Conks and mushrooms
- Rot and cankers
- Shelf fungi or "bracket"
- Wounds/scars
- Split trunk
- Insect activity
- Feeding holes
- Bark soundness
- Resin flow on bark
- Unstable root system/root protrusions

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Examine immediate work area for:

- People, roads and/or vehicles
- Power lines
- Driver Trees
- Hang ups
- Consider reaction of other trees
- Other trees that may have to be felled first
- Nearby hazards such as trees, rocks, brush, and low handing limbs
- Structures
- Openings to fall the tree
- Snags
- Fire weakened trees
- Widow Makers

Examine surrounding terrain for:

- Steepness of ground
- Irregularities in the ground
- Draws and ridges
- Rocks
- Stumps
- Loose logs
- Ground debris that can "fly" back or kick up at the sawyer

H-1112-1 SAFETY AND HEALTH MANAGEMENT Situational Awareness – Individual Complexity of the Assignment

ESCAPE ROUTES/SAFE ZONES

Walk out and thoroughly check the intended lay or bed of the tree. Look for dead treetops, snags and widow makers that may cause kickbacks or result in another tree or limb becoming a hazard. The escape route and alternates must be a predetermined path along which the cutter proceeds once the tree is committed to the fall or to the bucking cut. Safe zones should be no less than 20 feet from the stump, preferably stand behind another tree (sound and of sufficient size to give protection) watching for whiplash, broken tree parts, etc. Escape routes and safe zones should be 90-135 degrees from the direction of fall. Sawyers must select and prepare the work area, clear escape routes and alternates before starting the first cut.

BUCKING

- Never buck a tree that is considered unusually dangerous
- Consider overhead hazards
- Ensure that guide bar length is adequate for the tree to be bucked
- Establish good footing, swamp out bucking areas and escape route
- Select bucking cut carefully
- Anticipate possible reaction of the log when severed

EXAMINE THE LOG AND IMMEDIATE AREA FOR THE FOLLOWING

- Percent of slope/incline
- Rolling
- Sliding
- Bind
- Tension
- Compression
- Rocks and foreign objects on log
- People/property in cutting zone
- Spring poles
- Fire
- Root wads
- Overhead hazards
- Rocks or other items that may be dislodged by the tree

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H-1112-1 SAFETY AND HEALTH MANAGEMENT

RECIPROCAL AGREEMENT BETWEEN BLM Fire Program and the OR/WA Safety and Health Program Policies For Training and Certification of Chainsaw Operators

The following documents the interrelationship between the existing <u>OR/WA Chainsaw Operator</u> <u>Training and Certification Policy</u> and the recently published <u>IM No. OF&A 2004-010 Certification of</u> <u>Agency Chainsaw Operators</u> which issued policy and direction for the training and certification of chainsaw operators in the fire program area.

<u>Attachment #1</u> (below) to the OF&A 2004-010 memorandum is illustrated point by point with similar statements for training and certification requirements taken directly from the current OR/WA policy. Refer also to <u>IM No. OR-2005-063 – Chainsaw Operators Training & Certification</u>

ATTACHMENT #1 Page 1

BLM Chainsawyer Operator Certification Process

All BLM fire program saw operators must complete the NWCG S-212 course, including the **Position Task Book** appropriate to the "**A**" class saw operations.

Prior to certification, all OR/WA BLM employees must complete the NWCG S-212 course, or the required sections necessary to meet the level of certification sought. All fire employees must successfully complete the full course. The field evaluation form⁹ documents the proficiency of the operator for all requirements identified in the task book(s).

The individual tasks required for completion of the **A Task Book** and the final certification for "**A**" level saw operators must be evaluated and certified by a qualified "**B**" or "**C**" level saw operator. All OR/WA BLM "A" class saw operators must be certified by an instructor qualified "**B**" or "**C**" level operator and proficiency documented on the field evaluation form.

The individual tasks required for completion of the **B Task Book** must be evaluated by a qualified "**B**" or "**C**" level operator. The final certification for "**B**" level operators must be signed by a "**C**" level saw operator.

The field evaluation for fully qualified "**B**" level operators must be conducted by an instructor qualified "**C**" level operator and documented on the field evaluation form¹⁰.

⁹ <u>Attachment 2</u> to this handbook supplement illustrates the requirements of the field evaluation form.

¹⁰ In the <u>OR/WA BLM Chainsaw Operator Training and Certification Policy</u>, the level of certification sought is instructed, evaluated and certified by a sawyer of the next higher level of qualification.

H-1112-1 SAFETY AND HEALTH MANAGEMENT

RECIPROCAL AGREEMENT BETWEEN BLM Fire Program and the OR/WA Safety and Health Program Policies For Training and Certification of Chainsaw Operators

Page 2

The individual tasks required for completion for the **C** Task Book must be evaluated by a qualified "**C**" level operator. The final certification for "**C**" level operators must be signed by a state approved "**C**" level certifier.

The field evaluation for fully qualified "C" operators must be conducted by an instructor qualified "C" operator together with an independent [professional] consultant who is recognized by the state office as an expert in the felling and bucking of trees. This process must be documented on the evaluation form and signed by both the instructor and the consultant.

Each of the states will certify and maintain a list of current "C" class saw operators who are approved to be "C" class certifiers.

*The OR/WA State Office, in cooperation with the Region 6 Forest Service Chainsaw Program Certification Specialist, provides appropriate training opportunities for the certification of "C" class instructor/certifiers*¹¹.

For non-fire saw operators, a five-year currency for all levels of chainsaw operators will be maintained and documented by field operations.

The OR/WA State Office requires a three-year currency for all levels of certification which exceed the above requirement.

All fire related [red card] saw operation qualifications are maintained through the Interagency Qualification and Certification System (IQCS) system and will have a currency of five years. *No discussion required – specific to the fire program.*

All chainsaw operators will attend annual chainsaw refresher training as specified and documented by the local unit.

Sawyers are to follow local policy requirements regarding refresher training. OR/WA State policy requires a three-year currency for all levels of certification. Local districts/units may require more frequent refresher training. Yearly refresher training is recommended, dependent upon assigned tasks.

¹¹ The OR/WA BLM State Office and Region 6 FS/PNW conduct the training and certification program for chainsaw operators under a Service-First Interagency Agreement.

H-1112-1 SAFETY AND HEALTH MANAGEMENT **Risk Management Worksheet***

(*Official form may be referenced on the <u>Safety Intranet Website on the BLM Forms Link</u>)

1. Organization and L							2. Page of						
3. Operation/Task									5. E Date	inding e	g	6. Date Prepared	
7. Prepared by (Name/Duty Position)													
8. Identified Hazards	the Dev Hazards: Haz				Developed for Identified Ha		11.Assess the Hazard's Residual Risk		12. How to Implement the Controls		13 Supervisors and Evaluation By		
(Be Specific)	L	М	н	Е	(Be Specific)		L	М	н	Е	(Be Specific)		(Be Specific)
												T	
14. Remaining Risk Level After Control Measures Are Implemented. (Circle Highest Remaining Risk Level)				LOW Supervisor	MEDIUM (Branch Chief)		HIGH (District Manager)		EXTREMELY HIGH (Must be State Director/Associate)				
15. RISK DECISION AUTHORITY : (Approval/Authority Signature Block) [If initial risk level is Medium, High or Extremely High, brief risk decision authority at that level on controls and control measures used to reduce risks) NOTE: If the person preparing the form signs this block, the signature indicates only that the appropriate risk decision authority was notified of the initial risk level, control measures taken and appropriate resources required; and, that the risk was accepted by the decision authority.]													
	Signa	ture											

For Illustration Only

Form 1112-5 (May 2001)

BLM Manual Supplement Oregon/Washington State Office

H-1112-1 SAFETY AND HEALTH MANAGEMENT Chainsaw Incident Report*

(*Official form may be referenced at the following website link.

For Illustration Only OR 1112-29 (March 2005) Page 1 CHAINSAW INCIDENT REPORT [Submit this form to the Interagency Chainsaw Training and Certification Coordinator And the State Safety Office within 12 days of incident.] This form may also be used to report "close calls" as needs indicate. Chainsaw Operator [name and title] Date and Time of Incident and/or Injury Name of Person(s) injured **Reporting Date Person Reporting Incident** Activity [examples: fire, trail, brush crew, etc.] Type and model of chainsaw used Length of bar and chain type [chipper, chisel bit, etc] Personal protective equipment/clothing used Chainsaw operator experience/training [e.g., 1 month, 6 months, etc] Operator chainsaw training completion date[s] Training instructor(s) Training Course Used [title] Approving Officer Extent of accident and/or injury

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Illustration 2-2 (5.9-4)

H-1112-1 SAFETY AND HEALTH MANAGEMENT Chainsaw Incident Report

Chainsaw Incident Report Form	Page 2
Description of accident/injury and outcome [Be specific]	
Initial assessment of cause	
Submitted by	
Witness statement completed if applicable [attach]	
Name[s] of witness/witnesses	
Line Officer - Review and Comments	
Line Officer Signature	
Date	
The submission of this incident report does <u>not</u> supplant the requirement for the entry of accident in Into the <u>Safety Management Information System</u> (SMIS) as required by	formation
BLM Management Handbook 1112-1 Safety and Health Management, Chapter 8.	
OR-111	2-29 (March 2005)

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