

**Forest Service Handbook
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Forest Service Handbook 2409.15 – Timber Sale Administration Handbook

Chapter 20 - Measuring and Accounting For Included Timber

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Responsible Staff:

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Digest: Following is an explanation of the changes throughout the directive by section.

29.1: Changes surveillance frequency from a monthly to quarterly requirement, that increases with the amount of export activity in the area; audit requirement.

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21 - Timber Specifications (B/Bt2.0)

21.1 - Included Timber (B/BT2.1)

The first page of a timber sale contract states that the “Forest Service agrees to sell and permit the purchaser to cut and remove and purchaser agrees to purchase, cut, and remove Included Timber.” Standard provision B/BT2.1 identifies several categories of included timber.

1. Included timber must be removed. Paying for the timber and leaving it in the woods or on the landing is not an acceptable alternative to removal from the timber sale area.
2. If markets have significantly deteriorated, the Contracting Officer may modify the contract to leave included timber on the timber sale area. As part of the modification, the purchaser must agree to pay the stumpage rate, pay the appraised cost of loading the timber and hauling it to the appraisal marketing point, and sign a cooperative agreement, under standard provision B/BT4.218, to pay for all Forest Service costs of disposal.

21.11 - Standard Timber (B/BT2.11)

Standard timber:

1. May be either live or dead,
2. Must be designated for cutting, and
3. Must meet utilization standards. Utilization standards are identified in specific condition A/AT2.

Standard timber may also include timber subject to agreement under special provision C/CT2.11#.

21.12 - Timber Subject to Agreement (C/CT2.11#)

If provided for in specific condition A/AT2 and accompanied by special provision C/CT2.11#, some species and products may be removed upon written agreement with the purchaser. The agreement should be on an area basis and may be for the entire timber sale area or a portion, such as a subdivision or payment unit. The agreement should specify how the quantity will be determined and whether removal is optional or mandatory. Utilization standards and payment rates are stated in specific conditions A/AT2 and A/AT4. The purchaser must also pay required deposits.

21.13 - Substandard Timber (B/BT2.12)

Substandard timber is designated for cutting, but differs from standard timber because it does not meet utilization standards. While trees may not meet utilization standards, pieces meeting utilization standards in specific condition A/AT2 must be removed.

21.14 - Damaged Timber (B/BT2.13)

Damaged timber must meet utilization standards to qualify as included timber and the timber must be alive when it is damaged. Removal of damaged timber is always conditional upon approval and designation by the Forest Service.

21.14a - Damaged by Purchaser (B/BT2.131)

The Forest Service can designate timber damaged by a purchaser without negligence as included timber. If designated by the Contracting Officer, it becomes included timber and the purchaser must remove it. The timber may also be left without charge, if there is agreement that removal would cause undue damage or be grossly uneconomic. To be designated as included timber:

1. Timber damaged during road construction must be within 200 feet slope distance from the centerline, must be subject to considerable deterioration or imminent mortality, and must be marked before the nearest road segment is substantially completed.
2. Timber damaged during logging must be marked before skidding and yarding operations are complete in the immediate area.

21.14b - Negligent or Willful Damage (B/BT2.132)

Timber damaged unnecessarily, or negligently, or willfully cut can be designated as included timber by the Contracting Officer. If the timber is designated as included by the Contracting Officer, the purchaser must remove the timber. The following actions may be taken:

1. If the purchaser has breached the contract by cutting undesignated timber, then as part of the remedy for the breach, the purchaser may be required to suspend operations until the Forest Service has collected and preserved the evidence.
2. After the evidence is collected and preserved, the suspension must be lifted.
3. If the purchaser's conduct meets the requirements of standard provision B/BT9.31, the Forest Service may terminate the contract for breach and refer the purchaser for debarment and suspension action.

21.14c - Damaged by Catastrophe (B/BT2.133)

Catastrophic damage must meet the following criteria:

1. There must be a major change or damage to:
 - a. Included timber on the timber sale area,
 - b. The timber sale area, and/or
 - c. Access to the timber sale area.
2. The damage must occur due to natural causes within a 12-month period; except if the timber sale was sold for salvage or pest control, damage does not include changes caused by forest pest epidemics.
3. The damage must affect the value of trees on the timber sale area meeting utilization standards with a volume equal to either one-half the volume in specific condition A/AT2 or 2,000 hundred cubic feet (CCF).

If the catastrophic damage criteria are met, the Contracting Officer and the purchaser may agree to a contract modification under standard provision B/BT8.33.

21.14d - Minor Damage by Natural Causes (B/BT2.134)

Timber damaged or killed by natural causes within the timber sale area can become included timber only with the purchaser's agreement. The quantity must be less than the amount that qualifies as catastrophic damage. If the quantity exceeds the amount described in section 22.2 (standard provision B/BT2.37), modify the contract, including a rate redetermination.

21.15 - Unintentionally Cut Timber (B/BT2.14)

The Contracting Officer may designate as included timber that timber the purchaser cuts by mistake if it meets utilization standards. Note that unintentionally cut timber applies to timber cut both within and outside the timber sale area.

21.16 - Construction Timber (B/BT2.15)

The Forest Service may authorize the cutting of trees to be used in the construction of transportation facilities. This timber may come from outside of the timber sale area.

21.17 - Other Material (B/BT2.16)

The Contracting Officer may include species and products not listed as included timber in specific condition A/AT2. The contract rates are determined based on the criteria in standard provision B/BT3.41.

21.2 - Utilization and Removal of Included Timber (B/BT2.2)

Special condition A/AT2 lists the utilization standards. Material that meets or exceeds these standards and contains at least one piece must be felled, bucked, and removed from the timber sale area. Material that would have met minimum utilization standards if bucking lengths had been varied must also be removed.

22 - Timber Designations (B/Bt2.3)

All timber that the purchaser removes must be designated for cutting, either with paint or by description. If any timber is incompletely marked and needs to be designated after the timber sale advertisement, a representative sample of such timber must be marked, and the timber sale area map must identify the location of the areas to be marked after advertisement. Specific condition A/AT3 identifies the number of units and the approximate acreage of the designated timber.

Special provisions, included in each contract, identify specifically how cut trees and reserve trees, if any, are designated.

22.1 - Types of Timber Designation

22.11 - Reserve Trees (C/CT2.3#) and Protection of Reserve Trees (C/CT6.32#)

Live and dead reserve trees are designated for protection to meet specific resource needs. Special provision C/CT2.3# identifies the reason for protection and how the trees are identified on the ground. Units that contain reserve trees are shown on the timber sale area map. Special provision C/CT6.32# is a companion provision. This provision identifies the liquidated damages that the purchaser must pay if a reserve tree is damaged. These liquidated damages are in addition to the payment of current contract rates under standard provision B3.45/BT3.44 and liquidated damages payable under standard provision B3.46/BT3.45.

22.12 - Clearcutting Units (B/BT2.31)

All live and dead trees that meet utilization standards are designated for cutting within the unit boundary. The marked boundary trees are not designated for cutting.

22.13 - Construction Clearing (B/BT2.32)

All timber within the clearing limits of roads being constructed or within authorized clearings is designated for cutting. In addition, all dead or unstable live trees that are sufficiently tall to reach purchaser's landings or the roadbed of specified roads are designated for cutting when marked in advance of felling in the immediate vicinity. The pieces cut that meet utilization standards must be removed unless there is agreement that removal could damage the road. If the road location changes the designation of timber may be modified.

22.13a - Specified Road Clearings (BT2.321)

Separate payment units are used for specified road clearing. Dead or unstable live trees designated for cutting outside of the clearing limits of specified roads are not included in specific condition AT2 quantities. Such trees are additional timber that must be reported to timber sale accounting so the purchaser can pay stumpage.

22.13b - Other Authorized Clearings (BT2.322)

Trees within the clearing limits of temporary roads and other authorized clearings are designated for cutting but are not included in specific condition AT2 quantities. Such trees are additional timber that must be reported to timber sale accounting so the purchaser can pay stumpage.

22.13c - Construction Clearing with Forest Service Construction (C/CT2.323)

Special provision C/CT2.323 must be included if the purchaser elects Forest Service construction. All timber within the clearing limits of roads being constructed or within authorized clearings is designated for cutting. However, the purchaser is precluded from cutting the timber within the clearing limits of the specified road construction, unless this work is subcontracted from the road contractor. The purchaser must remove the cleared timber at the earliest practicable time after the Forest Service authorizes removal.

22.14 - Overstory Removal Units (B/BT2.33)

Live and dead trees within an overstory are designated for cutting when they meet utilization standards and equal or exceed the diameter limits shown on the timber sale area map.

22.15 - Understory Removal Units (B/BT2.34)

Live and dead trees within an understory are designated for cutting when they meet utilization standards and are smaller than the diameter limits shown on the timber sale area map.

22.16 - Individual Trees (B/BT2.35)

Live and dead trees are designated for cutting when individually designated by Forest Service with paint marks above and below stump height or designated by description. If leave tree marking is used, the timber sale area map indicates areas where leave trees are marked to be left uncut.

22.17 - Designation by Description (D x D)

1. Ensure that adequate staffing and expertise are available for the increased timber sale administration workload that will result from the use of designation by description (D x D). Timber sale administration personnel need to understand the inspection requirements and techniques to determine purchaser compliance with a provision.
2. Conduct a detailed pre-operations meeting with the purchaser to describe the specifics and application of the contract provision(s), the overall intent, and the methodology to be used to determine compliance. Careful coordination between purchaser, operators, and timber sale administration personnel is needed to ensure clear understanding when D x D occurs on any timber sale.
3. Consider the use of confidential, fixed, “before and after” harvest plots. Refer to FSH 2409.12, section 72, Trespass Prevention, and Regional supplements for surveillance plot techniques.
4. Permit purchaser marking of cut trees to help identify which trees are to be removed. Coordinate with the Sale Administrator on which paint color to use. This technique can be especially useful when cutting is completed with ground-based logging equipment, such as harvester-forwarder or feller-buncher systems. A small dot of paint visible to the machine operator can speed their operations.

22.17a - Designation by Spacing (C/CT2.351#)

Trees that meet utilization standards are designated for cutting when they meet the description requirements in this special provision, unless they are specifically marked or described for retention. Additional trees may also be cut if specifically marked. For this type of designation, diameter is based on stump diameter in a horizontal plane and distances are measured on the slope from outside bark stump height to outside bark stump height. Two perpendicular stump measurements should be taken and averaged.

22.17b - Designation by Species and Diameter (C/CT2.352#)

Trees that meet utilization standards are designated for cutting when they meet the description requirements in this special provision unless they are specifically marked for retention.

Additional trees may also be cut if specifically marked. For this type of designation, diameter is based on stump diameter in a horizontal plane.

22.17c - Designation by Damage Class (C/CT2.353#)

Trees that meet utilization standards are designated for cutting when they meet the description requirements in this special provision unless they are specifically marked for retention.

Additional trees may also be cut if specifically marked. For this type of designation the damage class description must be identifiable after harvest is complete.

22.17d - Designation by Row Spacing (C/CT2.354#)

Trees that meet utilization standards are designated for cutting when they meet the description requirements in this special provision unless they are specifically marked for retention.

Additional trees may also be cut if specifically marked.

22.18 - Incompletely Marked Timber (B/BT2.36)

If there are incompletely marked subdivisions, they are shown on the timber sale area map and the timber is designated as described in special provision C/CT2.36. The Forest Service, prior to advertisement, must identify a representative sample of the proposed marking. It is important that the incompletely marked timber be marked in a manner consistent with this sample.

22.2 - Minor Designation Changes (B/BT2.37)

Minor adjustments may be made in boundaries of cutting units and in the timber individually marked for cutting by agreement with the purchaser. Limit these agreements to a maximum of 5 acres or a volume equivalent to 5 acres of clearcutting. Larger adjustments, if needed, require a formal contract modification and an adjustment in the contract rates, if applicable.

22.3 - Volume or Quantity Estimate (B/BT2.4)

The volume estimate is stated in specific condition A/AT2. The Forest Service does not guarantee the volume estimate. On tree measurement timber sales, standard provision BT2.43 provides that the quantity may be adjusted to correct identified errors caused by computer malfunction or errors in calculation, area determination, or computer input, if the error is at least 10 percent of the volume or \$1,000.

If designation is completed after the timber sale advertisement, standard provisions B/BT2.41 and B/BT2.42 provide, within limitations, adjustments in Forest Service designation to compensate for deficit or excess volume.

22.31 - Adjustment for Volume or Quantity Deficit (B/BT2.41)

Standard provision B/BT2.41 applies if there are incompletely marked subdivisions. If the volume identified for harvest will be less than 90 percent of the specific condition A/AT2 volume, the Forest Service must designate additional timber within the timber sale area, if the purchaser so requests. The additional timber is limited to the amount necessary to reach the specific condition A/AT2 volume and the designation must be consistent with the requirements of the Forest land and resource management plan.

22.32 - Adjustment for Excess Volume or Quantity (B/BT2.42)

Standard provision B/BT2.42 applies if there are incompletely marked subdivisions. If it is determined that the volume designated for cutting will exceed 120 percent of the specific condition A/AT2 volume, the purchaser may request the Forest Service to adjust the marking or cutting unit boundaries with the intent of meeting the volume estimate in specific condition A/AT2. The adjustments must not conflict with the silvicultural treatment being applied and must not materially change the average value by species of the designated timber. If it is not possible to adjust the cutting sufficiently, after cutting 120 percent of the specific condition A/AT2 volume, the purchaser may elect to have the timber sale area reduced to eliminate the remaining timber. However, if felling operations have started, units of minimum practicable size must be retained.

23 - Scaling and Measuring (B/Bt6.8)

Scaling and measuring involve volume determination for payment in a standard manner and may involve sampling. Forest Service personnel must be certified to measure or scale timber for payment. The instructions for scaling are identified in specific condition A10.

23.1 - Scaling Services (B6.81)

The Forest Service selects and is responsible for providing or contracting scaling services. The Contracting Officer may approve additional scaling services, such as grading or tagging, for the purchaser. If additional services are provided, set up cooperative deposits under standard provision B4.218 for reimbursement of additional expenses.

23.11 - Scaling Location (B6.811)

Scaling must occur as soon as practicable after felling and at scaling locations that the Forest Service approves (FSM 2443.03). Contract scaling location, normally the timber sale area, is identified in specific condition A11. The purchaser may request an alternate scaling location.

1. The Contracting Officer may approve an alternate site if it meets the following criteria:

- a. The location provides for scaler safety and comfort and meets Occupational Safety and Health Administration safety requirements.
 - b. The location provides for accountability and security of timber products.
 - c. The location is conducive to accurate and independent scaling so that specified scaling rules can be applied.
 - d. The location provides for opportunity to make check scales without the scaler's prior knowledge.
2. In addition to the approval criteria in standard provision B6.811, consider the following before approving the scaling location:
 - a. Provide for as near equal treatment of all purchasers as possible.
 - b. Provide as much uniformity as possible in conditions and in operation of scaling locations between adjacent Forests and Regions where there is common business with the same purchasers.

Prior to the Contracting Officer's approval of an alternate scaling location, the operator of the scaling location and Forest Supervisor must enter into a Yard Scaling Agreement that governs scaling at that location. Except for weighing, the Forest Service, or persons under contract with the Forest Service must do the scaling. People approved by the Forest Service may weigh timber for payment. The purchaser's employees or contractors may not perform scaling, except as may be provided in special provision C6.815.

23.12 - Scaling Adjustments (B6.812)

This provision provides the contractual authority for check scales and the procedure for adjustment of volume (sec. 24.3) if there is an unsatisfactory check scale.

The volume adjustment is not mandatory and is usually not made unless there are two consecutive unsatisfactory check scales or a consistent error in interpretation or procedure is identified. The Contracting Officer must obtain advice from the Regional scaling specialist before making an adjustment. Adjustments may be positive or negative.

23.13 - Interrupted or Delayed Scaling Services (B6.813)

Suspend hauling if scaling services are interrupted or delayed. If the purchaser has not caused the interrupted or delayed scaling services, they are entitled to contract term adjustment and reimbursement of out-of-pocket expenses.

23.14 - Weighing Services (B6.814)

The Forest Supervisor must execute a Weighing Services Agreement prior to weighing for payment. Scales must be certified by State law and meet other minimum requirements of the provision. The purchaser pays any weigh fees.

23.15 - Third Party Scaling Services (C6.815)

This special provision supersedes the requirement in standard provision B6.81 for scaling services to be completed by the Forest Service or parties under contract to the Forest Service. If the Forest Service must provide the scaling services, the cost is charged to the purchaser's timber sale account. If the purchaser agrees to contract scaling, the Contracting Officer must modify the contract to include special provision C6.816# to collect scaling deposits. The requirements for approval for use of third-party scaling services should be similar to those for contract scalers.

23.16 - Scaling Deposits (C6.816#)

This provision identifies scaling service costs for five different types of services. Scaling services may be paid either by lump sum or based on the amount estimated to be scaled. Excess payments are refunded pursuant to standard provision B4.218.

23.2 - Presentation for Scaling (B6.82)

Timber to be scaled must be presented safely and economically. The scaling yard must have adequate room, the scaling area must be isolated from heavy traffic, and the yard cannot be excessively dusty or muddy. The logs need to be laid out in rows without jack-strawing. The conditions in the scaling yard are governed by and enforced through the Yard Scaling Agreement, which is signed by the Forest Supervisor.

The scaler measures the logs as if they had been properly bucked. If additional defect occurs because of abnormal delay on the purchaser's part, this defect is tallied separately and charged to the timber sale account as abnormal delay. If the Forest Service has contracted for road construction and the purchaser has been unable to haul right-of-way logs, do not charge the purchaser for abnormal delay.

23.3 - Scaling Other Products (B6.83)

If the purchaser removes timber in a form other than those stated in specific condition A2, use standard converting factors to convert to the specific condition A2 product. Other converting factors may be used by agreement with the purchaser.

23.4 - Scaling Lost Products (B6.85)

Use specific information about size and species of lost products to determine volumes' if possible. If specific information is not available, use the average species distribution of the volume scaled in the most appropriate reporting period when entire truckloads are lost. If individual products are lost, assume that the products were the average volume for the highest priced product scaled during the reporting period. The Contracting Officer cannot waive payment for lost products. If appropriate, criminal action may be taken under Title 36 of the Code of Federal Regulations, section 261.6(c).

23.41 - Scaling Lost Sample Loads (B6.851)

If sample scaling is used and sample loads are decked prior to being scaled, the sample loads are considered to be lost. Lost sample loads shall be deemed to have the scale volume and species composition of the highest-valued load scaled during the sampling period. If there are no sample loads in the sampling period, the most current period with sample loads is used. If the load is lost due to Forest Service actions, the lost load shall be considered a non-sample load.

23.5 - Scale Reports (B6.86)

The scaler's record shall be provided to the purchaser, if requested.

24 - Scaling Quality Control Program

24.02 - Objectives

The objectives of the scaling quality control program are to:

1. Ensure accuracy, consistency, and uniformity in the application of approved scaling rules and methods.
2. Ensure scaling is performed by persons certified to scale National Forest timber (FSM 2443.03 and 2443.04).
3. Ensure the public interest is served through continuing inspections (check scales) and audits.
4. Provide processes for identifying and resolving scaling problems quickly.
5. Make plus or minus scale volume adjustments, as appropriate, when an original scale exceeds acceptable tolerances.

24.03 - Policy

Each scaling quality control program must, as a minimum, establish procedures for the following:

1. Scaler training and certification.
2. Inspection (check scaling) and reporting.
3. Resolution of scaling complaints and making scale adjustments.

24.04 - Responsibility

1. **Regional Foresters.** (FSM 2443.04b; FSH 2409.11a, sec. 04.2).
2. **Forest Supervisors.** (FSM 2443.04c; FSH 2409.11a, sec. 04.3).
3. **Check Scalers (Quality Control Specialists).** (FSH 2409.11a, sec. 23).
4. **Scalers.** (FSH 2409.11a, sec. 04.6).

24.1 - Scaler Training and Certification

1. Forest Service policy permits only certified scalers to scale Forest Service timber (FSM 2443.03). Minimum training and certification requirements for Forest Service scalers are described in section 24.11.
2. Scaling contractors are required to establish and maintain a scaler training and certification program. Minimum requirements for scaling contractor training and certification programs are described in section 24.12.
3. Regional Foresters are responsible for ensuring the establishment and maintenance of a Regional roster of scalers certified to scale Forest Service timber (FSM 2443.04b). The roster shall include Forest Service and contract scalers. Nominations to the Regional roster of certified scalers must be in writing. The nomination must also describe any limits on the nominee's proficiency, such as truck scaling only or not trained in sample scaling. Forest Supervisors, scaling contractors, or the Regional Forester may submit nominations.
4. All scalers must be certified before being assigned to scale Forest Service logs for stumpage payment purposes (sec. 24.13).

24.11 - Forest Service Scaler Training and Certification Program

1. The certification program for log scalers recognizes four levels of competency:

- a. Production scaler,
- b. Check scaler,
- c. Master scaler, and
- d. Utilization scaler.

Minimum requirements for the four levels of competency are described in sections 24.11a through 24.11d.

- 2. The production scaler designation includes two levels of competency:
 - a. Qualified scaler and
 - b. Advanced scaler.
- 3. The Regional Forester is responsible for approval of qualified scalers and for issuing certificates to individual scalers as appropriate for each level of certification (FSM 2443.04b). In addition, Regional Foresters must provide for the training and testing of Forest Service check scalers and master scalers. Forest Supervisors are responsible for training and certification testing of Forest Service production and utilization scalers (FSH 2409.11a, sec. 04.3) and for nominating Forest Service scalers for certification (FSM 2443.04c).

24.11a - Forest Service Production Scale

Production scaler certification may be limited to specific kinds of log presentation, such as yard or truck. Scaler trainees may be certified as a production scaler at one of the following two levels:

- 1. **Qualified.** The qualified production scaler must perform as follows:
 - a. Know the fundamentals of scaling and receive a passing grade on a written examination of scaling fundamentals.
 - b. Practice scaling with a qualified or advanced scaler and participate in two training scale comparisons, each consisting of at least 200 logs.
 - c. Attend at least one mill visit accompanied by a check scaler.
 - d. Be proficient in the different scaling systems common to the area, for example, 100 percent, sample scaling, sample-weight scaling, and 3-P sampling.

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- e. Be proficient in measurement and recording of products common to timber sale contracts in the assigned area, such as Scribner or cubic measurement of sawlogs, fiber logs, cedar products, posts, poles, and other products.
- f. Be proficient in knowledge of the requirements for branding and painting related to log and load accountability and for export control at the assigned location.
- g. Be proficient in knowledge of a scaler's information form and sampling devices, such as frequency cards and envelopes and field data recorders.
- h. Pass two consecutive check scales with a satisfactory rating on both the gross and net volume for initial certification and pass two additional check scales within 3 months or 200 thousand cubic feet, whichever occurs first, to maintain the certification.

For proficiency testing and certification, conduct check scales with a certified check scaler under scaling conditions comparable to the trainee's prospective assignment.

2. Advanced. The advanced scaler must perform as follows:

- a. Be certified as a qualified scaler.
- b. Show proficiency for supervising and training other scalers.
- c. Show proficiency in scaling all types of log presentation methods prevailing in the scaling area and in use of field data recorders.
- d. Know the process used to select loads for sample scaling and the system used to ensure that loads to be scaled are not tampered with or removed from the scaling area before scaling.
- e. Be familiar with the Regional or zone policy on painting, branding, log and load accountability, and export control and able to prepare the necessary reports on branding, painting, load receipts, and other contract enforcement procedures.
- f. Be familiar with the Regional scaler information form and how it relates to contractual requirements, including the special provisions pertaining to product merchantability specifications.
- g. Be able to act as liaison between the purchaser and the Forest Service.

24.11b - Check Scaler

Forest Service employees certified as check scalers are responsible for quality control monitoring and assessment to ensure the accuracy of scaling. The check scaler must:

1. Have at least 2 years experience as an advanced scaler.
2. Show an aptitude and proficiency for training other scalers.
3. Be able to handle purchaser complaints at the Forest level.
4. Be able to monitor log accountability procedures.
5. Be able to implement check scaling procedures.
6. Be able to assist districts in timber sale contract administration (utilization, bucking, and felling practices).
7. Be able to participate effectively in timber theft cases and trespass case investigations.
8. Be able to inspect and recommend approval of scaling locations and to prepare Yard Scaling and Weighing Services Agreements.
9. Be able to perform and to document export surveillance in the designated area.
10. Be able to recommend certification of production scaler trainees.
11. Have a working knowledge of sampling techniques and statistics.
12. Be able to investigate and recommend action on scaling problems or adjustments.

24.11c - Master Scaler

Only Regional check scalers can obtain master scaler certification. Such individuals must demonstrate skills in communications and training other scalers in addition to technical scaling competence.

24.11d - Utilization Scaler

By supplementing this section, Regional Foresters may develop a certification program for utilization scalers. Use the utilization scaler designation for personnel, such as Sale Administrators, who need to determine log merchantability in the woods. Utilization scalers may not perform production scaling, except when the Regional Forester has authorized certified utilization scalers to scale incidental amounts of timber for payment.

24.12 - Scaling Contractor Training and Certification Program

Require scaling contractors to establish and maintain a scaler training and certification program. The scaling contractor is responsible for training, testing, and certifying their check scalers and production scalers and for maintaining training and certification records on each scaler.

Minimum requirements for the contractor scaler training and certification program areas follows:

1. **Training.** Training must include:
 - a. Instruction in scaling fundamentals.
 - b. Instruction in the rules and methods for scaling as given in the Cubic Scaling Handbook, FSH 2409.11a.
 - c. Practice scaling and mill visits with a check scaler.
 - d. Use of applicable sample scaling procedures.
 - e. Measurement and recording of products commonly sold from the National Forests in the trainee's prospective assignment area.
 - f. Log branding, painting, and log load receipt requirements relating to log and load accountability in the trainee's prospective assignment area.
 - g. Instruction in the use of the Forest Service Regional scaler information form.
2. **Certification.** Certification of the trainee to scale Forest Service logs by the employing organization must be based on the prospective scaler's proficiency in all training elements. The trainee must demonstrate proficiency by passing written tests and check scales.

24.13 - Scaling for Payment

Forest Service and contractor scalers may begin scaling Forest Service logs for payment only after the Regional Forester approves the addition of the scaler's name to the Regional roster of certified scalers (sec. 24.11).

24.14 - Maintenance of Certification

1. Production and check scalers must, as a minimum, receive one satisfactory check scale each calendar year. If a production or check scaler becomes inactive for a period of more than one year, a satisfactory check scale shall be obtained prior to

scaling. A satisfactory check scale must be within the limits described in FSH 2409.11a, section 23.

2. Master scalers must maintain and enhance their skills through continuing education. Examples of this are scaling to settle controversies, scaling at annual log rollouts within and outside of the Region, participation on technical committees, and keeping abreast of current technology as it relates to scaling.
3. Regions that have supplemented section 24.11d, Utilization Scaler, shall also develop standards for maintaining the utilization scaler certification.

24.2 - Check Scaling and Reporting

Check scaling is a quality control activity designed to:

1. Validate and monitor log measurement accuracy.
2. Ensure the uniform application of log scaling rules; and
3. Deter and detect fraud, waste, and abuse, ensuring that the Government receives full contract value for logs cut and removed from National Forest System lands.

Check scale standards are set forth in the Cubic Scaling Handbook, FSH 2409.11a, section 23.

24.21 - Checking Without Scaler's Knowledge

1. To determine the accuracy, objectivity, uniformity, and consistency of individual scalers, conduct check scales without the prior knowledge of the scaler. The preferred and normal practice is to conduct the check scale after the scaler has completed scaling the logs/loads to be checked. This is commonly referred to as a "remote" check scale. Remote means that at the time the logs are scaled, the scaler does not know if a check scale will be made on those logs.
2. Conduct checks as nearly as possible to the same conditions and log arrangement as when presented to the scaler. Under conditions where a full remote check is not possible, a partial remote check is acceptable provided the remote and non-remote portions of the check scale are identified and calculated separately to detect shifts in scale accuracy and rule application.

24.22 - Checking Contract Scaling Organizations

Contract scalers operate independently of Forest Service supervision. The Forest Service is not responsible for contract scaler training, supervision, and performance. The scaling contract procedures prohibit Forest Service and timber sale purchasers from interfering with,

intimidating, or pressuring in any way the production scaler for the purpose of influencing log scale results.

Where contract scaling is authorized, the primary concern of the Government is volume accuracy. When approved by the Regional Forester, volume accuracy can be determined by checking the volume scaled at a scaling location in lieu of checking individual contract scalers. Each Region must establish the minimum requirements and procedures for checking volume accuracy by location (FSM 2443.04b).

24.23 - Check Scale Results

1. It is the responsibility of the Regional Forester to approve a check scale report form that summarizes check scale results. Compare the original scale to the results of the check scale and provide a copy of the check scale report to the Regional Forester, Forest Supervisor, Contracting Officer, District Ranger, and Forest Service scaler. When check scales are performed on contract scalers, also provide their management with two copies of the check scale report. When requested, a copy of the report and/or a copy of the log-by-log detail may be provided to the purchaser.
2. At the end of the calendar year, Forest Supervisors shall furnish the Regional Forester with a summary listing the results of all check scales conducted on the Forest during the year. The summary shall identify each check scale by scaler or location, check scaler, Forest Service or contractor, date of each check scale, and scale adjustment actions.
3. Forest Service check scale data shall be documented and analyzed for uniformity and consistency by location, contractor, timber sale purchaser, check scaler, or other combinations and comparisons that may indicate variance in log rule interpretation and/or application, and for other analytical purposes (FSM 2443.04b).
4. Regional Foresters must ensure that measurement data received from contractors accurately represent the volume and quality of timber for which the Forest Service will bill purchasers. Regional Foresters must ensure that the adequacy of edit controls that contractors use to maintain the integrity of electronically stored measurement data is verified. Verification must include initial tests of controls and continued monitoring of field data recorder programs.

24.24 - Checking Frequency

Regional Foresters shall ensure check scaling frequencies for individual scalers and scaling locations are established. Check scaling frequencies must be based on the volume and value scaled at various scaling locations. The Forest Supervisor is responsible for compliance with frequency standards and initiation of corrective action (FSM 2443.04b).

24.24a - Minimum Frequency for Check Scaling Individual Scalers

Forest Service check scalers shall check all individual production scalers (Forest Service or contract scalers) a minimum of twice per year and more frequently when conditions warrant. Check scalers, excluding master scalers, shall be check scaled a minimum of once a year. Check scale new scalers a minimum of once each month during the first 2 months of duty.

24.24b - Follow-up Check Scales on Individual Scalers

If a check scale indicates a Forest Service scaler is outside the acceptable limits, the scaler shall be checked again within 2 weeks and monthly, thereafter, until the variance is consistently within acceptable limits. When individual contract scalers are check scaled by the Forest Service, additional checks are to be conducted according to the process agreed to in the contract scaling procedures.

24.24c - Minimum Frequency for Check Scaling Locations

Check scaling frequency should be greater at locations with high value stumpage or high volumes. Each location shall be check scaled by the Forest Service on a continuing basis with at least one check scale completed each 45-day period. Check scales shall be conducted for each method of scale used at individual locations (20-foot maximum, 40-foot maximum, or cubic). Accuracy of scale is determined based on standards in FSH 2409.11a or as established by the Regional Forester.

24.24d - Follow-up Check Scales on Locations

When the results of a check scale are unsatisfactory, the Forest Service check scaler must complete a follow-up check scale within 10 working days. Check scalers may discuss check scale results with the contractor and invite them to participate in the follow-up check scale. If the contractor elects to check scale the loads in conjunction with the Forest Service, the agreed-to results become the follow-up check scale.

24.25 - Rotation of Loads

Loads held for check scaling should be the last loads delivered and scaled in accordance with approved Yard Scaling Agreements. Load rotation is key to maintaining unbiased remote check scaling. Scaling locations must be frequently monitored by the Forest Service to ensure that loads are rotated in order of scale. Strong corrective action, through enforcement of the provisions of the Yard Scaling Agreement, must be taken when loads are not being properly rotated.

24.3 - Resolving Scaling Complaints, Including Adjustments

Contracting Officers must take prompt action when scaling complaints are received or when check scales indicate unsatisfactory scale in accordance with FSM 2443.24. Unless otherwise agreed, make scale adjustments, and prepare adjustment reports in accordance with the timber sale contract (standard provision B6.812), the contract scaling procedures, and this section.

24.31 - Scaling Complaints and Errors

Upon receipt of a scaling complaint or the discovery of a fundamental scaling error, the Contracting Officer shall promptly initiate an investigation to determine the validity and extent of improper scaling. The Contracting Officer shall notify the person making the complaint and/or the purchaser of the results of the investigation and planned follow-up action.

24.31a - Scaling Complaint

A scaling complaint is an allegation of improper scaling submitted in writing to the Contracting Officer. The complaint must include a detailed explanation of the basis for the allegation and request an investigation and volume adjustment, if appropriate.

24.31b - Fundamental Scaling Error

A fundamental scaling error is a pattern of scaling that involves consistent or continual misidentification of species affecting value, the use of improper measurement (length, diameter, defects), or defect deduction techniques that cause a net volume and/or value variance exceeding established standards. If a fundamental scaling error is determined to have caused a variance exceeding standard, a volume adjustment may be made.

24.32 - Investigative Check Scales

1. When the results of a check scale indicate that improper scaling occurred, or when a scaling complaint is received, make an immediate investigative check scale.
 - a. Investigative check scales are generally more extensive than routine check scales and must be conducted without the knowledge of the original scaler.
 - b. The investigative check scale may be conducted by the regularly assigned check scaler or by another certified check scaler. Such check scales must document facts and determine the accuracy of the original scale.
2. If the investigative check scale verifies the original scaling is unsatisfactory due to a fundamental scaling error, take corrective action.

- a. Such action shall include an adjustment in recorded scale volume, as appropriate.
- b. A scaling adjustment should be made whenever there are two or more consecutive unsatisfactory check scales indicating fundamental scaling errors (standard provision B6.812).

24.33 - Rescaling

When the results of a check scale exceed allowable variance, the scale may be adjusted by re-scaling all of the logs or a statistically sound sample of the logs. If this cannot be done, the Regional Forester may authorize an adjustment on the basis of available Forest Service check scale information (sec. 23.12).

24.33a - Adjustment Based on Complete Rescale

Use the following guidelines to make a scale adjustment on individual logs or loads when the scaling error has been clearly established:

1. Adjust volume based on a full rescale of the logs or loads in question.
2. Adjust only the volume or value of the logs or loads that were rescaled.
3. Do not adjust volume for certain selected loads or logs unless the Forest Service has an equal opportunity to review or select loads or logs from the same sample or total population.

24.33b - Adjustment Based on Check Scales

Use the following guidelines and standard provision B6.812 requirements when an adjustment must be based on check scales:

1. Adjust when improper scaling is verified and check scales show the net volume or value variance to be outside of acceptable limits.
2. Adjust up or down, as appropriate.
3. Adjust for:
 - a. One-half of the volume scaled between the last satisfactory check scale and the first unsatisfactory check scale;
 - b. The entire volume scaled between the unsatisfactory check scales; and

- c. One-half the volume between the last unsatisfactory check scale and the next satisfactory check scale. However, when a satisfactory check scale is not available from which to establish cut off, adjust for all of the volume scaled after the first unsatisfactory check scale.
4. Adjust by species whenever the check scale indicates that the error relates to an individual species.
5. Adjust to zero rather than to the acceptable limit.
6. Adjust by individual scaler or location.
7. Adjust all timber sales the scaler scaled within the adjustment period. If the adjustment is for a location, include all of the timber sales scaled at that location during the adjustment period.

24.34 - Correction of Errors Affecting Value

If scaling records or check scales clearly establish the existence of a fundamental scaling error affecting stumpage value, a correction may be made to correct the original scale even if check scales indicate the net volume is within the acceptable limits. An example is when a mistake in identification of species sold at different rates is found, causing incorrect charges for stumpage. The Contracting Officer has authority in standard provision B6.812 and the Contract Disputes Act to make corrections for obvious errors of this nature.

24.35 - Scale Adjustment Report

The Contracting Officer shall make timber sale volume adjustments resulting from scaling errors following approval of the Regional Forester (FSM 2443.04b). The Contracting Officer must record the basis for adjusting scale volume in a written report for the Regional Forester's review. The report should describe the fundamental error found, summarize the adjustment of volume by species and include the summary data on an adjusted Timber Sale Statement of Account. Provide the purchaser with a copy of the approved adjustment report. Include a copy of the adjusted Timber Sale Statement of Account, if requested.

24.4 - Scale Records

Regional Foresters shall specify the approved scale record forms, report formats, and field data recorder software to use. Such forms and formats may include scale tickets, scale books, scale certificates, timber sale information data, truckload receipts, and audit forms.

All scale records, including the original copy of each scale ticket for all scaled timber sales shall be filed in the same location as the official timber sale folder. When the timber sale is

complete, retain these records in the timber sale case folder as directed in FSH 6209.11, section 41.

Enter scale data directly onto scale tickets or into a data-recording device, which will be used to enter scale data into the accounting system.

24.41 - Scale Tickets

The completed scale ticket constitutes a source record of an important timber sale transaction between the Forest Service and the timber purchaser. The minimum standards for scale ticket documentation are as follows:

1. Scale ticket data must be legible. See direction concerning accuracy and legibility in section 14 of FSH 2409.11a.
2. Scale tickets must have complete timber sale designation entries that show the case designation, date scaled, sample group where applicable, and scaler identification.

24.42 - Field Data Recorders

Where field data recording devices are approved for use, include a paper copy of the field data in the official timber sale record.

25 - Scaling Audits

25.02 - Objectives

The objectives for requiring and documenting audits of timber sale volume scale records are to ensure that:

1. The Timber Sale Statement of Account correctly reflects volumes for which payment is due.
2. Errors are promptly detected, corrected, and recorded.
3. The responsible persons promptly learn the cause and results of errors to enable them to take corrective action.

25.04 - Responsibility

Scaling conditions and recording methods vary widely between localities. Regional Foresters shall ensure specific instructions, including standards for documentation of audits, are developed, and issued as supplements to this chapter.

25.1 - Audit of Scale Records

The term “audit of scale records” refers to a sample review of timber sale volume scale records for accuracy. Audit the following records:

1. **Truck load removal receipts.** Ensure that the load receipts used are the same ones issued for that timber sale and that all are accounted for.
2. **Scale tickets and/or a scaler’s receipts.** Ensure that a scale ticket and/or a scaler’s receipt are present for each load removed from the timber sale area.
3. **Scale ticket line items.** Ensure that all line items on the scale ticket have been processed.
4. **Volume extensions.** Ensure that volume extensions are accurate. A computer data file may require little audit. However, manual extensions have a high risk of error and must receive intensive audit.
5. **Sample volume computation.** Verify that sample-to-total ratio and re-computation of computed volumes are checked and correct.
6. **Timber Sale Statement of Account volumes.** Verify that volumes appearing on the Timber Sale Statement of Account reflect volumes audited.
7. **Monthly scale reports.** Verify that the volume reported on monthly scale reports agrees with the volume reported on the Timber Sale Statement of Account.
8. **Computer programs.** Conduct a test of computer program accuracy, or verify that the required periodic verification tests of computer program accuracy are being done.
9. **Sample loads.** Verify that the loads indicated to be sample scaled were the loads that were actually scaled.

25.11 - Requirements

Scale volume audits must include the following:

1. **Independent Verification.** The individual performing any phase of the audit must be someone other than the person who made the original entries, conversions, or computations.
2. **Qualification.** The person performing audits of scale ticket additions need not be familiar with contract volume determination requirements. However, the

person responsible for an audit of timber sale volumes must be aware of all possible documents that could affect final volume determination.

3. **Impartiality.** The person performing the audit must correct detected errors, whether the corrections benefit the Government or the purchaser.
4. **Feedback.** An adequate audit system must provide the Contracting Officer with current information about the quality of scale records.
5. **Economy.** Audits requiring intensive sampling may not be economical in all cases. A system should provide for thorough audits of essential areas, less intensive audits in less sensitive areas, and include more intensive examination when errors are discovered.
6. **Sequence.** The system shall provide for examining documents in logical sequence, providing the greatest control with reasonable effort. Keep audit volume records current.
7. **Timing.** Volume records must be checked before the Timber Sale Statement of Account and bill for collection are mailed to the purchaser.
8. **Comprehensiveness.** Volume audit systems must ensure that all areas of volume determination are periodically tested. A system is incomplete if it merely ensures that scale tickets are correct, but does not follow through to the final record.
9. **Documentation.** An audit must leave a trail that another inspector can follow at a later date. The trail may vary from tick marks of items checked on adding machine tapes to a written narrative.
10. **System Definition.** Instructions shall include a clearly defined procedure for recording various types of scale records, to ensure records are audited easily and in a logical sequence, which provides the greatest control with the least effort.

Where a significant amount of scale record auditing is performed on a Ranger District, the system shall provide guidelines as to the extent of inspection that must be performed by the Forest Supervisor. It must provide for more intensive auditing if deficiencies are found at the Ranger District level.

The primary objective is to have a well-designed system that provides an easily followed audit trail.

25.12 - Security-Related Audit Standards for Sample-Weight Scaling

Use the following standards and document the findings:

1. Obtain and review copies of the software documentation and hardware description provided to the Forest Service by the owner/operator. Determine if the documentation accurately describes the function of the software currently in use. Also, determine if the described access protections are functioning and if the hardware and telecommunications equipment are as described in the pre-approval documentation.
2. Obtain and review the “contingency plan” provided to the Forest Service by the owner/operator. Determine if it correctly reflects the procedures that the owner/operator’s representatives agreed to follow to continue weighing and making sample load selections if the automated system were to become disabled.
3. Visually verify that the system computer(s) and external devices (including disk drives and modems) are in enclosure(s) that are locked when unattended.
4. Determine if the system computer(s) can be booted (started or re-started) from removable media such as a floppy disk. (To do so can override protections that are established when the computers are booted from fixed storage media.) If so, do not use the system computer.
5. Determine if Forest Service load data is stored on removable electronic storage media, such as floppy disks. If so, ensure that the disks are removed from the system and are stored in a locked enclosure when the system is unattended.
6. Determine if owner/operator personnel are required to use individual identifiers and passwords to gain access to the system software and Forest Service load data on the system. Determine if they are required to change their password periodically.
7. Determine if owner/operator personnel have been given a Forest Service computer user profile to transmit or retrieve data. If so, ensure that it is properly limited to allow only transmission of specific files and that no other use is possible. Require a Weighing Services Agreement with each owner/operator, including constraints.
8. Determine if each owner/operator has been briefed on laws and regulations governing the use and security requirements of Federal computer systems with which they must comply, prior to granting access.
9. Determine if backup procedures the owner/operator uses to prevent loss of Forest Service data are adequate. Backup programs should be run no less than once a week and more often at high volume locations.

10. Determine if system activity log files are maintained on the computer(s) and if the Forest Service has periodic access to the log file information. System log files are not required, but if they are available, they should be reviewed periodically.
11. Determine when the weight collection and sample load selection software was last modified, by whom, and if the Forest Service was notified in writing prior to the installation of the modified software.
12. Determine if the system is monitored by a Forest Service representative who understands the correct functioning of the system, and how often it is monitored.
13. Determine if the documented sample frequency data entry process is being followed.

Any deficiencies found in the procedure checks in paragraphs 1-10 require full documentation and a follow-up report when corrections are made. Unless unusual circumstances require otherwise, all corrections must be made within 30 days of receipt of audit findings.

25.13 - Verification, Audit, and Other Internal Control Procedures for Sample Weight Scaling

Use the following standards for internal control audits and inspections and document the findings:

1. Ensure adequate system documentation, such as a flowchart or a narrative that includes operational procedures.
2. Determine that a Weighing Services Agreement between the purchaser and the Forest Service exists and that the established procedures in the agreement are followed.
3. Determine if scales are inspected to meet established State and Forest Service requirements for periodic certification.
4. Determine that appropriate controls for the weight slip/log load receipt exist at the mill, such as a locked storage container with access limited to authorized personnel.
5. Ensure that only authorized personnel may pick up weight slips and log load receipts, at a minimum of once per week, and return them to the originating district. More frequent pickups should be required if a large number of loads are being processed.
6. Determine that the system does not accept changes to data entry once a load is identified as a sample or non-sample load.

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7. Ensure that the system provides an audit trail if a record is voided.
8. Ensure that the system does not determine if a load will be scaled or not scaled until the truck is on the scale and the load receipt information is entered into the system.
9. Ensure that the system produces a hard copy record for the disposition of each load (whether sample scaled or not).
10. Ensure that the system can accept variable frequencies for each timber sale.
11. Ensure that the system only accepts load data for timber sales where appropriate background information is entered into the database, such as contract number, timber sale name, strata, frequency, and so on.
12. Ensure that the system generates the specialized daily listings, as specified by the Forest Service.
13. Ensure that someone other than the individual who input the frequency information validates the intended sample frequency as correct.
14. Verify occurrence of periodic visual checks, as required by the Region, to ensure the weight on the digital readout is printed on the weight slip.
15. Verify that periodic visual checks, as required by the Region, are being made to ensure that the same truck is being weighed in and out when a tare weight is required.
16. If a sample weight is to be used, ensure that the system has the capability to maintain a rolling average of at least three tare weights by truck identification (ID) and have the ability to maintain the 90-day highest and lowest tare weight by truck ID.
17. Verify that a continual accounting of all log load receipts, both issued and returned, is being done and that such accounting includes a review of the sequence in which receipts are returned. This determines if a unit is detecting and following up on unusual irregularities, such as long-time lapses between time of issuance and entry into the accountability system.
18. Check to see that a sample verification, as required by the Region, of the weight slip report was done to ensure that it contains all pertinent information such as log load receipt number, sample group, and so forth.
19. Ensure that a periodic review, as required by the Region, is made of the frequency determination and that appropriate revisions are documented and updated as necessary.

20. Verify that a review of the system was conducted by a review team commissioned by the Region within 90 days following implementation and annually thereafter.
21. Inspect a sample verification, as required by the Region, of the weight slip report against the record of transaction and the truck tare weight information reports to ensure that the same data was brought forward from the weight slip report.
22. Review the record of transaction report for “aborts.” Verify that the reasons for such aborts are documented.
23. Verify that the seed, algorithm calculation, and sample selection system is appropriate.
24. Review and document significant weight variances for the truck tare weight report.
25. Review the documentation of occurrence of significant time delays between gross and tare weight as shown on the record of transaction.
26. Ensure that necessary operational procedures (when exceptions to normal operations occur) exist and have been followed.
27. Ensure that weight slip reports exist and are retained in the contract folder. These are intended to serve as source documents.
28. Verify that log load receipt records are retained as prescribed by the Regional Forester.
29. Verify that truck tare weight (aggregate report) has been retained, if significant discrepancies are discovered, until discrepancies are resolved.
30. Verify that the most current sample frequency computation is retained in the timber sale case folder.
31. Ensure that the record of transaction is retained until verification of that information is processed.

25.2 - Standards for Information Provided by Purchaser-Operated Weight Systems

Before approval of a weight scaling system used by a timber purchaser to sample National Forest timber, ensure that it supplies the information needed and is in an acceptable format. Exhibit 01 contains the specifications for all information the system must generate.

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25.2 - Exhibit 01

Data Standards for Weight and Sample Records

Description	Digits	Units/Format
Mill location where information was generated	4 digits	N/A
Forest Service/Contract ID	12 digits	N/A
Forest Service/Contract ID (Region, Forest, District per FSH 2409.14)	(6 digits)	N/A
Forest Service/Contract ID (Contract ID)	(6 digits)	N/A
Sample group	2 digits	N/A
Truck ID	5 digits	N/A
Log load receipt number	6 digits	N/A
Gross weight	6 digits	pounds
Source of weight (either scale # or average, smallest, or largest weight)	2 digits	N/A
Time of weight	6 digits	Hhmmss
Date of weight	6 digits	Mmddy
Tare weight	5 digits	pounds
Void flag (for transaction record)	1 digit	N/A
Sampled for volume or weight	1 digit	y/n

25.21 - Printed Weight Slip Record

Ensure that a printed weight slip record is generated for the Forest Service. It must be printed when a driver receives a gross weight if a tare weight is not required for that load. If a tare weight is required, ensure that the record is generated at the time the tare weight is obtained. If a tare weight is required but the truck does not weigh out to complete the record, the system must record the tare the next time the truck ID is used and show either the largest or smallest tare weight for the last 3 months in place of the actual tare weight. If the load was scaled for volume, then the largest tare weight must be used; otherwise, the smallest tare weight must be used.

Ensure that the weight record is stapled to the log load receipt, which must then be placed in a locked box provided by the Forest Service. Collect the record and log load receipt, and retain it in the timber sale file. Consider the weight slip record as a legal document. Approve only those systems that provide, as a minimum, the following information:

1. Truck ID.
2. Log load receipt number.
3. Mill location.
4. Forest Service contract ID.
5. Sample group.
6. Gross weight.
7. Date of gross weight.
8. Time of gross weight.
9. Tare weight (actual or average).
10. Date of tare weight.
11. Time of tare weight.
12. Net weight.
13. Sample for weight.
14. Sample for volume.

15. Source of tare weight.

25.22 - Truck Tare Weight Information

If the Sample Scaling Agreement between the mill and the Forest Service allows sampling for tare weight, the system must be able to use a moving average of at least three tare weights for each truck. In addition, the system must track the largest and smallest tare weight for each truck for the preceding 90 days and retain an audit trail of trucks as they are removed from the system. Ensure that these conditions are met and a printed record of the truck tare weight information is generated on demand or at a minimum, once a week. This record must have the capability of displaying information for all trucks that have hauled logs from National Forest System lands. The tare record must contain, as a minimum, the following:

1. System date and time when record is produced.
2. Mill or office identification where the record was produced.
3. Truck ID.
4. Largest tare weight in the last 3 months.
5. Date of largest tare weight.
6. Smallest tare weight in the last 3 months.
7. Date of smallest tare weight.
8. Most recent actual tare weight.
9. Date of most recent actual tare weight.
10. Next to last most recent actual tare weight.
11. Date of next to last most recent tare weight.
12. Second from last most recent actual tare weight.
13. Date of second from last most recent actual tare weight.
14. Average tare weight (based on 3 non-zero entries).
15. Delete flag for record. (Once a delete flag is set, this truck ID must be re-entered in the system before it can be used again.)

16. Date of delete flag. (The date must be equal to or greater than any tare weight dates. This record can be removed from the system 30 days after it is marked for deletion).

25.23 - Sample Frequency Information

Ensure that the sample frequency information can be generated on demand and that it displays the following information:

1. Date and time the record is produced.
2. Mill location.
3. Forest Service contract ID.
4. Sample group.
5. Purchaser name and ID (FSH 2409.14).
6. Sample frequency.
7. Date the sample frequency was entered or last changed.
8. Valid range of log removal receipts. (There must be a minimum of 3 allowable ranges per contract sample group combination.)

25.24 - Record of Transaction

An electronic record of transaction for the Forest Service must be produced when the printed weight slip record is generated. The transaction records must be transmitted to the Forest Service computer system on demand or at a minimum of once a week. After the data has been successfully received the transaction records may be deleted from the system. A printed copy of this information must be available on demand. The record of transaction must contain, as a minimum, the following information in the following order:

1. Mill location.
2. Forest Service contract ID.
3. Sample group.
4. Truck ID.
5. Log load receipt number.
6. Gross weight.
7. Source of gross weight.
8. Time of gross weight.
9. Date of gross weight.
10. Tare weight.
11. Source of tare weight.
12. Time of tare weight.
13. Date of tare weight.
14. Void flag (for transaction record).
15. Sampled for volume.

25.3 - Security-Related Approval Standards for Purchaser/Mill Owned and Operated Systems

Prior to approval of the use of a sample-weight load selection system, require the owner/operator of the system to furnish the Forest Service the information described in section 25.31 and sign a Weighing Services Agreement in which the Forest Service requirements of the system are identified.

25.31 - Security Standards

Ensure that sample-weight systems contain adequate security-related attributes prior to approving use of the system. As a minimum, security-related system approval and audit standards must include the following:

1. Current documentation for the sample load selection and weight collection software. The documentation must describe how weight data will be delivered to the Forest Service and how sample loads will be selected. It must also describe what controls it contains to prevent unauthorized access to, and modification of, the weight and load identification data.
2. A written description of the computer hardware and telecommunications equipment that will be used to collect and transmit load identification and weight data. The description must:
 - a. Include information about the protection in the hardware and software against unauthorized access to the system.
 - b. Include information about protection against power fluctuation and loss.
 - c. State whether or not the equipment will be used to collect and transmit log data from sample loads.
3. A written description of the contingency procedures for continuation of weighing and load selection in the event of power loss or long-term interruption of the system.
4. Operation must be by an independent or company weigh master, rather than a self-operated system that is activated by truck drivers.

25.32 - Weighing Services Agreement

Ensure that any Weighing Services Agreement covering use of weight scaling systems provides for the following requirements for continued acceptance of weight data and sample load selection:

1. The computer hardware, including external data storage and telecommunications equipment, must be locked in an enclosure when unattended to reduce the chance of unauthorized use and damage or loss.
2. The system must be protected from power fluctuation or loss and there must be a contingency procedure for the continuation of weighing and load selection in the event of automated system failure.
3. All Forest Service load data that are stored on removable media must be removed from the system and kept in locked storage when the system is left unattended.

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4. The owner/operator must make backup copies of all Forest Service load data that are retained on non-removable storage media beyond the date of entry and must keep the backup copies off-site in locked storage.
5. The transmission of weight and sample load data to the Forest Service must be possible without the establishment of a user profile on a Forest Service computer system for the owner/operator representative(s).
6. A mutually acceptable process must exist for entering frequency data and other required contract data into the owner/operator's computer(s).
7. Access to the weight collection and sample load selection computer(s), for other than load identification data entry, must require the use of a unique identifier/password combination for each authorized individual.
8. The owner/operator agrees to advise the Forest Service in writing prior to making any changes to the system hardware and software that affects the sample selection, weight collection, and data transmission functions. The Forest Service should be advised as soon as possible when other changes are made to the hardware or software.
9. The owner/operator agrees that the Forest Service may observe operation of the system at any time, without prior notification, during normal hours of operation.
10. Security and accountability of the weighing process must meet the requirements of standard provision B6.814 and the following:
 - a. The scale must be capable of weighing the entire load of logs in a single operation. Unless all trucks to be weighed will fit on a smaller scale, the minimum sized weighing facility must be a 60-ton capacity scale with a 70 foot by 10 foot platform or larger.
 - b. The weighing facility must be a certified public scale and bonded in accordance with State law.
 - c. Operation must be by an independent or company weigh master, rather than a self-operated system that is activated by truck drivers.
 - d. The weighing facility must meet the following minimum requirements:
 - (1) Be an electronic design,
 - (2) Use electronic load cells or have a fully enclosed and sealed weigh-beam,
 - (3) Have digital weight meters sealed with a seal approved by the State,
 - (4) Have a zero-interlocking device on the printer,
 - (5) Have an automatic zero-setting mechanism,
 - (6) Have an automatic motion-detecting device,
 - (7) Be shielded against radio and electromagnetic interference, and
 - (8) Have a date and time stamp and gross and tare weights that print electronically with each weighing. The Contracting Officer may waive electronic printing if the scales are public or third party.

26 - Alternate Scaling Services

26.1 - Contract Scaling

All scaling for payment purposes must follow the procedures in the FSH 2409.11a. The Regional Forester may approve scaling contractors who meet the following criteria:

1. The contractor pays scalers a wage or salary, rather than on a commission or percentage basis.
2. The contractor's scalers perform under conditions permitting consistent results and independent judgment.
3. The contractor provides Forest Service-approved training for new scalers and shall certify in writing their competency to scale logs for payment. The Regional Forester must certify scalers before they can scale National Forest timber for payment. The contractor shall withdraw a poorly performing scaler from production scaling at the request of the Forest Service check scaler. The contractor shall re-train the scaler and certify in writing when the scaler again is competent to scale logs for payment.
4. The contractor must agree to notify the Forest Service promptly in the event of any discrepancies in painting, branding, or log accountability requirements.

26.2 - Consumer Scaling

Regional Foresters may authorize consumer scaling instead of Forest Service scaling for low-value material. Such authorization must ensure adequate check scaling and accountability procedures to account for all material removed from the timber sale area and must provide for accurate scaling.

26.3 - Cooperative Scaling

Cooperative scaling, under standard provision B4.218, should be an exception and not a common practice. Contracting Officers must review requests for cooperative work in view of personnel and budget limitations and should not allow cooperative work to divert from work more closely related to management of the National Forests. Cooperative scaling requires advanced payments for Forest Service expenditures. Cooperative deposits may be collected when a National Forest timber sale purchaser desires scaling services in addition to those stated in the contract, such as at more frequent intervals, for longer hours than specified, or at a different scaling location.

Forest Service scalers may scale private or other non-National Forest logs in conjunction with scaling National Forest logs at the request of the purchaser. However, this additional workload must not be approved if it requires additional Forest Service personnel.

Due to the many variables and degrees of complexity associated with a Region's cooperative scaling agreements, each Region must prescribe the scaling records to be maintained by scaling

locations and any additional procedures to be followed. Records or procedures must provide sufficient information so that the Forest Supervisor can determine deficit volumes, scaling of private logs, overtime and holiday work, and extra scaling services in order to charge cooperators equitably. The Forest Supervisor needs the following information:

1. The pay period number, scaling station, and Ranger District identification.
2. The total daily hours worked by each scaler.
3. A summary for the scaling location, showing the total regular time, overtime, and holiday hours worked during the pay period.
4. A separate breakdown of overtime and holiday hours worked identified by operator, cooperative agreement, or account number.
5. The individual cooperator and overall scaling location totals of the volumes scaled during the pay period separately identified by ownership of the logs.
6. The type and volume of extra services provided identified by the purchaser, cooperative agreement, or account number. Include days the scaling station operates but is inactive, when the Forest Service has not received the required advance notice.

Submit scaling record(s) through the District Ranger to the Forest Supervisor promptly at the end of each pay period.

Under the Act of March 3, 1925, as amended by the Granger-Thye Act of April 24, 1950, cooperative funds must be deposited in advance of the scaling work they are to cover. Wages and other expenses incurred for cooperative scaling should be charged to such funds.

26.4 - Weight Scaling

With adequate monitoring and proper security (sec. 25.3), weight scaling is an acceptable method of measuring and accounting for forest products. Even though most weighing of timber is done at purchaser-owned and operated facilities, weighing is not considered as consumer scaling. It is important to separate the weighing from the operator. The operator does not do the weighing, but only activates the system. As such, the operator is not scaling.

The unit of measure to use for weight scaling is green tons.

27 - Timber and Log Accountability

27.04 - Responsibility

1. **Regional Forester.** It is the responsibility of the Regional Forester to ensure:
 - a. Frequency standards for performing truck checks are developed.
 - b. Procedures to verify accuracy of a sample of volume added to tree measurement timber sales are established.

- c. Proof of transportation authorization for logs, except for tree measurement timber sales in Regions 8 and 9 is required.
2. **Contracting Officer.** It is the responsibility of the Contracting Officer to ensure procedures are established requiring logs to be branded and painted prior to leaving a timber sale area, except for tree measurement timber sales in Regions 8 and 9.
3. **Sale Administrator.** It is the responsibility of the Sale Administrator to document and report the following:
 - a. All truck checks.
 - b. All additional volume scaled on scaled timber sales.
 - c. All volume added to tree measurement timber sales.
 - d. The partial harvest of payment units.

27.1 - Log Accountability Procedures

Require log haulers on scaled timber sales, including weight scaled timber sales in Regions 8 and 9, to possess evidence of authority to transport National Forest logs. Also, require log haulers on presale measurement timber sales in Western Regions to possess evidence of authority to transport National Forest logs.

Scaled timber sales require load removal receipts (sec. 27.22) in addition to the required branding and painting (sec. 27.12). Depending on the situation, load removal receipts, a letter of authority signed by the purchaser, a copy of the contract, or some other evidence of authority to haul National Forest logs may meet the requirements for premeasured timber sales. Regional Foresters must provide standards.

27.11 - Route of Haul (B6.841)

The purchaser must submit a map or description of the route of haul to the approved scaling location with the annual operating schedule. The haul route does not need to be approved by the Forest Service but must be the shortest or most economical route. With written agreement, other routes may be used or deviations in the route may be allowed for overnight stops. If a load is delayed for more than 12 hours, the Forest Service must be notified.

Truck drivers must stop, if requested by the Forest Service, at agreed upon locations for accountability checks or remote check scales.

27.12 - Product Identification (B6.842/BT6.81)

Contracting Officers may waive timber identification requirements for specific timber sales when these requirements are unnecessary for accountability or export control (FSM 2455.21c). Do not develop special provisions for these timber sales; instead, use the waiver authority provided in standard provisions B6.842 or BT6.81. This allows for rescission of the waiver if conditions change.

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Brands must be State-registered or Forest Service-assigned hammer brands of a minimum size that the Regional Forester specifies. Where required by State law, register the Forest Service-assigned brands with the State.

Require paint spots of at least 3 square inches, except that logs exempt from domestic processing must not be painted with yellow paint.

The purchaser may remanufacture logs into different lengths, subject to agreement with the Forest Service on accountability. Except for logs segmented as part of the end-product manufacturing process, remanufactured log segments must be re-branded with a Forest Service-approved brand and repainted (FSM 2455.21b). Contracting Officers may waive this requirement on a case-by-case basis.

1. **Region 1 (west of the continental divide), Region 5, and Region 6.** Timber sale contracts and permits require branding and painting of all products that are 8 feet or more in length and 1/3 or more sound on each end that is 7 inches or more in diameter before removal from the timber sale area.
2. **Region 10.** Timber sale contracts require branding and painting of all products before removal from the timber sale area. Each end must be hammer branded and, except for Alaska yellow-cedar, painted on each end with a spot of highway-yellow paint.
 - a. Where the Regional Forester has approved shipment to the contiguous 48 States for processing, a spot of highly visible green paint is also required on each end. Both the highway-yellow and highly visible green spots must be visible on these products.
 - b. Where the Regional Forester has approved export to foreign markets, a spot of highly visible orange paint must completely cover any yellow paint spot.
3. **Region 1 (east of the continental divide), Region 2, Region 3, and Region 4.** Timber sale contracts must require branding and painting of all products that are 8 feet or more in length and 1/3 or more sound on each end that is 7 inches or more in diameter before removal from the timber sale area. Contracting Officers may permit single-end branding and painting of nonexempt logs, provided that the logs are delivered to a facility within the scaling zone and provided that the timber sale purchaser certifies in writing that all logs (private, State, and Federal) delivered to the facility will be processed at that location or, if transferred to another location for processing, the Forest Service will be notified prior to transport and agreed upon procedures will be used.
4. **Region 8 and Region 9.** Regional Foresters may waive branding requirements where presale measurement is the method of timber sale. Painting is not required. Regional Foresters must establish piece or load accountability requirements for post-sale measurement timber sales.

27.2 - Accountability on Scaled Sales (B6.84)

Contracting Officers are responsible for ensuring that all Forest Service logs are presented for scaling. Follow the log accountability procedures given in section 27.1. Products removed from the timber sale area under an accountability agreement must be scaled without delay to minimize the risk of loss while the logs are stored on private property.

Loads presented for scaling after the end of a normal scaling day at the end of a calendar quarter must be scaled and reported in the next calendar quarter, unless the purchaser requests and is willing to pay for the overtime to have loads scaled and reported in the current calendar quarter.

Ensure that purchasers follow specific requirements contained in timber sale contracts when providing for log accountability.

27.21 - Load Accountability

The Contracting Officer shall not permit loads of unscaled Forest Service logs to leave the timber sale area unless an approved load removal receipt accompanies the logs and they are properly branded and painted (sec. 27.12 and 27.22). The Contracting Officer must ensure that logging trucks are stopped for monitoring checks, surveillance personnel are put on adjusted workdays, and otherwise provide for monitoring timber sale areas to ensure that purchasers are complying with these requirements. Regional Foresters must ensure the development of frequency standards for performing truck checks, based on a minimum percentage of the loads hauled and a minimum number of loads distributed over the life of the timber sale, whichever is greater. The Sale Administrator must document all checks.

Forest Supervisors may establish scaling zones that mark the limits for hauling unscaled logs (FSM 2444.04). The scaling zone should represent a reasonable limit that purchasers can meet without undue hardship. Once zones are established and the purchasers are notified, unscaled logs must not be permitted to leave that zone unless suitable log accountability procedures can be established.

27.22 - Load Removal Receipts on Scaled Sales

1. **Requirements.** On scaled timber sales, every load must have a receipt attached to it. A load is any trailer that can be detached from the truck tractor unit, for example mule train and pup trailers. The receipts must be attached to the load of logs in a plainly visible location and should be attached to a log so that removal and reuse is impossible. Specific stapling instructions should be a part of the requirement for using load removal receipts.
2. **Format.** Regional Foresters must ensure the format for load removal receipts is established, the printing is arranged, and procedures for subsequent accountability are established. Load removal receipts should have the following minimum characteristics:

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- a. Consecutively numbered so that each receipt is individually identified.
 - b. Recognizable on a moving log truck.
 - c. Weather resistant, with waterproof printing.
 - d. Comprised of at least three parts:
 - (1) a receipt to be left in the book,
 - (2) a copy to be attached and remain with the load, and
 - (3) a copy to be surrendered by the truck driver at the scaling point.
 - e. Printed so that duplication is extremely difficult.
3. **Accountability.** Each District Ranger must ensure a control register of received and issued receipts is maintained. The register must contain the information shown in exhibit 01.
 - a. Record each book of receipts on a separate line in the register when received. As books are issued, record the date of issue, the receipt serial numbers, and the timber sale name and designation in this control register and in the file record set up for the individual timber sale for accountability purposes. Document actions in the control register and in the individual timber sale record when the purchaser returns receipt books that are completely or partially used. Do not reissue a partially used book to another timber sale unless all timber has been removed from the timber sale to which it was originally issued and the volume has been scaled.
 - b. Obtain signatures of the purchaser or the designated representative for all load receipt books issued. Transfer of receipt books between Ranger Districts is permissible when both parties sign a properly completed Form AD-107, Property Transfer.
4. **Use of Piece Counts.** When a piece count is used, Regional Foresters must ensure appropriate contract provisions for piece count shortages tied to the number of logs on individual loads, and the relative value of the timber are established. The purchaser must pay for unexplained shortages on the basis of average log volume.
5. **Accounting for Lost Load Receipts.** The Contracting Officer must ensure that all receipts are accounted for, shall act promptly to determine the reason for any discrepancies, and take the necessary remedial measures to correct the discrepancies.
 - a. The Contracting Officer shall hold the purchaser accountable for all load receipts issued. If the purchaser does not use or return a load receipt within established time limits, the Contracting Officer shall notify the purchaser in writing requesting an account of the receipt. If the purchaser cannot account for the receipt, the Contracting Officer should require the purchaser to furnish documented details describing the loss. To make a charge, the Contracting Officer must determine that the missing ticket does represent a lost load and shall document this finding in the timber sale folder. The Contracting Officer should put the purchaser in contract breach, under standard provision B/BT9.3, or recommend criminal action when purchasers habitually are careless with the accountability of load receipts.
 - b. If any of the receipt copies are lost and the Contracting Officer believes that the load of logs involved is scaled and accounted for, the Contracting Officer must document the cause of the discrepancy, the action taken, and the reason for such action, and must file this record in the timber sale folder.

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These checks should be completed before each timber sale statement of account is processed. When a book of receipts has been accounted for, the receipts may be destroyed after notation in the District Ranger's records.

Exhibit 01 is an example of a control register for load receipts.

27.22 - Exhibit 01

Example of Control Register - Load Receipts

Date Received	Book No.	Date Issued	Receipt Serial Numbers From	Receipt Serial Numbers To	Issued To (Sale Name)	Signature of Individual Issued To	Date Returned	Remarks
5/19/2002	41	7/28/2003	1201	1250	Whinehard	Signed: Joe Stump	9/4/2003	All used
5/19/2002	42	8/31/2003	1251	1300	Dry Creek	Signed: Red Wood	9/7/2003	1251-64 used
5/19/2002	43	9/4/2003	1301	1350	Whinehard	Signed: Joe Stump	N/A	N/A
5/19/2002	44	9/4/2003	1351	1400	Whinehard	Signed: Joe Stump	N/A	N/A
5/19/2002	45	N/A	1401	1450	N/A	N/A	N/A	N/A
5/19/2002	46	N/A	1451	1500	N/A	N/A	N/A	N/A
5/19/2002	47	N/A	1501	1550	N/A	N/A	N/A	N/A
5/19/2002	48	N/A	1551	1600	N/A	N/A	N/A	N/A
5/19/2002	49	N/A	1601	1650	N/A	N/A	N/A	N/A
5/19/2002	50	N/A	1651	1700	N/A	N/A	N/A	N/A

27.23 - Monitoring Scaling Locations

When scaling is occurring, the Forest Supervisor must monitor each approved scaling location at least once every 30 days on an unscheduled basis to ensure that:

1. All portions of the Yard Scaling Agreement are followed.
2. The piece or load accountability system is operating as designed.

27.24 - Yard Scaling Agreement

The Forest Supervisor shall enter into a Yard Scaling Agreement with the yard owner before approving an alternate scaling site under the timber sale contract (standard provision B6.811). The Yard Scaling Agreement should also contain provisions necessary to provide the following:

1. **Scaler Safety.** This covers items such as space requirements, proximity to cold decks, and traffic patterns.
2. **Product Accountability.** This covers those items needed to ensure that individual pieces are not picked up and decked before being scaled.
3. **Scaling Conditions.** This covers those items that affect the ability to scale accurately, such as dust, mud, jack-strawed loads, and overloading of scalers.
4. **Load Retention.** This covers retention of enough routinely scaled loads in place to facilitate remote check scales.

Since logs from several timber sales or National Forests may be scaled at a scaling site, scaling requirements are enforced through the Yard Scaling Agreement, rather than the contract. For this reason, a scaling site not under the control of the Forest Service should not be specified in specific condition A10. The preferred location for the specific condition A10 scaling site is the timber sale area. The Forest Service can then agree with the purchaser for an alternate location, such as the purchaser's mill. This ensures that, if necessary, approval of an alternate scaling site can be withdrawn.

The yard scaling inspection report format should follow the sequence of the Yard Scaling Agreement. The inspection report must be a multiple copy form, with copies for the yard owner and the inspector's files.

27.25 - Additional Scaled Volume

1. When timber is scaled on the timber sale area or at another location that does not automatically report scaled volume to timber sale accounting, use Form FS-2400-66, Report of Harvest or Additional Volume, to document the volume for payment. Attach a copy of the scale sheets to the form and submit it to timber sale accounting at the end of the monthly accounting period.
2. To document to the purchaser in writing that additional volume was scaled and to assist in providing an audit trail, document the volume of timber, the reason(s) for

the additional volume, and the applicable contract provision(s) by processing a transaction 2002 (FSH 6509.17, sec. 23.21b) when the additional volume is given to timber sale accounting. This information will be displayed on the purchaser's statement of account.

27.3 - Accountability on Presale Measurement Sales

Presale or tree measurement sales are different from scaled sales in that the Sale Administrator is dealing with the value of payment units instead of the value of volume planned to be cut and removed during the month. Added or deleted timber needs to be marked, measured, and paid for prior to cutting for presale measurement sales. The Sale Administrator must report added or deleted volume promptly so that it can be reflected in the payment unit with the volume adjustment. The volume must be charged at the same rate as the current contract rate in the released payment unit from which it came.

Other than normal timber sale administration and checking for unauthorized cutting, there is little need to follow logs leaving the timber sale area. However, Regional Foresters must ensure that proof of authorization to transport all logs, except for tree measurement timber sales in Regions 8 and 9 (sec. 27.1), is given. This authorization may be a log load receipt or a copy of the contract (Form FS-2400-4) or permit (Forms FS-2400-1 and FS-2400-8).

Follow the branding and painting requirements used for scaled timber sales in Western Regions where export restrictions apply (sec. 27.12).

27.31 - Release of Payment Units

Follow the following procedures for release of payment units:

1. Standard provision BT6.3 requires a written request from the purchaser to release a payment unit. This request can be in any form that the purchaser wishes to use (official letter, handwritten note, fax, etc.). It is important to have this request in writing, as the rates for the payment unit are frozen in the quarter when the payment unit is released.
2. The Sale Administrator needs to check the most current statement of account or synopsis to determine if the unencumbered balance is sufficient to cover the value of the payment unit. The value of the payment unit can be found in both the synopsis and last quarterly statement. Associated charges must be included. Standard provision BT4.212 requires advanced deposits for released payment units, as well as additional timber that is expected to be cut within the next 60 days, that is, the purchaser must have advance deposits for additional volume. If the unencumbered balance is not sufficient, notify the purchaser that the payment unit cannot be released until deposits or bond allocations are made to the sale.

3. Once adequate advance deposits are confirmed, the Forest Service representative must release the payment unit for cutting, using Form FS-2400-18, Payment Unit Release, or state the reasons for rejecting the request within 10 days.
4. Upon receipt of the Form FS-2400-18, the resource specialist enters the release date by processing a transaction 0302 (FSH 6509.17, sec. 23.32).

27.32 - Volume Changes

1. All additional trees that are not specifically designated for cutting under the terms of the contract shall be designated by the Sale Administrator, Harvest Inspector, or other authorized Forest Service officer by painting marks at breast height and below stump height with tracer paint. If possible, use a different color paint, normally green, than the original color used to mark the payment unit. If marked seed trees or other leave trees are designated for cutting, do not mark over the original paint color.
2. All additional trees shall be paid for in advance or covered by an acceptable payment guarantee prior to cutting. To avoid having to wait while volumes are being calculated and bills are being prepared, advance cash or payment guarantee may be established in excess of that required for release of the payment unit.
3. When a tree is added or deleted from the contract, the purchaser and Sale Administrator must sign the timber sale inspection report, documenting the change in volume. In addition, use Form FS-2400-66, Report of Harvest or Additional Volume, to document the volume for payment through the timber sale accounting system. Identify the paint color, brand, and batch number on the form. Attach a copy of the tally sheets or job file and National Cruise Program (NatCRS) reports to the form and submit it to timber sale accounting at the end of the monthly accounting period.
4. The resource specialist enters the revised volumes by processing a transaction 0301 (FSH 6509.17, sec. 23.31e). In addition, document the volume change, the reason(s) for the changed volume, and the applicable contract provision(s) by processing a transaction 2002 (FSH 6509.17, sec. 23.21b). This information will be displayed on the purchaser's statement of account.
5. All additional trees must be individually marked and measured. Reasons for changes in the volume designated for cutting and removal include, but are not limited to:
 - a. Temporary Roads.
 - b. Landings.
 - c. Skid Trails.
 - d. Guy, Tail, and Deck Trees.
 - e. Skyline Corridors.
 - f. Damaged Trees. Trees damaged by purchaser's normal operations.
 - g. Trees Damaged by Natural Causes. Trees damaged by natural causes, if included.
 - h. Trees Hung-up During Falling and Other Hazard Trees.
 - i. Trees that Need to be Cut to Permit Logging.
 - j. Volume Subject to Agreement under CT2.11#. Report volume that the purchaser has agreed to remove.

6. Regional Foresters must establish procedures to independently check a sample of volume measurements for volume that is added to tree measurement timber sales. Personnel other than the Sale Administrator, who marked the volume, must do this independent check.

27.33 - Partially Cut Payment Units

At the end of the monthly accounting period, the Sale Administrator needs to report the cut volume for each released, but unaccepted, payment unit, using Form FS-2400-66, Report of Harvest or Additional Volume. If only part of the volume from the payment unit has been removed, the resource specialist processes a transaction 6001 (FSH 6509.17, sec. 23.32c). If the all the volume has been removed from the payment unit, the resource specialist enters the cut date for the payment unit by processing a transaction 0302 (FSH 6509.17, sec. 23.32). Once all contractual work on the payment units has been completed, accepted, and documented on an inspection report, an accept date can be entered by processing an additional transaction 0302.

27.4 - Presale Measurement and Scaled Sales in Same Area

When any of the timber sales in a log movement area require scaling, log accountability procedures must be used to separately identify loads of logs from presale measurement timber sales and unscaled loads from scaled timber sales (sec. 27.1). Regional Foresters may make exceptions to this requirement on presale measurement timber sales in cases where log accountability procedures serve no useful purpose.

28 - Timber and Log Accountability Audits

28.04 - Responsibility

It is the responsibility of the Regional Forester and Forest Supervisor to schedule unannounced timber and log accountability audits and ensure that timber and log accountability audit action plans are completed and implemented. The Washington Office may also, on occasion, perform unannounced timber and log accountability audits.

28.1 - Audit Team Makeup

1. The Regional audit team shall consist of at least three members with the team leader being a member of the Regional Office staff. Other members may be from other organizational units, but may not be connected with the National Forest they are auditing. The team must represent the forest management, law enforcement, and fiscal management disciplines. At least one team member must have good knowledge of the Forest Service log accountability requirements and must be familiar with measurement techniques.
2. The Forest audit team must consist of at least three members with the team leader being a member of the Forest Supervisor's staff. The other team members should represent the same disciplines as those stated for the Regional audit team.

3. When unannounced Washington Office audits are conducted, the audit team, as a minimum, shall consist of a Washington Office forest management representative and a law enforcement representative from a different Forest.

28.2 - Frequency

1. The Regional Forester must ensure one audit is conducted every 3 years on each National Forest. In addition, Forest Supervisors must ensure one audit is conducted every 2 years on each Ranger District. Additional audits should be conducted if major deficiencies are found or if unusual problems are encountered. Include timber theft prevention controls in timber sale preparation and administration activity reviews (FSM 1410).
2. The Washington Office may conduct one or more audits of Regional programs each year. These audits shall be conducted by unannounced visits to Forests and Ranger Districts.

28.3 - Standards

Conduct audits unannounced, preferably during periods of log movement. These audits are in addition to the timber sale preparation and administration activity reviews required in FSM 1410.

The audit team must, as a minimum, follow the direction in sections 28.31 through 28.31b when conducting the audit.

28.31 - Scaled and Presale Measurement Sales

The audit team must:

1. Review timber sale preparation methods and verify that:
 - a. Certified cruisers have determined volume.
 - b. Sales are prepared to meet National and Regional cruise accuracy standards.
 - c. Sales are check cruised.
2. Check compliance with marking standards and verify that:
 - a. Unit and timber sale boundaries are adequately marked.
 - b. Trees and stumps are adequately marked.
 - c. Designation by description is properly used.
3. Check compliance with paint storage, accountability, disposal, and theft prevention requirements (FSH 2409.12) and verify:
 - a. Compliance with standards of accountability and use of tracer paint.
 - b. Compliance with standards for documentation of tests for tracer paint presence.

- c. Compliance with standards for storage and physical inventories of tracer paint.
4. Check frequency and documentation of timber sale administration visits to timber sale areas.
5. Check compliance with standards for the prevention and detection of timber theft.
 - a. Verify that Sale Administrators have notified law enforcement personnel of all incidents involving cutting of and excessive damage to undesignated timber within the timeframes specified in section 13.42 of this Handbook.
 - b. Determine if the timber sale administration job has been accomplished satisfactorily as it pertains to log accountability, cutting of undesignated trees, and utilization.
 - c. Examine methods of handling contract violations.
6. Review progress of training in law enforcement and prohibited acts.
7. Review statement of accounts, advance deposits, and release for cutting.

28.31a - Scaled Sales

The audit team must:

1. Verify that a haul route has been submitted and haul route inspections are made.
2. Verify compliance with Regional standards for frequency of truck checks and for proper use of load receipts, branding, and painting.
3. Check controls exercised over load receipt accountability.
4. Check compliance with contract requirements pertaining to scaling and log accountability.
5. Check for possible tampering with the sample load selection system, if sample scaling is used.
6. Check operations as they pertain to log accountability and compliance with the Yard Scaling Agreement, if a scaling contractor is used.

28.31b - Presale Measurement Sales

The audit team must:

1. Check accountability and payment for volume marked after the timber is sold.
2. Verify that the volume of additional timber added to tree measurement timber sales is periodically checked for accuracy.

28.4 - Audit Report

The audit team must prepare an audit report and transmit it to the unit that was audited within 15 days of completing the field audit. Include the following in the report:

1. **Cover Sheet.** The cover sheet of the report should show:
 - a. Type of audit; for example, Timber and Log Accountability Audit.
 - b. Name of unit(s) audited.
 - c. Dates of audit.
 - d. Names and titles of audit team members.
 - e. Date of last similar audit and name of team leader on that audit.
2. **Executive Summary.** As a minimum, include the following in an executive summary of the audit.
 - a. List the overall audit objectives.
 - b. Briefly describe procedures and process used to conduct the audit and the locations visited.
 - c. List brief descriptions (1 or 2 sentences) of the findings.
3. **Commendations.** Show notable accomplishments by audited unit or individuals.
4. **Statement of Findings.** Include in each finding the following categories:
 - a. **Topic or area audited.** Highlight in a captioned title the topic or area audited.
 - b. **Opening statement.** Briefly state the conditions found.
 - c. **Details.** Provide details to support the opening statement. Give enough information to convince management of the need to take action.
 - d. **Alternative actions.** Provide a list of actions that management can take to correct the condition. Show only one action if there are no other feasible actions.
5. **Appendix.** Include any necessary backup material to support the report.

28.5 - Action Plan

The unit that was audited must develop an action plan and transmit the plan to the Regional Forester for Regional audits and the Forest Supervisor for Forest audits within 30 days following receipt of the audit report. The action plan must be agreed to and approved by the line officer at both the audited unit and the unit performing the audit. For example, if a Regional Forester is conducting an audit, both the Forest Supervisor and the Regional Forester must approve the action plan.

Include the following in the action plan:

1. Titled and numbered topics, such as in the audit report.
2. Planned corrective actions.
3. Officials responsible for the actions.
4. Target dates for completion of actions.

28.6 - Follow-up

Regional Foresters must do the following to ensure the completion of planned corrective actions:

1. **Instructions.** The Regional Forester or Forest Supervisor responsible for the audit must provide instructions for reporting completion of actions in the letter transmitting the action plan.
2. **Progress reports.** Line officers responsible for corrective actions must submit interim progress reports to the auditing line officer.
3. **Certification.** Line officers responsible for corrective actions must certify to the auditing line officer the completion of planned actions.
4. **Closure.** The audit team leader must monitor progress of completing action plan to ensure the submission of all certifications and the closure of the audit.

28.7 - Audit File

Maintain an official case file for each audit at the auditing office and the audited unit. Include the following items in the case file. See FSH 6209.11, Records Management Handbook, for retention periods.

1. Audit plan.
2. Audit report and associated work papers.
3. Action plan, accomplishment reports, and completion certifications.

29 - Export Administration

29.04 - Responsibility

Regional Forest Management Staffs in the Western Regions, including Alaska, must establish procedures, controls, training guidance, reporting requirements, areas of responsibility, and staffing requirements for the Region's log export surveillance program.

29.1 - Administration of Export Restrictions

Export prohibitions are applicable only in the western Regions. As a minimum, the standards for log export surveillance in the Western Regions and Alaska must contain the following:

1. Responsibility requirements for each Forest Supervisor that states specific areas of surveillance.
2. Specific written instructions for personnel with designated surveillance duties.
3. At least quarterly surveillance frequency that increases with the amount of export activity in the area.
4. Records requirements that include a brand registration book for both domestic and exempt brands that may be encountered in export yards.
5. A restriction that brands must not be reissued to a new timber sale until at least 2 months have lapsed since the closing or the last timber sale.

6. Specific instructions requiring suspension of operations on the timber sale when the purchaser performs improper branding and/or painting. Suspension should occur when there may be intent to steal or export timber or when unacceptable risk of theft or export exists. Suspension shall continue until the purchaser corrects deficiencies. Deficiencies that are justified by lack of perfection or operating conditions do not justify suspension or the issuance of criminal violation notices. For example, when 95 percent of the required branding and painting is adequate, and at least one end of every log is properly branded and painted, there should be no suspension or notice of violation.
7. A plan to ensure open communications among surveillance officers, Ranger Districts, Forests, Regions, and other agencies to coordinate controls.
8. Requirements that logs suspected to be in violation of the regulation be marked for ready identification later, if necessary, and photographed when possible.
9. The assignment of a person responsible for making contacts with export port personnel, scalers, port superintendents, tugboat companies, and export yard personnel.
10. A provision for surveillance personnel to maintain adequate documents for immediate identification in export facilities.

29.2 - Use of Timber (C/CT8.65#)

Except for surplus species (sec. 29.4), unprocessed timber included in contracts may not be exported or used to substitute for private timber that is exported. Unprocessed logs cannot be mixed with logs intended for export.

Prior to award, during the life of the contract, and for a period of 3 years from the termination date, the purchaser must furnish, upon request, the volume and geographic origin of unprocessed timber from private lands that was exported or sold for export. The purchaser may submit the information on Form FS-2400-59, Certification of Receipt and Disposition of Timber Originating from National Forest System Lands, or other appropriate forms. This request for information must be included in the award letter and requested annually thereafter.

If unprocessed timber is delivered to another party, the purchaser must execute an agreement to ensure that the timber is not exported and that yellow paint is maintained on the logs. The Forest Service must be provided a copy of the agreement within 10 days.

29.3 - Violations

Upon finding an export violation in the Western Regions, including Alaska, the Contracting Officer should contact law enforcement personnel to determine and agree upon further action that may be necessary. The violator should not be contacted prior to reaching agreement with law enforcement personnel on appropriate action.

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Chapter 20 - Measuring and Accounting For Included Timber
Amendment: 2409.15-2022-1
Effective date: July 28, 2022

The Contracting Officer must prepare and submit a report concerning the violation for the Regional Forester to refer to the Debarring Officer containing the following minimum requirements:

1. Chronological sequence of events.
2. Reasons for restricted logs to be in or on the way to the export yard, including the circumstances surrounding the violation.
3. A summary of any contacts between the violator and Forest Service personnel and, if obtained, the purchaser's explanation of events.
4. Statement of follow-up action taken or planned by the Forest Service and the purchaser.

29.4 - Surplus Species

Alaska yellow-cedar and Port Orford-cedar are the species currently found to be surplus to domestic processing needs. These species may be exported.