

**Forest Service Handbook  
National Headquarters - Washington Office  
Washington, DC**

**Forest Service Handbook 6509.15 – Collection and Analysis of Timber Purchasers' Cost and  
Sales Data**

**Chapter 20 - Collection and Analysis**

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

**6509.15:** Makes minor technical, editorial, and grammatical changes throughout the handbook.

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## **20.2 - Objective**

The purpose of the analysis and collection is to determine:

1. The costs and selling prices of the timber purchaser which are appropriate for timber appraisal.
2. Accuracy of data obtained from purchaser's records.
3. Completeness of data.
4. The reasonableness of amounts of estimates, proration, and adjustments furnished by the purchaser or changes by the Forest Service Accountant.
5. Data not pertinent to timber appraisal.
6. Effect of prior-year adjustments made by timber purchasers or their accountants.
7. Volumes (footages) applicable to timber purchaser's operation.
8. Interpretation of data.

The collection and analysis covers the year which will be used in calculating the Region and zone averages. Prior-year closing entries and the timber purchaser's independent auditor's adjustments, will be studied to determine the effect on the current-year appraisal data. As a rule the analysis will not be made to verify costs or prices previously collected and used. However, if changes in accounting practices have resulted in significant differences in costs compared to those for prior years, the effect and reasons for such changes will be determined and reported to the Forest Management staff for consideration.

## **21 - Analysis**

### **21.1 - Interval Programing**

Under certain circumstances, when considered appropriate by the Cost Accountant, accounting data collected without survey and analysis for one intervening year may be used. Data for this intervening year would be adjusted in the same manner as for the prior year in order to obtain data pertinent only to timber appraisal.

This may be done in the following circumstances:

1. The Cost Accountant's prior knowledge and experience indicate that the timber purchaser's accounts and records have required insignificant adjustments or provide easy identification of data for appraisal purposes from appropriate records.
2. It is evident that accounting data submitted for appraisal purposes are equivalent to data which have been surveyed and analyzed. The timber purchaser has provided data, in

accordance with timber appraisal needs, which have been consistently accurate and complete.

3. The timber purchaser's independent accounting firm has furnished accurate data from audited cost centers which satisfy survey and cost analysis requirements of the Forest Service.

## **21.2 - Accuracy and Approximation**

1. The Forest Management staff in each Region prescribes the method for converting timber purchaser's cost and sales data to a per-unit basis. These averages are then rounded off to the nearest cent per unit; for example, MBF, M square feet, cord, and ton. Regional practice will be applied in each analysis and collection. Inconsequential adjustments which have no effect on the cost center unit cost should be avoided. The volume used to develop unit cost and the amount of the adjustment is the determinants; the significance of an amount adjustment decreases as the denominator increases.

For each year's collections, total dollars from tabulation of sales invoices for each operator included in a Region's appraisal schedule sample, where 100 percent of sales invoices are tabulated or machine-tabulated sales summaries are used, will be compared by the cost accountant to the general ledger revenue account balances for the same period to ensure that the amounts are in agreement. Variances, more than minor in amount, will be analyzed and the difference reconciled to at least a reasonable tolerance. Where sales invoice sampling techniques are used, the total dollars per the sample will be blown up and checked to see that they fall within an acceptable tolerance. Individual judgment will have to be exercised in each case in making this determination. Where reasonable agreement is not found, an increase in the size of the invoice sample is indicated. Also see section 22.26, paragraph 2.

2. Cost-accounting principles, techniques, and methods will be applied to accounting data before the report is prepared for timber management. Certain purchasers may have made these applications in their cost-accounting system; for example, proration, estimates, and formulas. The Cost Accountant will become acquainted with these devices and determine whether the purchaser's results are acceptable for timber appraisal and, if not, provide instructions to produce more equitable and realistic determinations.

3. The Cost Accountant will identify and eliminate costs and sales realizations not applicable to the year being studied even though it relates to timber appraisal and are sound from a financial viewpoint. Eliminated costs should be noted in the cost analysis report and, if appropriate, included in the subsequent year's data.

4. The Cost Accountant need not transcribe the cents from accounts and records of a timber purchaser. Rounding off the presented data to the nearer dollar is generally more efficient.

5. Actions taken in accordance with instruction in this section will be recorded by the Cost Accountant in their working papers and included in the report to the Forest Management staff insofar as they affect timber appraisal.

### 21.3 - Test Check of Selected Accounting Transactions

1. This operation is a critical part of the Cost Accountant's function. Only through an analysis of the component items making up the total of an expense account can the Cost Accountant determine which expenditures are relevant and which are extraneous to National Forest timber appraisals. To do this, the Cost Accountant shall use the general ledger, supporting journals, and business records supporting each operator's business activities. The results of all analysis work should be recorded on working papers and made a part of the finished product.

The Cost Accountant should analyze those expense accounts vulnerable to mischarging and make at least a cursory investigation of all accounts comprising the operator's inventory and nominal ledger accounts. The vulnerable accounts should be given the greatest emphasis. The importance of this work should be borne in mind and sufficient time commensurate with the importance of revenues derived from timber sales devoted to its accomplishment. A test-checking accounting transaction is a sampling process and does not require that the books be closed.

When analyzing expenses charged to the various accounts of the operator's accounting records, the Cost Accountant should determine that transactions are:

- a. Properly charged to the account to which they were recorded.
  - b. Includable expenses within the purview of National Forest timber appraisals.
  - c. Charged to the proper operating function.
  - d. A proper charge to the current year's operations. Where capital assets are found to have been expensed, and the item(s) expensed affects and distorts unit costs and is not consistent with operator's established capitalization policy, compute a straight-line depreciation allowance for the period of the current year the asset was owned. Prepare a schedule of such assets to carry forward with the survey file and allow depreciation on these assets each year until fully depreciated.
2. The Cost Accountant should state on the working papers the reason and premise for accepting or disallowing costs and making distributions or adjustments of costs between accounts and cost centers.

Comments regarding included costs are needed where the nature of the item appears to indicate that it should be excluded.

3. Procedures which can be used to check on the correctness of recorded inventories are:

- a. Inquiries of management about maintenance of perpetual inventories.

- b. Reviewing physical inventory sheets (detail of count).
- c. Comparing inventory value to inventory balances of prior years for size of fluctuations.
- d. Comparing production volume with prior year's production volumes and inquiring into reasons for material variances up or down.
- e. Reviewing and evaluating internal controls used to account for production volumes and taking accurate physical inventories.
- f. Asking for and reviewing a written representation as to the taking, accuracy, and completeness of the inventory.
- g. Checking out any indications that something is wrong in volume determination. Emphasize any point questioned in the cost-analysis report and consider its importance before rendering a favorable opinion regarding the use of that operator's cost data in an appraisal schedule.
- h. Obtaining information from the Timber Sale Administrator or other Forest personnel may provide useful information regarding logs left in woods at yearend. If those logs are not reflected in inventories, current unit cost will be overstated and unit cost for the subsequent year will be understated.

#### **21.4 - Use of Certified Statements**

1. In most instances, audits by the timber purchaser's Public Accountant are directed toward verification of the timber purchaser's representations made on financial statements. Rarely does the verification extend to cost accounts and its conformance with the Forest Service timber appraisal program. For these reasons, certified statements seldom fulfill the full requirements of the survey and analysis by the Forest Service.
2. Whenever it can be determined by the Forest Service Cost Accountant that an independent audit does meet Forest Service requirements in whole, or in part, duplicate efforts by the Accountant may be avoided. References will be made in the survey, analysis, and report to the Forest Management staff whenever work done by an independent Auditor meets the specifications of the Forest Service and has been used as a basis for data analysis. In the working papers, statements will be made describing the tests and degree of checking done by the independent Auditor and accepted by the Forest Service Cost Accountant for timber appraisal data.

#### **21.5 - Confidential Files**

##### **21.51 - Code**

The purpose of the code is to prevent identification of a timber purchaser's data by parties who may have access to related uncoded material. The Accountant coordinating with the Forest Management staff will maintain a code register and will assign a code designation for each

timber purchaser, mill, subsidiary, and operation as needed. The code designation will be used on all material collected or developed from the timber operator's business and accounting records and will be kept in a locked file.

## **21.52 - Records Availability and Retention**

1. The general public, employees of the Forest Service, and other agencies not having duties related to timber appraisal will not have access to a timber operator's material, except as authorized by law, by the Chief, or by written permission from the operator. Data collected from an operator is probably exempt from disclosure as confidential financial data. However, one appellate court has ruled that to be considered confidential under 5 U.S.C. 552, (b)(4), the Freedom of Information Act, any disclosure of data must be likely to impair the Government's ability to obtain necessary data in the future or cause substantial harm to the competitive position of the person or company from whom the information was obtained. Generally, the Forest Service must presume that such harm would result from the unauthorized release of any confidential price or cost information.
2. One Regional Office may furnish another Regional Office with data of a timber purchaser for use by personnel directly engaged in timber appraisal work, including the Cost Accountants. Whenever the requesting office has a specific need for timber purchaser data the complete file should be made available upon request on a borrow-and-return basis. Such data should be sent by certified mail. Electronic data should be encrypted on a CD which is sent by certified mail.
3. FSH 6209.11, 40, Records Management (File Designations and Disposition) Handbook, file code 6550; prescribes the time periods for timber cost analysis and survey working papers and associated records retention.
4. A historical cost summary working paper schedule must be developed for each operator. Identify operator by code number and summarize by year of cost analysis and collection, the logging and manufacturing cost centers, footage divisors, and unit costs. This record will be for permanent retention.

## **21.6 - Working Papers**

### **21.61 - Purposes**

The purposes of working papers are to:

1. Have a documented record of work done on the survey and data analysis.
2. Provide basic information from which the Cost Accountant's report is prepared.
3. Provide support for the Cost Accountant's determinations and conclusions.
4. Provide for review of work performed by authorized personnel.
5. Provide a starting point for subsequent year's work.



## **21.62 - Standards**

1. Each working paper will be marked by stamping in red bold the words "FOR OFFICIAL USE ONLY."
2. Each working paper will be headed on the top left with the code number of the timber purchaser. The top center line will show the title of the subject matter. The next line will show the period covered. Discretion should be used in mentioning any purchaser's name on working papers.
3. Each working paper worksheet will be numbered and indexed on a summary sheet. Cross-reference will be made on the related sheets as footnotes. Footnotes will appear only on the worksheet itself.
4. All checks, symbols, and other marks will be described in a legend placed at the bottom of each working paper.
5. In the upper right corner below the working paper number, the Accountant will write or rubber stamp their name, and show the date each working paper was completed.
6. Somewhere on each working paper, preferably on the bottom line for standardization, state the source from which the subject information was taken.

## **21.63 - Contents**

These instructions do not prescribe the contents of working papers. The Cost Accountant will make this decision based on their professional judgment and the situation existing on each assignment. The Cost Accountant will also decide whether it is more economic to transcribe schedules, exhibits, and so forth, or obtain copies of them for the working-paper file. The only requirement is that the contents be limited to matters pertaining to appraisal data and that they be arranged on a well-organized basis from generalities to details and provide convenient traceability. The working papers will be prepared in accordance with standards existing in the accounting profession.

## **21.64 - Files**

Working papers, including the survey data analysis and Cost Accountant's report, will be maintained at the Regional Office in the official file and also retained by Audit and Assurance at the Albuquerque Service Center. Accordingly, results of work performed at the Forest level will be sent to the Regional Office.

## **21.65 - Discussion of Data and Release of Accountant's Papers to Timber Operator**

1. During or at the conclusion of the visit, the industrial Cost Accountant should offer to discuss with the timber operator
  - a. The data collected from the records, and

- b. Why certain costs and sales data were excluded from the appraisal cost summary.
2. If requested by the operator, Regional Forest Management staff in collaboration with the Cost Accountant, will mail the operator a copy of each of the following papers developed from the operator's records:
    - a. Adjustments to the working trial balance.
    - b. Adjusted trial balance.
    - c. Summary of unit costs and selling prices.
    - d. A copy of the Zone or Regional average unit costs and selling prices in which the participant's data were used. This may be combined with the Region's report to all collection participants.

Upon finalization in the Regional Office, these papers or electronic files on a CD, will be sent by certified mail. They will only be sent to the operator.

## **22 - Collection**

### **22.1 - Data Development**

This chapter establishes the principles, rules, and guidelines pertinent to the development of sales, costs, and lumber volumes obtained from the accounts and records of timber operators.

The principles are those generally recognized as sound from a cost-accounting viewpoint. The use of the rules and guidelines will achieve a single Service-wide standard for allowability and acceptability. This standard is compatible with the standard used by the major segment of the timber industry.

Also shown are techniques to be employed for making comparable the wide variety of accounting systems, types of business organizations, sizes of timber operations, and other variables affecting uniformity.

#### **22.11 - Uniformity**

1. The successful application of these principles, rules, and guidelines requires mutual understanding between the timber operators and the Forest Service. Application does not imply that accounting systems should be standardized so that the timber operators' records are directly compatible with the cost categories on the appraisal form FS-2400-17. It does mean, however, that the conversion from data "as presented" to "per cost analysis" and all steps in this process will be made on a uniform Service-wide basis.

Allowability, acceptability, cost centers, divisors for unit costs and sales, form and contents of tabulated and presented data, and so forth, are elements of uniformity. Inter-Regional use of working papers, analyses, and formats is thereby facilitated.

2. It is expected that Regional conformity and mutual understanding will be accomplished over a period of years.

## **22.2 - Standards**

### **22.21 - Reasonableness**

1. A cost may be considered reasonable when:
  - a. The nature of the goods or services acquired or applied is known, and
  - b. The expenditure involved can be reasonably expected to increase profits based on facts known at the time the decision to incur the cost was made.
2. Major considerations involved in the determination of whether a recorded cost is reasonable are:
  - a. Is the cost of a type generally recognized as necessary for the production and sale of products on which timber appraisals to the operator's capital structure are based?
  - b. Did the cost tend to contribute toward increase in value of the end products?
  - c. Was the cost incurred for goods or services acquired or applied? Were they actually acquired or applied? For example, assessments by a parent company upon the operating company where benefits are not determinable are not reasonable, and therefore are not allowable for timber appraisal purposes.
  - d. Was the cost incurred primarily for logging or end products manufacturing, rather than incidental there to?

### **22.22 - Excluded Costs and Income**

1. Costs for purchase of raw material, such as stumpage must be excluded from the timber appraisal.
2. Costs and income which are not relevant to timber appraisal are excluded for timber appraisal purposes.
3. Non-business costs purported to be business costs and profits, however named, are excluded. Examples are:
  - a. Bonuses in excess of the remunerative value of an employee's or officer's work function. Apply reasonableness test. Consider consistency in application. Refer to executive salary guides. Also see 22.45, paragraph 12b.
  - b. Gifts. Consider these in same manner as bonuses.
  - c. Award because of profits.

4. Other examples of excluded costs are partnership proration, personal expenses, premium payments on insurance policies wherein the company is the beneficiary, interest, taxes on private timberland, work on private timberland, and warehousing fees. Also, the amount of executive salaries, dues, donations, and subscriptions, and travel, considered by the cost accountant to be excessive.
5. Examples of excluded income are interest income and all other revenues which do not come specifically from the logging, manufacture, and sale of products included in the appraisal premise. Costs attributed to such revenue-producing activities are also unallowable. Also see section 22.45, paragraph 9.
6. Costs disallowed by the Internal Revenue Service as business expenses should be reviewed to determine whether they should be likewise excluded for timber appraisal in the year the disallowance is made.
7. Credit and financing costs relating to the operator's capital structure.
8. Necessity for expenditure and efficiency of management and its practices are not criteria for determining acceptability.
9. Excluded direct costs assigned to "Other" will receive their proportional share of general and administrative costs.

### **22.23 - Included Costs**

Costs are included for timber appraisal when the costs:

1. Pertain to the operations under timber sale contracts (FSM 2400) and this instruction.
2. Pertain to end products from stumpage through disposition by sale, transfer, or use by the timber operator.
3. Are of a type which is likely to occur in future timber operations.
4. Conform and are consistent with the application of generally accepted financial and cost-accounting principles.
5. Do not pertain to fines, penalties, or similar assessments for infringements of the law or failure to comply with the law; are not contrary to public policy.
6. Are not capitalized and should not be capitalized.
7. Are reasonable (sec. 22.21).

### **22.24 - Significance**

Whenever inclusion, exclusion, or distribution of a cost from one cost center to another or between two or more cost centers would result in a difference in overall unit costs of 1 cent or

more per mill of the zone average, the change is significant. Changes will be made when significant. Prior familiarity with the sizes of the footage denominators will indicate whether analysis is necessary, or whether an estimate would suffice. This principle also applies to cost reclassifications, analyses, and selection of a basis of proration. This principle also applies to cost reclassifications, analyses, and selection of a basis of proration. This criterion need not be applied where the data are to be used in the total cost and sales realization appraisal procedure.

## 22.25 - Total Costs

Total costs consist of all costs incurred during the operator's fiscal year necessary to produce and sell the end products used in the appraisal. Such costs begin with the acquisition of raw material (stumpage primarily) and continue through production and sale of the end product minus applicable credits and cost recoveries. The Forest Service Cost Accountant should evaluate services performed by sole owners or partners and adjust costs for such contribution by reference to executive salary guides.

## 22.26 - Total Sales

### 1. Sales Revenues:

a. For the purpose of timber appraisal, gross sales revenue consists of sales of primary lumber products, lumber byproducts, and whole logs for export (R10). Primary lumber products are any wood products which are measured by board foot, lineal foot, or square foot. Lumber byproducts are those salable and/or usable materials incidentally derived from the primary products operations. They are usually measured by weight. For brevity, both of these types of products and materials are called end products when used for appraisal purposes. Chips are usually derived from lumber, veneer, and plywood production and are measured by weight or other unit.

For appraisal purposes, sales revenues will be divided by the total footage of primary lumber products or whole logs for export (R10) sold in determining unit selling price realizations. The selling price and manufacturing unit cost for chips will be shown as separate per M rates whenever they are an end product. The footage divisor for manufacturing costs is the lumber volume produced and purchased. The divisor for selling price is the total volume sold.

b. Sales revenues are recorded in total on the general ledger of the sample timber operator. The detail, including footages and weights related to these revenues, is to be summarized by Forest Service collectors from the sales invoices supporting the ledger accounts when adequate summaries are not provided by operator.

c. In order to obtain net sales revenues, gross sales, excluding freight when included in pricing, will be:

(1) Reduced by:

(a) Brokerage fees paid to brokers.

(b) Commissions paid to wholesalers.

(c) Claims paid and allowances made.

(d) Freight overweights.

(e) Trade or wholesale discounts.

(f) Cash discounts.

(g) Company truck delivery (Local sales).

(2) Increased by freight underweights.

d. Separate net sales categories will be maintained in the working papers and reports for:

(1) Primary lumber products,

(2) Chips,

(3) Lumber byproducts,

(4) Pulp, and

(5) Whole logs for export (R10) for use in making appraisals.

In addition, a separate net-sales category, "Other," will be maintained in the working papers and reports for sales revenues which are not applicable to National Forest Timber appraisals.

## 2. Invoice Tabulations:

a. Tabulation of invoices is the basic means of sampling sales revenues. It is a statistical approach whereby a representative sample becomes the equivalent of all sales revenues, provided it falls within acceptable tolerances.

b. Tabulated data from sales invoices prepared each calendar year or other appropriate time period will be blown up and reconciled with the revenues recorded on the general ledger for the same year in order to (1) determine the representativeness of the sample, and (2) meet the equivalent of the source requirement in paragraph 1b.

c. The sample of invoices increased to 100 percent should represent total sales. These sales will be adjusted to net sales as in paragraph 1d based on the experience of the timber operator.

d. The sample of invoices is acceptable for appraisal use when falling within the tolerance established by the Forest Management staff in each Region.

e. The following are offered as internal control suggestions to preclude undetected errors in determining footage of lumber sold. These procedures would be used to verify that sample operators are properly reporting lumber sold footages and making all their sales invoices available to Forest Service data collectors. The propriety of this footage can be critical to developing unit manufacturing costs, as well as average lumber selling values, as it is oftentimes used as the starting point to work back through inventories, lumber purchases, transfers, and so forth, to arrive at lumber production.

(1) Have each Forest, as well as any other Government agency which sells timber within a Region's geographic boundary, send that Regional Office a schedule of log scale cutting volumes for each purchaser's fiscal year whose costs are included in the appraisal schedule. Arrange to receive the schedules before cost collection. This control will work best where a purchaser relies predominantly on National Forest Timber in their operation.

(2) Make a 100 percent check on invoices, where necessary, to check on the accuracy of reported footages. Total invoice footages and dollar amounts can be recorded on an adding machine tape or Excel spreadsheet.

(3) Analyze the dues paid to associations which are based on lumber produced or sold footage. The unit rate of dues can be determined from the voucher supporting the payment. This rate can be used to establish the footage reports as produced or sold, as the case may be, to the organization.

(4) Analyze the stumpage and inventory accounts to project log footages acquired and sawed by species.

(5) Make it a standard practice for the Accountant to compare sales footage and dollars collected from each operator's books with Forest Management's collected sales invoice sample blown up to 100 percent or the operator's tab run used to summarize sales, as each case may be. Wide variances would suggest an investigation and possibly an increased sampling of invoices.

(6) Verify stumpage from calculation based on severance taxes reported. As a further suggestion for precluding errors in establishing lumber footages, use qualified and experienced personnel for this work. As the work is important, due consideration should be given to the qualifications and experience of the employees assigned to do it.

### 3. Definitions and Includable Factors:

a. etail Sale.

(1) A retail sale is a sale made by a regular retail organization of a timber operator. Neither the revenues nor the volumes transferred in retail sales of primary lumber products and byproducts will be used in collecting sales data. The volume transferred is a part of the total production divisor used for manufacturing cost collection. This principle applies even though the products are transferred from a wholesale distributing point either adjacent to or remote from a retail sales outlet. A sale made by the wholesale organization direct to a consumer is not a retail sale.

A proportionate share of general administrative and other overhead as appropriate should be charged against retail sales activities where they are included in an operator's business.

(2) Costs of selling and sales reductions for retail sales are not allowable. Commissions and brokerage fees will not be imputed and deducted from wholesale sales revenues. Bad debts on retail sales and claims and allowances are also not allowable for appraisal purposes. Costs of movement from the wholesale point to a retail point beyond movement for a whole sale are excludable.

b. Local Sales. This is a sale made locally by a wholesale timber operator direct to nearby consumers when there is no retail setup. This kind of sale is classified as a wholesale sale even though the sale is made at retail price and delivered to the consumer with or without a specific delivery charge. For appraisal purposes, sales revenues and costs in making sales and lumber deliveries, including claims and allowances, are included. Brokerage fees and commissions, actual or imputed, are not included.

c. Gross Sales Adjustment.

(1) Freight. This is the amount paid for transporting the product. These payments are adjusted for underweights and overweights. Such adjustments will be respectively added to or deducted from gross sales revenues. Gross sales are also adjusted for general freight expense corrections.

(2) Commissions and Wholesale Discounts. These are amounts paid to brokers and wholesalers for sales of lumber or other forest products and other byproducts. Commissions are acceptable as reductions in selling values when actual arm's-length transactions are identified and verifiable. In cases with intracompany sales or transfers, or with sales transfers between a company and its parent, affiliate, or subsidiary, only the actual verified costs and expenses involved are acceptable.

It is important, in dealing with commissions, to ensure that there is no duplication between selling costs and commissions. Such duplication is possible in cases where intracompany transfers are involved. The selling prices must be carefully evaluated to be sure that they represent arm's-length transactions (sec. 05c).

(3) Cash Discounts. This is the amount allowed a customer for prompt payment of a lumber or other forest products and byproducts sale invoice. Deduct the aggregate



discounts from gross sales. Just as with commissions, only verifiable cash discounts resulting from arm's-length transactions are acceptable.

(4) Claims and Allowances. These are amounts allowed customers as adjustments for delivery losses, lumber grade price differentials, price changes, and billing errors. Deduct the aggregate cost from gross sales.

4. Checking Sales Dollars. Procedures which can be used to check on the correctness of recorded sales dollars are:

- a. Multiplying percentage of cash discounts allowed by operator's policy times volume of sales reported and comparing to cash discounts taken.
- b. Checking dollar turnover of accounts receivable; that is, total dollars of receivables recorded on books during the year compared to sales dollars reported. Totals should be about equal.
- c. Determining if sales footages are recorded in sales journal. If so, adding footages and comparing footage reported as sold. Tracing sales dollars per sales journal to general ledger sales and accounting for the entire year. Comparing general account total to whatever sales total was used if taken from some place other than the general ledger.
- d. Checking invoices for consecutive numbering. Test checking to see if all invoices are accounted for. Comparing numbers to sales journal.
- e. Taking time always to follow up substantial variances, even if it means staying longer than planned.
- f. Footing 1 or 2 months' sales journals to determine mathematical accuracy. Tracing totals per journals sales and accounts receivable to general ledger.
- g. Reviewing internal Auditor's audit reports regarding sales and expenditures.
- h. Comparing sales by month and year's total to previous year's totals by month and year. Inquiring about, and if necessary, investigating unusual trends in sales or unexplained variations in profit margins.
- i. Checking dates on invoices preceding current years, beginning and following the year's ending sales invoices, to determine whether sales have been reported in the proper year.
- j. Comparing overrun for current year with experienced overrun of prior years or of like operators.

## **22.27 - Other**

"Other" is tantamount to a cost center, and this category should share proportionately in the distribution of general and administrative expenses. It contains all sales and expenses pertaining to:

1. Activities extraneous to or beyond the end products.
2. Costs which do not fall into cost centers ordinarily used for ordinary appraisals, but could be useful to appraisal staff in special circumstances. Examples are log hauling, road maintenance, road construction, erosion control, brush disposal, severance taxes, and other costs which are identified directly with a specific tract and the volume of its cut. These costs may retain their separate identity in "other" to serve as supplementary information in certain appraisals. These are often referred to as contractual costs.
3. Excluded costs and income, such as certain miscellaneous income and expenses.
4. Costs which cannot be defined or explained.
5. Costs which are includable by nature, but which are unreasonable or un-allocable for appraisal purposes, for example, salaries are includable, but salaries of non-participating personnel and of absentee owners of the business operations are not includable. Stumpage is a part of cost of goods sold, but is not included in appraisal data.

## **22.3 - Distribution Methods**

### **22.31 - Distributing**

1. The defined cost centers (sec. 22.6, 22.7, 22.8), including "other" (sec. 22.27), represent the summary points where all presented and imputed costs are accumulated. The characteristics of the cost, its cause, and the benefit derived determine the cost center where the cost should be accumulated. The preferred method for distribution is to identify the cost directly with the cost center. Where the cost is of a more general nature and there are two or more benefiting cost centers, basis for distribution must be established. Detailed analysis of the expense account for identification by cost center is the best method for cost distribution. This method is not always practical or economical.
2. Where expenses are of a broad nature and apply to several cost centers and possibly outside activities of the timber operator, a basis for allocation should be developed which provides for proportionate distribution of the cost to its related cost objective. Use of this method permits distribution in a logical and equitable manner.
3. There is a wide variety of methods for distribution of timber operator costs. According to circumstances involved, a basis may be developed which recognizes a particular situation. For example, weighting of one of the components in a basis would accomplish this objective. Another technique would be to construct a basis more closely related to the nature of the costs.

4. It is necessary to construct a basis of proration whenever direct identification through analysis is not feasible. Based on statistics for the cost centers, logical bases for proration for cost distribution of a general item are provided. They are acceptable because of consistent use over a long period of time and/or because the item used as the base has been handled similarly for all sample operators.

5. The sum of the number of units of a proration basis is 100 percent, and the number of units for each cost center will be expressed as a percentage of the total. This method of showing the sharing percentage is useful for historical purposes. In computing the share to each cost center, a constant computed from the relation of total distributable costs to total number of units may be used as a shortcut for computing the allocations.

6. The application of a basis for proration relies upon cost influencing factors, such as:

- a. The cost centers causing the cost,
- b. The cost centers benefiting from the cost, and
- c. Recognition of both of these factors in construction of the basis.

For example, property values would be a good basis for distribution of fire insurance premiums. The insured values cause the amount of the premiums. Distribution of medical facilities expense, or safety expense, would be more properly made on a head-count basis rather than labor dollars. Personnel would be the beneficiaries, not their earnings.

7. The selection of the proration basis components and the weighting or not weighting of them determines the appropriateness of the basis. There are many ratios which may be any combination of units weighted or not weighted. There must be a direct relationship to distributive cost, and the distributions to the cost centers must be proportionate to each other. Use of a basis of proration does not mean that an exact distribution is obtained. This is possible only with detailed analysis. It does mean, however, that the distribution is reasonable and equitable. Each cost center receives a proper share which is also comparable with allocations to the other cost centers.

8. Some applications for using proration are distribution of home office expense, general and administrative expense, and overhead expense to the cost centers. This can be accomplished in a variety of logical ways. The labor ratio should be considered first. It is a good ratio, provided that all labor costs are discernible for the three categories, and that labor is a logical measure of the relative proration. Whenever it is not practicable to derive the labor portion of "Other," the total cost ratio or sales ratio may be considered. Another ratio for prorating expenses which may prove best is a multifactor formula to include such items as total sales, total assets, and total payroll. This proration method is particularly adaptable for distributing home office overhead. The situation encountered must be studied to determine the best basis for proration.

9. It is possible to set up a format and standard for the most frequently used bases and indicate the applicable uses. It is not practicable to set up a standard for use in distributing less significant costs and less frequently used bases of proration. This is particularly true whenever a timber operation involves certain practices and costs which are not ordinary. However, labor dollars, total costs, man-hours, machine hours, and so forth, can be defined.

10. A partial list of methods of proration and one example of the use of each are illustrated below for reference purposes only.

- a. Labor Ratio. Labor ratio is based on the total salaries and wages by functional activity, except those in general and administrative expense and overhead. The labor ratio can be used to distribute general and administrative expense, overhead cost centers and labor perquisites to logging, manufacturing, and other. This method may result in allocation of a disproportionate amount between such cost centers as fell and buck and skidding, because the labor factor is disproportionate to the total costs.
- b. Cost Ratio. Cost ratio is based on the total costs, by functional activity, excluding general and administrative expenses and depreciation. It is net of cost recoveries, but includes expenses deducted from gross sales. It can be used for determining the share to be allocated to other, as well as distributing costs to cost centers within logging and manufacturing cost categories.
- c. Sales Ratio. Sales ratio is based on gross dollar sales by business activity. This ratio can be used for distributing general and administrative expenses between wholesale and retail sales activity or wood product sales versus other sales. It can also be used to distribute selling expenses.
- d. Person-Hours Ratio. Person-hours ratio is based on the hour worked plus unproductive time, such as vacation, holiday, and sick leave. Person-hours must not be increased, or weighted, in order to offset premium rates for overtime. For example, an hour at time and a half is still an hour, not an hour and a half. This ratio can be used to distribute labor in logging and its related activities.
- e. Machine Hours Ratio. Machine hour's ratio is based on machine running time. The ratio can be used for distributing vehicle use expense among activities.
- f. Volumes Processed Ratio. Volumes of material actually processed are often useful guides to proration.
- g. Other Ratios. Ratio of portions to total property values, floor-space areas, motor capacities, meter readings, mileages, materials purchased, and employee numbers are some other which can be used for cost determinations.

## **22.32 - Estimating**

Estimating, when employed for distribution of a cost, is a sense or reflection of how the share by amount or percentage should be allocated to each cost center. Estimates are used for distribution only when cost analysis is not feasible.

## **22.4 - Distribution Situations**

### **22.41 - General and Administrative Expenses**

1. This classification of accounts contains the salaries and other expenses incurred in the overall administrative and general management activities of the entire business. The costs do not relate solely to one phase of the business.
2. Whenever a General Manager serves part-time as a Supervisor, for example, a general factory manager who is also the purchasing agent or president of the company, factory supervision costs should be separated from general and administrative expenses and identified with the operating cost center, such as a sawmill. The Cost Accountant will generally need to prorate such an item based on information from the company officials and the Cost Accountant's judgment and knowledge of the facts associated with each situation.
3. Appraisal developed bases of proration should be applied to specific financial accounts for more equitable allocation, as necessary, practicable, and significant. Distribution of an account or balance of it using a general basis of proration, such as total sales, costs, or labor dollars, would then be justifiable. For the remaining balance, distribution would be to the logging, manufacturing, and other activities or to cost centers within these categories, as appropriate.

### **22.42 - Home Office Overhead**

1. The home office of a timber operator comprises the general corporate offices responsible for the overall administration and management of the operation performed under its general guidance. It incurs expenses that are allocable to the operations carried out at the various segments. This section establishes procedures for allocating those expenses to the various segments.
2. The basic concept underlying these procedures recognizes three groupings of home office expenses. They are: expenses incurred for specific segments; other expenses, not incurred for specific segments, but which have a clear relationship to two or more segments; and residual expenses that possess no readily measurable relationship to segments. Consistent with this concept, the following procedures must be used to allocate home office expenses:
  - a. Expenses incurred by the home office for specific segments are to be allocated directly to those segments to the maximum extent practical.

- b. Those expenses not incurred for specific segments, but which possess measurable relationships to segments should be grouped into logical or homogeneous expense pools and distributed on bases reflecting the beneficial or causal relationship of the expenses to the segments concerned.

The following list illustrates these types of expenses together with sample allocation bases which could be used in appropriate circumstances:

Home Office Expense or Function	Sample Allocation Base
Personnel administration	Number of personnel, labor hours, payroll, number of hires
Data processing services	Machine time, number of reports
Centralized purchasing	Number of purchase subcontracting; orders, value of purchases, number of items
Centralized warehousing	Square footage, value of material, volume
Company aircraft service.	Actual or standard rate per mile, per hour, passenger mile, or similar amount

Other typical expenses of this type may include staff management of specific activities (for example, personnel, engineering, purchasing, or marketing) and/or central payments or accruals (for example, pension expense, group insurance, State and local taxes). Allocation of these expenses should be based on the same beneficial or causal relationship as illustrated above.

- c. All other expenses (residual) which are not allocable in accordance with the foregoing procedures must be allocated using a three-factor formula. The three-factor formula consists of the arithmetical average of the following 3 percentages for the same period:

(1) The percentage of each segment's payroll dollars (regular salaries and wages excluding premium pay) to the total payroll dollars of all segments.

(2) The percentage of each segment's operating revenue (net of interdivisional purchases) to the total operating revenue of all segments.

(3) The percentage of the average net book value of each segment's tangible capital assets and inventories to the total average net book value of such assets of all segments. The average net book value consists of the average of the net book value at the beginning of the fiscal year and the end of the fiscal year.

3. Home office expenses allocated to segments included in National Forest timber appraisal must be reallocated to logging, manufacturing, and other cost centers within these segments as appropriate.

4. The guidelines for analysis and collection contained in sections 21 and 22 are applicable to the review of timber operator's home office operations.

5. Home office expenses must be related to National Forest timber appraisals. Such expenses as warehousing fees, timber studies in areas where there is no National Forest timber, operations other than wood products, wood products sales beyond the wholesale market, and research costs invested in developing new products must not be included. Research expenses incurred for improving products that are included in sales realization are includable.

Amounts donated for legitimate charities and other public purposes may be included as allowable home office expense up to a maximum amount allowable as a deduction by the Internal Revenue Service, provided revenue agent's reports are made available for review to substantiate allowability. Where property is donated, no more than the book value of the property must be accepted.

Franchise tax payments (that is, those paid by the home office for incorporating and continuation of the corporate entity in various States where primary timber products are manufactured or sold wholesale) are includable in home office expense subject to distribution. If the tax can be identified with a segment, it should be charged directly to that segment. Taxes based on or measured by sales revenue or profits are not includable as a franchise tax even if referred to by that name.

6. Accounts other than those included in the normal home office expense category should be reviewed for the possibility that they are applicable to timber appraisal. These include other (or miscellaneous) income and expense, reserves for contingencies, and others.

7. Cost Accounting Standard 403 (Allocation of Home Office Expenses to Segments) is an important source of additional guidance for home office expense allocation.

8. The Forest Service Cost Accountant is responsible for ascertaining the types of expenses which are recorded as direct charges or are allocated distributions from a parent company. Direct charges must be examined by the Cost Accountant to determine their reasonableness and acceptability for appraisal purposes. Determining the acceptability of allocated distributions is the primary responsibility of the Forest Management Staff.

9. Home office costs must not be imputed without express approval of the Forest Management Staff.

## **22.43 - Supervision**

1. Supervision means salary or wages plus fringe benefits and other expenses of an employee supervising an operating activity for all or part of that employee's time and who reports to a higher management level. Examples are crew bosses, planning mill superintendent, General Manager of the mill, and woods supervisor.

2. Foremen and Supervisors, hourly or salaried, working and having responsibility in only one cost center shall be charged directly to overhead for such cost center.

3. Foremen and Supervisors, hourly or salaried, working in more than one cost center shall be prorated to overhead for cost centers benefiting from or requiring their attention.
4. Foremen and Supervisors, hourly or salaried, whose time is divided between logging and manufacturing and are not tied to a specific cost center in either, shall be prorated between general logging overhead, general manufacturing overhead, and other, as appropriate.

#### **22.44 - Service Center**

1. This is an account where costs for one kind of work rendered for the benefit of various cost centers are accumulated. Work done upon requisition is usually costed and charged to the operating branches of the business. Examples of service centers are garages, vehicle pools, power plants, repair, and maintenance shops.
2. Ordinarily, the work performed is on a job order or consumption basis, using standard costs for services rendered in charging the using operating branches. Under-absorbed and over-absorbed differences between actual costs and charges made should be prorated on the same proportionate basis that the identified distribution was made. If this is not feasible, then the aggregate net amount should be distributed on a total cost basis of proration or other equitable basis.
3. The Forest Service Cost Accountant will analyze or, if necessary, estimate and distribute the cost to using cost centers whenever a timber operator's accounting system does not provide for distribution.
4. The Forest Service Cost Accountant should accept the timber purchasers' distribution of service center costs where it is found to be reasonable. Care should be taken to ensure that appropriate portions of service center costs are assigned to operations extraneous to National Forest timber appraisals.

#### **22.45 - Treatment of Specific Costs and Cost Recoveries**

The following itemization of costs and cost recoveries represents those which have been subject to variable treatment. Treatment considers reasonableness and includability of the cost and degree of its pertinence to appraisal. The following guidelines and instructions conform with these premises:

1. Bad Debts. Actual bad debts on wholesale sales or primary lumber products, chips, and lumber byproducts are includable, provided actual recoveries have reduced the expense. The net amount, expense, or cost recovery is a selling expense adjustment in the year during which the write-off or recovery was made.

Where allowed, the footage of the sale(s) written off must be added to the divisor established for selling expense. Note that all costs associated with producing the products that are being written off were allowed as costs in the year incurred. In those



areas where bad debts are deducted from sales in the appraisal process, the footage should be deducted from sales footage.

2. Bank Service Charges. Nominal charges for checking account services are includable. Charges beyond this service, such as fees on overdraft, exchange fees, below par discounts on funds deposited, loan service charges, and any other assessment by a bank or lending agency of a financial nature, are not includable.

3. Casualty Losses and Recoveries. Where insurance reimbursement is received, neither a loss, nor a gain is includable. No self-insurance charges, whether or not funded, are includable. The other components involved, such as dividends and interest income on invested funds and payments into or from a fund, are not includable. Entry will be made in the survey and Accountant's report that the respondent follows a self-insurance plan. This is necessary for proper averaging purposes.

4. Cost Recoveries and Applicable Credits. These recoveries and credits operate to reduce or offset expense rather than increase income. Examples are premium refunds on workmen's compensation insurance, gasoline tax refunds for gasoline used off the highway, sales of scrap, and purchase discounts. Profits on sales of capital equipment should be treated as a reduction of depreciation expense. Identify these items with their respective cost centers in the transaction year. For example, purchase discounts and sales taxes should be distributed in the same ratio as purchased items in a supplies account.

5. Crew Transportation. The cost is includable and will ordinarily be charged to the general logging overhead cost center. However, a charge should be made to development and contractual costs at the time this cost center is distributed when the transported crews also work on such jobs.

6. Depreciation

a. The rate and method of depreciation selected by the timber operator are acceptable for appraisal purposes provided good accounting practice has been used consistently. However, if an operator uses accelerated depreciation for tax purposes and straight-line depreciation for reporting to owners and others, only the straight line computation is acceptable for the appraisal schedule.

b. Depreciation is subject to adjustment for costing and appraisal purposes by:

(1) Profit and loss from disposition of depreciable capital assets.

(2) Sale of salvaged materials.

(3) Equipment rental income.

(4) Equipment rental expense.

c. Depreciation on assets not used in production of the products included in appraisal data is an exclusion from costs.

7. Dues and Subscriptions. This account requires analysis in order to identify the nature of the expense and determine acceptability. Dues paid to industry trade associations should be identified with general logging overhead and general manufacturing overhead and distributed to logging, manufacturing, byproducts, and "other." Any assessments for extra services, as indicated on the invoices, will be identified as to the nature of services rendered and costed accordingly. Items of a personal nature will be charged to "other."

8. Equipment Rental Expense. This expense is acceptable, provided the rental paid is reasonable and arm's length. Exorbitant rental expense should be excluded.

9. Equipment Rental Income:

a. This term is acceptable and will be treated in total as cost recovery. This principle also applies whenever the operator identifies costs against this income. In either case, the amount will be distributed to the cost center bearing the substantial usual costs. When insignificant or not economically determinable, credit depreciation or supplies and repairs.

b. The Cost Accountant may also consider the technique of imputing an income (cost recovery) whenever rental income for use of equipment is not recognized in the cost accounts.

c. Equipment costs should be adjusted to reflect any usage on projects unrelated to products included in the appraisal if this has not been done by the operator.

10. Franchise Tax. This cost is excluded when based on or measured by sale profit, income, or revenue of the timber operator. A standard fixed fee assessment or fee based on the company's capitalization for the year is includable as a general and administrative expense to be prorated to all activities of the company.

11. Interest Income and Expense. These are not includable.

12. Labor Perquisites. Perquisites include fringe benefits as well as costs for sports events; outings; parties; holiday gifts; work-incentive awards; prizes; pensions; life, accident, and health insurance; and employee internal publications, and so forth. Such costs would be reduced by income from meal services, vending machines, company-retained insurance dividends, pension-plan savings, and so forth.

a. The principal guideline for acceptability of the cost is whether the benefits given are available on an equitable basis to employees as a general group, such as production employees, and administrative personnel, rather than selected individuals. If so, the entire cost is included. If not, determine whether the benefit is actually a profit distribution, which is not includable, or part of salary increment, which is includable in amount and is in another payment form.

b. Bonuses deserve closer scrutiny as to basis for payment and whether they are actually a profit distribution. Profit distributions are excluded as costs.

c. Life insurance on company officers is another cost which requires detailed analysis. Premiums, rebates, dividends, settlements, and so forth, are parts of this cost. When the beneficiary is other than the company, determine whether cost is part of salary. If so, it is acceptable. If not, the cost is excluded. When the beneficiary is the company, the cost is excluded.

13. Legal Fees. Generally, where fees paid are for normal business activities, such as collection letters, this cost is acceptable. Fees paid for:

- a. Settlement of any case where the amount received is not a cost recovery;
- b. Credit and financing matters pertaining to an operator's capital acquisitions; and
- c. Lawsuits or appeals are not acceptable.

14. Miscellaneous Income and Expense. This account will be analyzed and distributed to cost centers in accordance with the nature of expense. Analysis should be in such detail as indicated by significance of its effect upon unit costs. Debits and credits will not be offset to determine significance. Acceptability of an income or expense item and its reclassification are the important considerations. For example, claims and allowances on sales will be deducted from gross sales. Any balance remaining after analysis and distribution, if acceptable, is a general and administrative or recovery expense to be subsequently prorated to general logging overhead, general manufacturing overhead, and "other." Any item in this category which cannot be defined or explained is excluded.

15. Power Plant Expense. This cost will be distributed to cost centers on the basis of electrical or steam power consumed. When unmetered, the ratio of power capacity at installations will be used to derive the equivalent of metered charges to each cost center. Therefore, capacities will be weighted in order to recognize greater power consumption to certain cost centers. In event of power sales to outsiders, such income will be used to reduce power plant costs (sec. 22.45, para. 4). Standard costs or consumption rates will be reconciled with actual costs. Charges will be examined for determining whether under-absorbed and over absorbed balances have been treated equitably. Any remaining balance at year-end should be distributed to using cost centers on the basis of the changes already made or some other equitable basis. When it is uneconomical to make this determination, then the balance will be distributed on the basis of overall costs of using cost centers.

16. Professional Services. These services, where includable, will be prorated to all activities of the company through allocation of general and administrative expense. Examples may be fees for architects, lumber marketing surveys, management programs, and efficiency reviews. Nature of the item should indicate cost capitalization or includability in whole or in part. There are special conditions for which only the most general guidelines may be set forth. The cost is general and administrative expense. Distribution of this cost calls upon the best judgment of the Cost Accountant. When appropriate, include statement of cost treatment in the accountant's report.

17. Profit and Loss From Disposition of Depreciable Capital Assets. The net balance of these transactions will be added (loss) to or deducted (profits) from depreciation expense in the same year as the transactions were recorded. Identification as to manufacturing, logging, and "other" should be made on an actual or distributive basis.

18. Profit and Loss on Investments. Any profits or losses arising from the sale or exchange of any kind of investment, primarily securities are excluded.

19. Property Taxes. These taxes pertain to real and personal property. Licenses to operate vehicles are usually included in this general ledger account. The cost of licenses for lumber delivery trucks is to be excluded because selling values or timber products are collected for use net of delivery costs. The cost of licenses is includable except for those purchased for lumber delivery trucks and vehicles extraneous to the Forest Service timber appraisal program. If, however, an operator has a lumber haul to railhead, the cost of license for these vehicles is includable. Taxes paid for private timberland and severance taxes are excludable. Fines and penalties for delayed payment to taxing authorities are not includable. Analyze this account to identify costs to benefiting cost centers. Distribute the unidentified portion of property taxes (and licenses) to general logging overhead, general manufacturing overhead, and "other," using the property value ratio. The actual tax bills should be referred to in analyzing this expense.

20. Research, Experimental, and Development Costs. For appraisal purposes, these costs are distributed to "other," except that portion of the expenses incurred during the current year determined to be applicable to the current year production and/or sales of end products used in the appraisal. Likewise, the excluded portion of such costs incurred in prior year which is applicable to the current year's production and/or sales of end products is acceptable when shown on the books of the timber operator.

21. Sales of Salvages Materials. Treat in the same manner as profit and loss from disposition of capital assets.

22. Sales of Services to Others. In addition to power sales to outsiders, there are other sales for which costs must be identified with sales. The net gain or loss will be distributed to the applicable cost centers. Examples are use of vehicles for log and lumber deliveries for or by outsiders, or for or by customers beyond the appraisal point. Garages and repair facilities are also examples of revenue producing activities. Apportionment of costs to outside activities should also be made on the best available basis. Where gross revenues received are insignificant, treat the revenue as cost recovery (sec. 22.45, para. 4).

23. Severance Tax and Similar Taxes. This cost is not a general and administrative expense, nor a property tax. When acceptable, it is a general logging expense. The cost is acceptable when legal opinion relates its application to National Forest timber and operator records substantiate it as a cost. Classify this cost under "other," even though acceptable, in order to avoid duplicated costs. Determination of a timber sale appraised price considers this cost separately and is added to general logging overhead on form

2400-17. At time of appraisal, the cost is determined in the same manner as for long haul costs, for example at rates commensurate with characteristics of an individual sales offer.

24. Strike Costs.

- a. All strike costs are excluded for appraisal purposes.
- b. Strike costs are defined as those additional expenses which were incurred because of a strike. Home office strike charges, if any, and administrative costs incurred in settlement are strike costs. The objective of the analysis is to determine the cost of producing the wood products to which timber is appraised. This is the key consideration that must be kept in mind when considering whether or not to include costs incurred during a strike.
- c. In computing unit costs, the actual volumes will be used as divisors. Volume imputations for the idle period will not be made. In event that unit costs are determined to be unrealistic, the operator should be removed from the compilation for zone, Regional, and inter-Regional averages until the operations are back to normal for a full year.

25. Warehousing.

- a. Warehousing fees are equivalent to timber operator financial expense and are excluded for appraisal purposes. This expense is caused by, or is identified with, financing operations of a timber operator whereby logs or manufactured products are stored as loan collateral and released for sale upon approval of the creditor (warehouser).
- b. There are several kinds of warehousing contracts, some of which involve cost sharing, offsets, and so forth, with a resultant net fee plus interest charges. Terms and conditions of each should be studied so that all costs are determined. Along with the contractual costs, all direct and indirect costs related thereto, including fixed charges and general and administrative expense proration, are also applicable to this credit operation and are excluded.
- c. When logs or lumber are warehoused on the timber operator's year and the warehousing tasks are performed by the operator's employees (either full-time or part-time), their wages plus labor perquisites and overhead proration associated with performing activities required under or for the satisfaction of the warehousing agreement are not includable. Examples of these tasks are: inventorying lumber or logs in compliance with the warehousing agreement, separating warehoused and non-warehoused lumber or logs, preparing reports of warehoused lumber or log movements to warehouse. Work performed by these employees for normal functions is includable.

26. Workmen's Compensation Insurance Payments. These, minus refunds, allowances, or credit adjustments, are included. Self-insurance imputed premiums are not allowable.

However, actual claims paid in self-insurance cases are includable. This cost will be removed from general and administrative expense and distributed to the cost centers. To allocate workmen's compensation premium costs, follow these steps:

- a. By analysis of labor account, set up labor costs by prescribed cost centers.
- b. Multiply the labor costs for each cost center by the appropriate actual class of labor rate per \$100 of labor taken from the policy or billing statement which is most generally filed in each timber operator's office. The products are the indicated workmen's compensation premiums for each cost center.
- c. Divide the total indicated premium into the actual premium the company paid. The quotient is the adjusted allocation rate.
- d. Multiply the adjusted allocation rate times the indicated workmen's compensation premiums for each cost center. The products are the actual workmen's compensation insurance costs applicable to each cost center.

The year in which the case or credit transactions occurred is the cost year.

27. Payment Bonds. Premiums on bonds guaranteeing payment for timber removed from National Forests are considered to be financing charges and are excluded.

28. Travel and Entertainment Expense. The purpose of the trip or entertainment determines allowability of the expense. If not within the framework of timber-related operations, the expense should be excluded.

## **22.5 - Footage**

### **22.51 - Logging Footages**

Exhibit 01 is a suggested format for preparing information on logging footages. Use the applicable items only.

Ordinarily, footages will be derived in reverse sequence from exhibit item 5 or item 6, depending on the point of most accurate net scaling to exhibit item 1, and be adjusted whenever reliable data are available for any of the immediate steps.

## Chapter 20 - Collection and Analysis

Amendment: 6509.15-2016-1

Effective date: December 12, 2016

## 22.51 - Exhibit 01

**LOGGING FOOTAGES**

	Net scale - <u>Contract</u>	MBF - <u>Company</u>
1. <u>Fell and Buck</u> - Divisor	-----	-----
Add: _____	-----	-----
Add: Fell and buck inventory beginning	-----	-----
Add: Fell and buck logs purchased	-----	-----
Subtotal	-----	-----
Minus: _____	-----	-----
Minus: Felled and bucked logs sold	-----	-----
Minus: Felled and bucked inventory - Ending	-----	-----
Minus: _____	-----	-----
2. Skid or Yard _ Divisor	-----	-----
Add: _____	-----	-----
Add: _____	-----	-----
Add: Landing inventory - Beginning	-----	-----
Subtotal	-----	-----
Minus: _____	-----	-----
Minus: Landing inventory – Ending	-----	-----

## Chapter 20 - Collection and Analysis

Amendment: 6509.15-2016-1

Effective date: December 12, 2016

## 22.51 - Exhibit 01--Continued

	Net scale -	MBF -	Net scale
	<u>Contract</u>		<u>Company</u>
3. Load - Divisor	-----		-----
Add: _____	-----		-----
Subtotal	-----		-----
Minus: _____	-----		-----
Minus: Logs loaded for others	-----		-----
Minus: Logs sold at landing	-----		-----
4. <u>Log Haul</u> - Divisor	-----		-----
Minus: Logs delivered and transferred to other points	-----		-----
<u>Total company and contract logs delivered to sawmill</u>	-----		-----
Add: Logs purchased at mill	-----		-----
5. Total logs delivered at mill	-----		-----
6. Sawmill Input	<u>Net Log Scale</u>		
Total logs delivered at mill	-----		-----
Add: Inventory - Beginning			
Minus: Logs sold and transferred at pond or log yard	-----		-----
Minus: Inventory - Ending			
Sawmill input (_____ scale: log rule used by mill)			
Lumber sawn			
7. <u>Recovery Factor</u> _____ %			



## 22.52 - Manufacturing Footages

Exhibit 01 gives the standard format for preparing information on manufacturing footages. Use only the applicable items.

Use the manufacturing footages schedule as follows:

1. When all volumes needed are recorded in the company's records for exhibit paragraph 1, 3, 4, 5, 7, 8, 9, and 11, these will be entered on the schedule. By working the schedule downward from paragraph 1, develop a figure to enter in paragraph 10. The figure developed for paragraph 10 may be different from the assumed actual volume in item 11.

If, by the Accountant's estimate, the size of the variance would affect the unit manufacturing cost average for the zone in which that mill's data are to be included by 1 cent or more, an attempt will be made to reconcile the variance. If the variance cannot be reconciled, the Accountant should at least determine the causes for the variance so that timber appraisal personnel can give proper consideration to the situation. Whenever volume reconciliation is required, the Accountant should seek out and work with the timber operator's personnel most knowledgeable about volume flow. This procedure also requires that the Accountants acquaint themselves with such things as the zone where this mill's data are included, the number of mills included in that zone sample, and the approximate annual production and sales volume for the total of the mills in that zone. This information is necessary for the Accountant to gage the effect of a possible volume error in a mill's data. The fact that the variance was developed in exhibit item 10 does not necessarily mean that the recorded sales were incorrect. If the schedule is worked from the bottom up, the variance will develop in item 2. The important point is that a variance that might need to be reconciled will be recognized.

2. If the mill does not have a lumber sawed tally, start with exhibit paragraph 11 and work the schedule from the bottom up to paragraph 2. This procedure would develop a lumber sawed volume to work with where needed.

3. Even though the Region may be using the total cost and sales realization concept for appraising timber, these actual footage divisors are necessary.

- a. To use whenever inter-Regional exchange of data is requested.
- b. In order to learn what actually happened in each timber purchaser's operations.

The task of converting manufacturing costs from individual cost-center footages and per-MBF rates to a unit rate based on the total cost concept is a timber management responsibility. On a Regional basis, the Cost Accountant may be requested to make this conversion to individual operator's data as a service to timber management. The following example shows how this is done.

### 22.52 – Exhibit 01a

#### Conversion From Cost Center Unit Costs To Total Production Cost

Production Footage (Mil)	Amount Per (Mil)	Footage Per (M)	Total Cost
Log acquisition cost	8,597 (LS)	\$5.30	\$45,564
Pond or log yard, sawmill, green chain	10,746 (LT)	\$28.23	\$303,360
Yard air drying and loading for shipping	34,603 (LT)	\$8.42	\$291,357
Dry Kiln	10,746 (LT)	\$4.75	\$51,043
Surfacing	20,802 (LT)	\$9.03	\$187,842
General manufacturing overhead	34,603 (LT)	\$7.20	\$249,142
Debarker and chipper	10,746 (LT)	\$4.77	\$51,258

In computing unit manufacturing cost, the same per M rate is given to purchased lumber as was actually experienced with the operator's own production. Thus, as it cost the operator in the example \$28.23 per M to saw their own logs, it is assumed that the same \$28.23 unit cost was experienced in sawing the rough green lumber that was purchased. It is thus important that the cost analyst establish the volume of lumber purchased by each sample operator in various stages of production. Purchased lumber not handled on the operator's year should not be included in the total production divisor.

While the unit manufacturing cost is lower using the total production divisor, the average sales realization will be correspondingly lower due to computing it on the selling prices of all products in whatever stage of manufacture they are sold.

Generally, it is more accurate to compute the total production divisor, actual mill production plus lumber purchased by working back from lumber-sold footage. In doing this;

- a. Take lumber-shipped footage, including lumber sold, transferred, and used internally;
- b. Add ending inventory of lumber footage; and

**22.52 – Exhibit 01a--continued**

- c. Subtract beginning inventory of lumber footage.

If an operator's records are accurate, this will give the same footage as taking the sawmill production and adding footage purchased, except for lost units due to trimming, edging, ripping, resawing, and so forth. Where these footages do not agree within a tolerance of 5 percent, follow the instructions in section 22.51 to resolve the variances. The accountant should be particularly careful in developing the total production cost divisor.

Whenever an operator produces and sells products which are not measured in linear feet, square feet, or board feet, use the volume of the material from which the product has been made as the divisor to be applied against its manufacturing cost and sales realization. Molding is an example of a product where this would be done; that is, the divisor would be the volume of rough lumber used to produce the molding.

4. In addition to instructions in section 22.85a and 22.85b, following are rules and example showing how to treat materials purchased for and revenues derived from chipping:

- a. Include the selling values and cost for producing all chips sold by sample mills.
- b. Include in byproducts the selling values of all slabs, and so forth, sold by sample mills.
- c. Use as the divisor against chipping costs, only, the board feet of lumber produced in the sawmill, plus the board feet of lumber purchased and processed in the mill. See section 22.85b, paragraph 3, for instructions to convert this material to board feet.
- d. Include in the chip divisor the volumes of all material purchased specifically for chipping. Include the amount paid for this material as a cost.

## Chapter 20 - Collection and Analysis

Amendment: 6509.15-2016-1

Effective date: December 12, 2016

**22.52 – Exhibit 01b****Treatment of Slabs and Topwood Purchased for Chips**

	<u>Mill A</u>	<u>Mill B</u>	<u>Mill C</u>	<u>B and C combined</u>
<u>Log input</u>	9,000 M	4,500 M	1/ 4,500 M	9,000M
<u>Realizations</u>				
Lumber sales	900,000	450,000	450,000	900,000
Chips from own slabs <u>2/</u>	30,00	...	15,00	15,000
Chips from purchased slabs <u>2/</u>	...	...	15,000	15,000
Slab sales (Mill B to mill C)	...	7,500	...	7,500
Total realization 930,000	<u>457,500</u>	<u>480,000</u>	<u>937,500</u>	
<u>Manufacturing costs</u>				
Lumber manufacturing	300,000	150,000	150,000	300,000
Chips manufactured from own slabs <u>2/</u> 8,000	...	4,000	4,000	
Chips manufactured from purchased slabs <u>2/</u>	...	...	4,000	4,000
Cost of purchased slabs	...	...	7,500	7,500
Total manufacturing cost	<u>308,000</u>	<u>150,000</u>	<u>165,500</u>	315,500
Manufacturing conversion <u>3/</u>	622,000			622,000

1/ For chipper cost only, the divisor would be 9,000 M.2/ Breakdown in realization and costs on basis of raw material source is for illustration. Such detail would not be found in actual books.3/ Total realization minus total manufacturing cost.

**22.52 – Exhibit 01b--continued**

The above shows the treatment for purchase and/or sale of chippable material. A situation such as shown for mill B or mill C, but not both, should be treated on the individual mill basis as shown in the above example. The concept is that, in a representative sample, instances of purchases and sales will average out and result in an equitable conversion amount.

5. Exhibit 02 illustrates how the Forest Management staff will treat lumber transfers in and out where the mills transferring or receiving are included in the sample. The Accountant's job will be to collect all of the information necessary for the Forest Management staff to make this computation.

Note the different approach at the right side of the schedule for converting "as collected" or cost-center costs to total production costs. This technique converts the unit cost average for each cost center to total production by dividing total costs for the inclusive mills by the total production divisor (20,000 MBF) without relisting this divisor for each cost center.

If the mill transferring in is in the sample, its increased costs are automatically allowed for by adjusting its MBF rates on the increased volume to its total production divisor. This automatically picks up the operator's actual total sales footage divisor.

If a mill transferring lumber out is in the sample, the divisor for computing unit manufacturing cost is the volume of lumber produced. The divisor to be used against lumber sales realization is the footage actually sold. In this situation, however, the divisor to be used against chip realization will be total lumber production, because chips are generated primarily from the residue of sawed logs.

**22.52 - Exhibit 02**

**MANUFACTURING FOOTAGES**

Log scale

1. Logs acquired (MLS)

a. Force account

b. Contract logging

c. Purchased logs

d. Piecework logging

e. Total logs acquired

Lumber tally  
(MBF)

2. Lumber sawed - per mill tally

Variance - Gain (loss)

3. Lumber sawed - per computation

4. Beginning inventory

a. Surfaced lumber

b. Rough lumber

c. (Insert specific type lumber)

d. (Insert specific type lumber)

e. (Insert specific type lumber)

f. Total

**22.52 - Exhibit 02-- Continued**

5. Lumber purchased	<u>Where introduced</u>
a. Surfaced lumber	_____
b. Rough lumber	_____
c. (Insert specific type lumber)	_____
d. (Insert specific type lumber)	_____
e. (Insert specific type lumber)	_____
f. Total	_____
6. Lumber transferred in	<u>Where introduced</u>
a. (Insert specific type lumber)	_____
b. (Insert specific type lumber)	_____
c. (Insert specific type lumber)	_____
d. Total	
7. Lumber available for sale (Items 1 or 2 and 3, 4, and 5)	
8. Lumber transferred out	
a. Surfaced lumber	
b. Rough lumber	
c. Total	

**22.52 - Exhibit 02-- Continued**

9. Lumber used internally or sent to chipper

10. Ending inventory

a. Surfaced lumber

b. Rough lumber

c.

d.

e.

f. Total

11. Lumber sold - computed  
(items 6, 7, 8, and 9)

12. Lumber sold - actual

13. Lost or gained units \_\_\_\_\_



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22.52 - Exhibit 02--Continued

Supplemental Footage Data

1. Lumber dried		Lumber tally (MBF)
a. Lumber air dried		
b. Lumber kiln dried		
2. Custom work <u>1/</u>		
a. Sawing		
b. Surfacing		
c. Drying		
3. Treated lumber	<u>Process</u>	<u>Footage</u>
a.		
b.		
c.		
4. Lumber byproducts sold	<u>Unit of measure</u>	<u>Quantity</u>
a. Sawdust	_____	
b. Shavings	_____	
c. Lath	_____	
d. Firewood	_____	
e.	_____	
f.	_____	
g.	_____	

## Chapter 20 - Collection and Analysis

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**22.52 - Exhibit 02--Continued****Supplemental Footage Data**

## 5. Wood chips

	<u>Unit of measure</u>	<u>Quantity</u>
a. Volume sold	_____	
b. Chip materials purchased		
(1) Slabs	_____	
(2) Blocks	_____	
(3) Topwood	_____	

Where the mill handles byproducts by any measure other than tons, find out the factor needed to convert the unit of measure to tons.

## 6. Conversion factors

a. Chips 2/

\_\_\_\_ cord            = \_\_\_\_ tons  
 \_\_\_\_ unit            = \_\_\_\_ tons  
 \_\_\_\_ MBF            = \_\_\_\_ BD units

## b. Wood shavings

\_\_\_\_ cord            = \_\_\_\_ tons  
 \_\_\_\_ units            = \_\_\_\_ tons

1/ Custom work footages must be added to the mill's own footage through the process to establish cost center divisors.

2/ A unit of chips must be defined. A unit may mean 200 cubic feet, 1,800 lbs., 2,000 lbs., or 2,400 lbs. It can be a mixed species or a single species. Selling prices vary, but not proportionally to weight. There must be a conversion to a common base.

## 22.6 - Logging Cost Centers and Divisors

### 22.61 - Felling and Bucking

Definition: Costs of felling and bucking, including preparation of logs for movement on rights-of-way.

1. Included Costs. These are such costs as:
  - a. Labor and supplies.
  - b. Transportation and travel time of fellers, buckers, and bull buck.
  - c. Saw purchase, rental, and maintenance.
  - d. Contract felling and bucking.
  - e. Limbing to merchantable or standard product top.
  - f. Snag- and cull-tree felling. When practicable, identify, remove, and include under "Contractual." Indicate location of these costs in working papers, compilations, etc.
  - g. Tree length bucking at woods landing.
  - h. Equipment operation, repair, and maintenance.
  - i. Woods scalers.
  - j. Depreciation, if any.
  - k. Bureau Scaling. Represents costs of bureau scaling of logs as a basis for payment based on stumpage volumes.
2. Divisor. Total net scale of timber felled.

### 22.62 - Skidding

Maintain sub-cost centers according to appraisal needs. When practicable, segregate costs by skidding method, such as tractor, jammer, high-lead or other cable systems, rubber-tired, animal, or combinations thereof. Indicate location of costs in working papers, compilations, and so forth.

Definition: Costs incurred in moving logs, trees, or products from the woods to a landing or other point of transportation. Costs incurred in the construction of skid roads and skid trails.

1. Included Costs. These are such costs as:
  - a. Labor and supplies.
  - b. Equipment operation, repair, and maintenance.

- c. Moving in and setting up.
  - d. Locating, constructing, maintaining, and cleaning up landings, but not burning slash.
  - e. Knot bumping at landings.
  - f. Fire prevention associated with skidding, such as clearing around tail blocks.
  - g. Repair of fences, telephone lines, ditches, and similar improvements damaged in the skidding operations.
  - h. Depreciation.
2. Excluded Costs.
- a. Erosion Control Costs. These costs are frequently included by the operator in this cost center. When needed for appraisal, separate these costs by actual dollar cost or by estimate and include them under "Other (Contractual)." This cost will be estimated at time of appraisal. Indicate location of this cost in working papers, compilations, etc. Examples of cost: water bars, cross ditches on roads and skid trails.
  - b. Non-specified Road Construction. Some operators include these costs with this cost center. If so, separate out and include them in transportation development cost center.
3. Divisor. Net volume skidded.

## 22.63 - Loading

Definition: Includes all costs incurred in placing the logs or products on logging trucks or railcars.

1. Included Costs. These are such costs as:
- a. Labor and supplies.
  - b. Equipment operation, repair, and maintenance.
  - c. Landing helper (chaser).
  - d. Painting and branding.
  - e. Moving equipment in and setting up.
  - f. Depreciation.

2. Excluded Costs. Such costs as reloading are excluded. Reloading belongs under log transportation.

3. Total net volume loaded.

## **22.64 - Transportation Facilities**

### **22.64a - Transportation and Road Maintenance**

Definition: All costs incurred after the logs or products have been placed on conveyance and ending when logs have been delivered to final destination prior to unloading. When unloading is performed by logging personnel and equipment or logging contractor, adjust this cost appropriately. Indicate action taken in working papers, compilations, and so forth.

Whenever such unloading costs are included in logging costs, such as in a logging contract price, or whenever the cost is performed by logging rather than manufacturing personnel, so indicate in working papers, compilations, and so forth, and adjust this expense to show as a manufacturing cost item. Show each kind of compiled unit cost separately; with or without unloading costs.

1. Included Costs. These are such costs as:

- a. Labor and supplies.
- b. Equipment operation, repair, and maintenance.
- c. Specified or system and private road and railroad maintenance costs.
- d. Towing from dump to mill, including the cost of dumping, booming, and rafting.
- e. Contract transportation.
- f. Public utility commission licenses and fees.
- g. Transfer and reloading costs.
- h. Applicable share of depreciation on vehicles and other equipment.
- i. Applicable share of general logging overhead.
- j. Applicable share of general and administrative expense.

2. Woods Decking and Truck Reloading. This sub-cost center includes cost of unloading, decking, and reloading. Usually applies to partial off-highway haul by wide-bunk trucks and subsequent transfer to highway haul equipment.

3. Railroad Reloading. Same as item 2, but applies to railroad operations only.

4. Road Maintenance. (Includes private roads and private railroads.) This sub-cost center includes all costs of labor, materials, and fuel used in maintaining all roads used

for log hauling. Identify costs by road category using actual amount or estimate when needed for appraisal purposes. All direct, indirect, and prorated costs will be included under this sub-cost center during cost collection and excluded from sample operator's logging costs. This includes such items as:

- a. Payments to Forest Service for cooperative road maintenance.
  - b. Payments to others for cooperative road maintenance.
  - c. Road fees and road toll expenses.
  - d. Receipts from others for cooperative road maintenance, and so forth.
  - e. Credit proration of road maintenance for private land recreation use traffic.
5. Divisor. None applicable.

#### **22.64b - Transportation Development**

Definition: All costs incurred in the construction and/or betterment of specified and Non-specified roads, private railroads, logging camps, and other such facilities.

1. Included Costs. These are such costs as:
  - a. Labor and supplies.
  - b. Equipment operation, repair, and maintenance.
  - c. Engineering survey, design, and construction.
  - d. Disposal of right-of-way debris.
  - e. Applicable share of depreciation of equipment used.
  - f. Applicable share of general logging overhead.
  - g. Applicable share of general and administrative expense.
2. Divisor. None applicable.

#### **22.65 - Logging Depreciation**

Analysis of this fixed charge by property item and related cost center should include those procedures called for in section 13, exhibit 1, part VI. Depreciation will be reduced by sales of salvage in year of transaction, gains on disposition of depreciable assets in year of transaction, and will be increased by losses on disposition of depreciable assets in year of transaction.

Definition: Represents the amounts assigned to all process cost centers, including felling and bucking, skidding, loading, transportation facilities, and other logging activities. After the total

amount recorded in this account is distributed, it will have a zero balance. If desired, Regions may compute depreciation unit cost for each cost center covering stump-to-truck operations and add these unit costs together to represent stump-to-truck depreciation cost.

1. Included Items. These are such costs as:
  - a. Sales of salvage materials and equipment.
  - b. Gain or loss on sale of equipment.
  - c. Cost of renting equipment.
  - d. Rental income will be credited to the cost center bearing most of costs.
2. Divisor. None applicable.

#### **22.66 - Contract Logging Costs**

Treatment of payroll taxes and assessments and workmen's compensation insurance premiums by the operator determines whether a cost is company or contract. When the company provides for making these payments, the cost belongs to the company. When the contract price includes all payroll and related charges, the cost is contract.

#### **22.67 - Environmental Protection**

Items of general overhead applicable to such cost and of depreciation on equipment used in contractual work will be included here.

Definition: These are costs made necessary by contract requirements and are not averaged. Instead, the appraiser makes an individual estimate for each sale. These costs must be segregated from logging cost centers having a divisor in order to avoid duplicated costs in the appraisal process. The more common segments include:

1. Cull and Snag Tree Felling. These costs should be separated from felling and bucking, whenever possible.
2. Erosion Control. Includes costs for all work required of a purchaser, including that which the Forest Service did under a cooperative agreement. Typical costs are maintenance of erosion control structures and grass seeding.
3. Fire Protection. Such as fire equipment and supplies, watchmen, special patrolmen, and cost recoveries.
4. Slash Disposal. As performed by the purchaser.
5. Skid Trail Construction and Yarding Unmerchantable Timber. These costs should be separated from skidding whenever possible.

6. Divisor. None applicable.

## 22.68 - General Logging Overhead

Definition: These are the costs solely attributable to the logging activities of an entire operation which are not chargeable directly to cost centers.

1. Examples of general logging overhead include:
  - a. General woods supervision salaries and related payroll tax and workmen's compensation insurance premiums.
  - b. Transportation of logging crews to and from the worksite and the depreciation on and cost of operating these vehicles.
  - c. Camp maintenance when incurred for multi-purpose crews.
  - d. Costs applicable to log hauling transportation and maintenance.
  - e. Development and contractual cost centers.
  - f. Sub-cost centers such as work-road construction.
  - g. Any other center which does not have a divisor will be segregated and included in their respective cost centers.
2. Divisor. Average of total net volume skidded and net volume loaded (force account only).

## 22.69 - Logging General and Administrative Expenses

This category of expenses basically includes those described in section 22.89. It is mentioned here for guidance in handling collections of costs data from independent logging operators.

1. Included Costs. In addition to those items covered in section 22.89, logging general and administrative expenses may include:
  - a. Cruising and evaluating National Forest timber.
  - b. Scaling to determine stumpage payment.
  - c. Wood communication costs.
  - d. General safety.
2. Excluded Costs. These are such costs as:
  - a. Applicable portion of general and administrative expenses apportioned for contract work.



- b. Applicable portion of general and administrative expenses for those cost segments which the appraiser determines specifically for each sale, such as development.
  - c. Wood scaling.
  - d. Severance taxes and similar taxes which are computed specifically for each sale.
  - e. Professional services not related to logging operation.
  - f. Appeal costs.
  - g. Payment bond expense.
  - h. Fines, penalties.
  - i. Taxes on taxable income.
  - j. Expenses capitalized by the Forest Service cost accountant.
2. Divisor. Once established, this cost is combined with general logging overhead for unit cost averaging.

## 22.7 - Log Acquisition Methods and Costs

1. Log Acquisition Methods. The following are examples of and definitions for methods of log acquisition most commonly encountered.
- a. Force Account. "Force" is operator's employees. Force account logging is that performed by operator's employees using equipment owned, leased, or rented by the operator.
  - b. Contract Logging. Logs produced under a formal contractual arrangement. This includes the entire logging job or any part thereof.
  - c. Purchased Logs. Logs bought from anyone presenting them to operator for sale. This point of purchase may be anywhere between the time the log is made and the time it is unloaded in the mill yard.
  - d. Piecework. Logs acquired through arrangements with loggers in which they deliver logs at a unit rate. The logger usually pays his own crew direct, but the piecework arrangement may involve the operator in financing various parts of the loggers' activity. Piecework may cover the entire logging operation or any part of it.
2. Included and Excluded Cost. The following are samples of costs that should be charged directly to each method cost center:

- a. Forest Account. Sawmill operator force account logging costs will be the same as those presented in sections 22.61 thru 22.64, although they may not be broken out by category. The divisor will be volume fell and buck log scale.
- b. Contract Logging. These costs are generally identified separately in the operator's books although the terminology may be different. The divisor will be total contract log volume, log scale (sec. 22.66).
- c. Purchased Logs. These costs are generally recorded in a separate account in the operator's books. Divisor is the volume purchased log scale.
- d. Piecework Logging. These costs may appear in one or more operator accounts. Divisor is the volume designated as piecework log scale.

## 22.71 - Log Acquisition Overhead Cost

Definition: Log acquisition overhead (LOA) costs are attributable to the logging activities of the operator's entire operation and cannot be charged directly to cost centers. The purpose of this cost center is to establish a single pool of cost covering all methods by which the operator acquires logs. All costs developed in this cost center will remain with the operator. This instruction is not prescribing where the cost accountant should introduce this cost in Regional appraisals; that is, as a manufacturing, logging, or independent cost element. Rather it is identifying it as being a valid includable expense in timber appraisals.

1. Included Costs. These are such costs as:
  - a. Timber cruising.
  - b. Woods superintendent.
  - c. Fire control.
  - d. Log scaling.
  - e. Contract administration.
  - f. General and administrative.
2. Excluded Costs.
  - a. Private land management.
  - b. Cruising timber for other operations or activities.
  - c. Stumpage.
3. Divisor. Volume of logs acquired all methods, log scale.

## 22.8 - Manufacturing Cost Centers and Divisors

Footage divisor for most cost centers will be actual production. Cost collectors are instructed to collect actual footages of all manufacturing processes for use by the Timber Management Staff in converting the total cost-total sales realization method of determining timber appraisal values.

### 22.81 – Sawmill

Definition: Includes movement of logs from the yard to the pond into lumber through the green chain, except for debarker costs. See section 22.85a for determination of debarker costs.

1. Beginning. When logs have reached the pond, deck, or log yard and are ready to be unloaded.
2. Ending. When the lumber has been sorted and piled for movement to the yard.
3. Pond or Log Yard.
  - a. Included costs:
    - (1) Labor and Supplies.
    - (2) Unloading Logs. (May be transferred in from woods cost.)
    - (3) Sorting.
    - (4) Decking.
    - (5) Undecking.
    - (6) Towing within pond and storage.
    - (7) Log-pond expense.
    - (8) Rebucking.
    - (9) Splitting.
    - (10) Scaling by company for payment of private logs delivered unless included elsewhere.
    - (11) Sprinkling of log deck.
    - (12) Log banding.
    - (13) Rehandling of logs in the yard.
    - (14) Depreciation charges to sawmill assets.

- b. Excluded Cost. Cost of any scaling that duplicates the work of a Forest Service scaler.
- 4. Mill Operation. This includes such costs as:
  - a. Labor, including payroll taxes and workmen's compensation insurance premiums.
  - b. Burner costs.
  - c. Share of power costs.
  - d. Equipment operation, repair, and maintenance costs.
  - e. Depreciation on machinery and equipment.
  - f. Supplies.
  - g. Waste disposal.
  - h. Depreciation.
- 5. Green Chain.
  - a. This includes such costs as:
    - (1) Labor, including payroll taxes and workmen's compensations insurance premiums.
    - (2) Tallymen pullers.
    - (3) Green-chain graders.
    - (4) Dipping.
    - (5) Equipment operation, repair, and maintenance.
    - (6) Supplies.
    - (7) Depreciation.
  - b. Divisor. Total rough-lumber production. If there is lumber sorting on the green chain, then the divisor for green chain costs is total rough-lumber production and lumber purchased and sorted on the green chain. Add both of these unit costs together for sawmill costs.
- 6. Depreciation on sawmill machinery and equipment must be included with sawmill and other cost center costs in order to make a proper cost allowance for lumber purchased where the total realization- total cost method of appraising timber values is to be used.

## 22.82 - Yard, Air Drying, and Loading for Shipping

Definition: Includes all lumber movement, both dry and green, from the green chain, through air-drying, up to and including loading on truck or railcar for shipment. Excludes all kiln-drying costs.

1. Beginning. With handling of lumber from end of green chain.
2. Ending. When lumber transport or conveyance is loaded.
3. Divisor. The sum of the volume of lumber shipped, transferred, and used, and the ending inventory minus the beginning inventory. To be used in computing unit costs where the total realization, total cost method of appraising timber is used. Lumber purchased and sold which is not handled on the yard is not part of this divisor.
4. Yard and Air Drying.

Definition: Deliveries within Company. Includes all costs of transporting rough green or dry lumber by truck to and from planning mill and/or kiln only when operations are at separate locations. Movements of Lumber Force Account or Contract. Loading and unloading costs may be identified herein as yard when more convenient. Costs also include fixed charges, licenses, fees, repairs, and maintenance.

- a. Beginning. With handling of lumber from end of green chain.
- b. Ending. When lumber is ready for loading for shipment by truck, rail, or barge.
- c. Included Costs. These are such costs as:
  - (1) Operating and maintenance costs of moving lumber within and between departments by facilities normally handling lumber in unit lots.
  - (2) Storage costs.
  - (3) Costs of dry yard: piling, unpling, sorting, stickering, grading, dry-lumber transfer, and storage.
  - (4) Spotter and blocker or hookman.
  - (5) Equipment costs:
  - (6) Outside cranes, including craneway.
  - (7) Inside cranes, including rail.
  - (8) Industrial locomotives and locomotive cranes.
  - (9) Bridge cranes.

(10) Lift trucks.

(11) Yard lumber trucks.

(12) Gantry cranes.

(13) Lumber carriers.

(14) Jitneys.

(15) Operation, repair, and maintenance.

(16) Depreciation of yard equipment and air-drying sheds.

d. Excluded Cost. Any further manufacturing costs after the lumber leaves the yard, unless sales revenues are included in appraisal.

e. Divisor. The sum of volume of lumber shipped, transferred, used, and ending inventory minus beginning inventory. To be used if computing unit cost by cost center prior to conversion to total cost and sales realization unit cost average. Lumber purchased and sold which is not handled on the yard is not part of this divisor.

5. Loading for Shipping. This function is included here rather than as a separate cost center, because most operators integrate these costs with their yard operations.

Definition. Include all costs of loading lumber for shipment. The cost of hauling lumber ready for sale or shipment, including hauling from mill off-rail to railhead, is considered as freight (not a manufacturing cost). Such costs will be deducted from gross sales to arrive at net f.o.b. price at mill.

6. Shipping. When average sales realizations are based on f.o.b., mill on-rail, the net f.o.b. prices for mills off-rail will be adjusted to a net f.o.b. mill price on-rail by adding the cost of hauling from mill to railhead to the net f.o.b. mill price off-rail before averaging with on-rail mills. At time of appraisal, a lumber haul allowance will be made as a manufacturing cost to these off-rail appraisal points, so no lumber hauling costs are allowable as a manufacturing cost at time of collection.

a. Beginning. With removal from storage for loading for shipment.

b. Ending. When conveyance is loaded.

c. Included Costs. These are such costs as:

(1) Assembly of order, resorting, and regrading of surfaced lumber for shipment.

(2) Bureau inspection.

(3) Loading on cars, trucks, barges, and moving to shipside.

(4) Tallying for shipment.

(5) Banding and covering of units with plastic or other material.

(6) Painting ends of boards.

(7) Demurrage.

(8) Equipment operation, repair, and maintenance.

(9) Depreciation.

d. Divisor. Volume shipped. This is to be used if computing unit cost by cost center prior to conversion to total cost and sales realization unit cost average.

## 22.83 - Dry Kiln

1. Inclusion. All operating expenses of kiln, including power costs, repairs, and maintenance, kiln stacking, and moving loads into and out of kiln.

2. Divisor. Volume kiln-dried. This is to be used in computing unit cost by cost center prior to conversion to total cost and sales realization unit cost average.

## 22.84 - Surfacing

Definition: Planing, handling, grading of boards, and rerunning to pattern. Products manufactured beyond simple patterns should not be included. Molding is a simple pattern.

1. Beginning. With receipt of rough lumber from green chain, yard, or kiln.

2. Ending. When surfaced lumber has been sorted and is ready for delivery to the finished storage or shipping areas.

3. Included Costs. These are such costs as:

a. All processing and handling of lumber in the planing mill.

b. Labor, including payroll taxes and workmen's compensation insurance premiums.

c. Grading, sorting, and tallying on planer chain.

d. Rerunning to pattern.

e. Share of power costs.

f. Equipment operation, repair, and maintenance.

- g. Supplies.
- h. Depreciation.
- 4. Excluded Costs. Costs of products manufactured beyond simple patterns.
- 5. Divisor. Volume surfaced. This is to be used in computing unit costs by cost center prior to conversion to total cost and sales realization unit cost average.

## **22.85 - Debarker and Chipper**

### **22.85a - Debarker**

1. Included Costs. All operating costs of the debarker. Debarker costs may be combined with chipper costs. Includes such costs as:
  - a. Debarker operator labor, including payroll taxes and workmen's compensation insurance premiums.
  - b. Supplies.
  - c. Repairs and maintenance.
  - d. Share of power costs.
  - e. Depreciation.
  - f. Share of general manufacturing overhead.
  - g. Share of general and administrative expense.
2. Divisor. Total rough-lumber production; topwood, purchased for chips; and logs debarked for custom sawing and saw-timber-sized logs purchased for chipping converted to lumber tally measure by applying the experienced mill overrun to the log-scale footage.

### **22.85b - Chipper**

1. Included Costs. All operating costs of the chipper. Materials purchased to be chipped will also be costed. Also includes other costs such as:
  - a. Labor to extent identifiable, including payroll taxes and workmen's compensation insurance premiums.
  - b. Depreciation.
  - c. Repairs and maintenance.
  - d. Share of power costs.



- e. Share of general manufacturing overhead.
  - f. Share of general and administrative expense.
2. Excluded Costs. Those costs chargeable to sales in the same manner as lumber, such as rail, contract delivery, company delivery, freight, commissions, and discounts.
3. Divisor. Total rough-lumber production plus topwood, purchased for chips, and logs debarked for custom sawing and saw-timber-sized logs purchased for chipping converted to lumber-tally measure by applying the experienced mill overrun to the log-scale footage. Also see FSM 2422.

Under the total costs-total realization appraisal concept, convert chip and other by product costs and sales realizations to a per MBF basis as follows:

Chips sold--tons 20,000 at \$20.00 p/ton = \$400,000 total sales realization for chips.

Lumber produced and sold--40,000 MBF--lumber tally.  
 $\frac{\$400,000}{40,000\text{M}} = \$10 \text{ per M lumber tally for chips, sales realization.}$

Total cost to produce the chips = \$200,000.  
Lumber produced and sold 40,000 MBF, lumber tally  
 $\frac{\$200,000}{40,000\text{M}} = \$5 \text{ per M lumber tally for chips cost.}$

In cases where sawlogs are brought in for chipping only and not for lumber production, it is possible to have a cost-center divisor for chips which exceed the total-production divisor for lumber. In these cases, the larger divisor should be used to establish the per M unit chip rates.

## 22.86 - Lumber Byproducts

Represents those products developed from former waste materials and those incidentally produced along with primary products.

1. Included Costs. These are such costs as labor, depreciation, property insurance, property taxes, repairs, maintenance, and share of general and administrative expenses and general manufacturing overhead.

Each class of byproduct will be segregated in the working papers, as much as practicable.

2. Divisor. The volume of lumber, board-foot measure, put into production. If there is no way to establish a volume divisor, add the related costs to those for sawmill production and the sales realizations to lumber sales.

## 22.87 - Manufacturing Depreciation

Definition: This is not a cost center. It is only a convenient collection point for depreciation charges to operations. A zero balance remains after distribution to applicable cost centers and the non-applicable portion to "other." It refers to depreciation changes on all assets actually used in the operation.

1. Depreciation computed on assets used in each manufacturing process must be included with the other cost center costs so that full allowance may be made in recognizing cost equivalency of lumber purchased that had already been manufactured by that process. Also see section 22.45, paragraph 6.
2. Depreciation Analysis.
  - a. Analysis of this fixed charge by property item and related cost center should comply with the instructions in section 13, exhibit 1, part VI. A share of depreciation should be determined for such activities as lumber delivery and lumber byproducts, and charged thereto. A service center, such as a power plant, shop, or garage, will have its applicable depreciation charged to it cost of operations prior to distribution of costs of using and benefiting activities.
  - b. Depreciation will be reduced by sales of salvage in year of transaction, gains on disposition of depreciable assets in year of transaction, and will be increased by losses on disposition of depreciable assets in year of transaction.
  - c. Equipment-rental expenses applicable to lumber production will be charged to the pertinent cost center.
  - d. Rental income will be credited to the cost center bearing most of costs.
3. Divisor. None applicable.

## 22.88 - General Manufacturing Overhead

This cost center represents those costs identifiable with overall manufacturing. These costs will be distributed to lumber, lumber byproducts, debarker, chipper, lumber hauling, and all extraneous operation on some appropriate basis. After distribution, only the share applicable to manufacturing and selling basic wood products will remain in this cost center. These costs, by nature, do not generally benefit logging operations, and, consequently, should rarely be apportioned to logging activity.

1. Cost Examples.
  - a. Plant fire protection.
  - b. Plant property insurance and taxes.
  - c. Plant general services, such as watchmen and millwrights.

- d. Plant general safety.
- e. Saw filer, if one employee files all saws used in the operation.
- f. Plant, other items.
- g. In addition, all selling expense of lumber, lumber byproducts, chips, and extraneous products are part of this cost center. Examples of selling expense are:
  - (1) Local selling expense.
  - (2) Salesmen's salaries, but not brokerage commissions, and travel and entertainment paid to salesmen who are company employees.
  - (3) Sales clerks' and transportation and freight specialists' salaries.
  - (4) Postage, telephone, and telegraph.
  - (5) Advertising and business promotion expense.
  - (6) Officers' salary, travel and entertainment when engaged full- or part-time on selling activities.
  - (7) Actual uncollectible debts for wholesale lumber sales written off, less actual recoveries during year (sec. 22.45, item 1).
  - (8) Association dues, as applicable.
  - (9) Association inspection fees.
  - (10) Customer credit services.
  - (11) Subscriptions related to selling.
- 2. Divisor. The sum of volume shipped, transferred, used, and ending inventory, minus beginning inventory.

## **22.89 - Manufacturing General and Administrative Expenses**

This cost center is a convenient collecting point for overall general expenses. After all general expenses have been recorded here, distribution is made to all company activities extraneous to manufacturing basic wood products. Examples of basic wood products are lumber, plywood, flooring, molding, veneer, and chips. The distribution may be made on any equitable basis which will recognize the activities which either caused the expenditures or benefited from the expenditures.

Following this distribution, the remaining general and manufacturing overhead related to the manufacture of basic wood products and together represent the overhead cost for the operation.

Although the operator may include property taxes, property insurance, communications expense, labor-related costs, such as net workmen's compensation premiums, association dues as general and administrative expenses, such expenses should be removed and recorded in their proper cost centers within the instructions of this handbook.

Definition: Represents the overall management expense applicable to all activities of the operator which are subject to proration.

1. Example of Manufacturing General and Administrative Expense.
  - a. Executive and administrative salaries. An independent record will be maintained for reporting purposes.
  - b. Public relations expense.
  - c. Office salaries and expense.
  - d. Communication expenses (postage, telephone, and telegraph).
  - e. Travel and entertainment.
  - f. Office equipment maintenance.
  - g. Janitor supplies and expenses.
  - h. Miscellaneous income and expense, balance not identified by cost center.
  - i. Miscellaneous taxes and licenses not identified by cost center.
  - j. Fixed charges and labor-related costs applicable to general and administrative expense which are not distributable.
  - k. Legal, audit, and professional fees.
  - l. Subscriptions not identified elsewhere.
  - m. Home-office assessments, if allowable.
2. Excluded Costs.
  - a. Costs related to warehousing credit operations; excise taxes based on income; personal contributions; salaried personnel not contributing to timber operations all of which belong in "other."
  - b. Brokerage commissions, sales discounts, sales claims and allowances, freight overweights and underweights (these are sales adjustments).
3. Divisor. None applicable.

## 22.9 - Suggested Format for Presentation of Collected Cost Data

The formats for developing accounting data for timber appraisal are recommended in this instruction. Inter-Regional exchange of data and inter-Regional expansion of timber operator activities are simplified by a common presentation of accounting data.

Data developed during the cost analysis could be presented on:

1. Exhibit 01, Functional Distribution of Sales and Costs (ex. 01).
2. Schedule A, Adjustments.
3. Other schedules (Lettered).
4. Exhibit 02, Footage Divisors.

No other material needs to be made a part of this presentation. However, notes, working papers, any summary of unit costs taken from exhibit 01, and a copy of the survey and Cost Accountant's report should be placed at the end of this file.

1. Exhibit 01 is the basic document. It is supported by the other exhibits and schedules. It changes in status from a working paper to a report of collected and analyzed accounting data with the related footage divisors.

Only exhibit 01 is shown in this handbook. This format presentation based on instructions shown on the sample will provide for the majority of sample timber operator data Service-wide.

In more complex or extensive analyses, numerous overlay sheets, continuing analyses, and bases of proration and control would be burdensome. In such cases, instead of showing cost centers in the columnar headings, show the schedule number and title. Each column would then serve as a cumulating center supported by a schedule detailing the cost centers, bases of proration, and any related data.

Further intermediary summaries would be made; because the alternative approach is governed by the nature of the job, no common exhibit and consequent procedures are prescribed. However, for the purpose of common presentation for inter-Regional use, and so forth, the results obtained will be recast in the manner depicted in exhibit 01, including the footage divisors, data revisions, and unit costs. In substance, therefore, all final accounting data may be presented uniformly to the Forest Management staff in every Region.

The Regional Forester may agree with the timber operator to record their adjusted trial balance on working paper at the start of the cost analysis. When this is done, the accountant would be given access to the general ledger to verify the accuracy and completeness of the adjusted account balances. The trial balance could be restricted to listing the nearest whole dollar of an operator's revenue and expense accounts and beginning and ending inventories. In larger operations, there are probably additional transactions affecting the cost of operations. This information is also needed. The accountant would then have to be given unrestricted access to the books and records supporting the costs of operations.

Some of the records the cost analyst would want to use are the plant ledger, depreciation schedule, property tax bills, insurance policies, workmen's compensation insurance premium billings, premium adjustment statements, details supporting bad debts policy and write-offs, and employee earnings records.

## 2. Schedule A, Adjustments.

Adjustments would be prepared for (1) classification of expenses under another account, (2) distribution to cost centers explaining the basis for distribution, and (3) imputations made by the cost accountant.

Paragraph a (1) adjustments will be double entry and posted to adjustment column of exhibit 1.

Paragraph a (2) adjustments will be made for distributions other than by a basis of proration shown in exhibit 02. No debt or credit would be necessary in the adjustment columns for this kind of distribution. The explanation of the distribution will be sufficient.

Paragraph a (3) adjustments for imputation made by the cost accountant will be recorded as follows. The debit or credit for each imputed item would be entered under the applicable cost center column or columns and the offsetting debit or credit entered in the "Other" column.

All adjustments will be lettered or numbered consecutively. Each will have an adequate explanation to support the entry. Adjustment letters or numbers will be posted on exhibit 01 in the column shown in the format.

Whenever an adjustment requires an explanatory schedule, such schedule will be identified by using the same letter or number as the adjustment. Adjustment schedules will be filed after the last page of the adjustments unless a schedule is made part of an adjustment itself.

Other working papers represent analyses of various expense accounts or sales revenue which are part of the collection. Analysis of sales by species, development of overrun data, development of imputed costs, and various statistics are but a few examples of such working papers. These working papers will be identified successively by number or capital letters.

## 3. Exhibit 02, Footage Divisors.

There are four classes of footage divisors used to compute manufacturing unit costs:

- a. Total production;
- b. Total sales;
- c. Cost center or process footages, such as sawmill, kiln, and planer; and
- d. Rehandled footages, such as replane and resaw.

Show the derivation and application of each footage divisor. State on exhibit 01 the class of footage divisor being used. Show also, where any group of footages was used to compute unit costs.

Support the use of constructed footage divisors. Neither total production footages nor sales footages will be weighted for an individual operator.