LEARNING OBJECTIVES

After studying this chapter, you should be able to:

1. Describe the major characteristics of property, plant, and equipment.
2. Identify the costs included in the initial valuation of land, buildings, and equipment.
3. Describe the accounting problems associated with self-constructed assets.
4. Describe the accounting problems associated with interest capitalization.
5. Understand accounting issues related to acquiring and valuing plant assets.
6. Describe the accounting treatment for costs subsequent to acquisition.
7. Describe the accounting treatment for the disposal of property, plant, and equipment.

Acquisition and Disposition of Property, Plant, and Equipment

Where Have All the Assets Gone?

Investments in long-lived assets, such as property, plant, and equipment, are important elements in many companies’ balance sheets. As indicated in the chart below, major companies, such as Wal-Mart and Southwest Airlines recently reported property, plant, and equipment (PP&E) as a percent of total assets ranging from 40 percent up to nearly 90 percent.

However, for various strategic reasons, a number of companies are now shedding property, plant, and equipment. They are using the proceeds to pay other companies to perform manufacturing and assembly functions—functions that were previously performed in company-owned facilities. As a result, some companies, such as Lucent and Nortel, do not need to invest as much in long-lived assets.

Nortel is a good example of the specifics of this strategy. The company is in the midst of a 36-month plan to sell and outsource certain facilities in order to reduce its direct manufacturing activities and costs. Nortel also sold its training and headset businesses and plans to more aggressively outsource other operations to reduce costs. Reductions in these areas will enable Nortel to concentrate on its core operations. The market seems to approve of this strategy. As measured by price-earnings (P-E) ratios early in 2000, Nortel’s P-E ratio was above that of competitors not pursuing aggressive outsourcing strategies.

As indicated in the opening story, a company like **Southwest Airlines** has a substantial investment in property, plant, and equipment. Conversely, other companies such as **Nortel** have a minor investment in these types of assets.

The purpose of this chapter is to discuss (1) the proper accounting for costs related to property, plant, and equipment and (2) the accounting methods used to record the retirement or disposal of these costs. Depreciation—allocating costs of property, plant, and equipment to accounting periods—is presented in Chapter 11. The content and organization of this chapter are as follows.

### Acquisition and Disposition of Property, Plant, and Equipment

**Objective 1** Describe the major characteristics of property, plant, and equipment.

Almost every business enterprise of any size or activity uses assets of a durable nature. Such assets are commonly referred to as **property**, **plant**, and **equipment**; or **fixed assets**. They include land, building structures (offices, factories, warehouses), and equipment (machinery, furniture, tools). These terms are used interchangeably throughout this textbook. The major characteristics of property, plant, and equipment are:

1. **They are acquired for use in operations and not for resale.** Only assets used in normal business operations should be classified as property, plant, and equipment. An idle building is more appropriately classified separately as an investment. Land held by land developers or subdividers is classified as inventory.

2. **They are long-term in nature and usually subject to depreciation.** Property, plant, and equipment yield services over a number of years. The investment in these assets is assigned to future periods through periodic depreciation charges. The exception is land. Land is not depreciated unless a material decrease in value occurs, such as a loss in fertility of agricultural land because of poor crop rotation, drought, or soil erosion.

3. **They possess physical substance.** Property, plant, and equipment are characterized by physical existence or substance and thus are differentiated from intangible assets, such as patents or goodwill. Unlike raw material, however, property, plant, and equipment do not physically become part of a product held for resale.
ACQUISITION OF PROPERTY, PLANT, AND EQUIPMENT

Historical cost is the usual basis for valuing property, plant, and equipment. Historical cost is measured by the cash or cash equivalent price of obtaining the asset and bringing it to the location and condition necessary for its intended use. The purchase price, freight costs, sales taxes, and installation costs of a productive asset are considered part of the asset’s cost. These costs are allocated to future periods through depreciation. Any related costs incurred after the asset’s acquisition, such as additions, improvements, or replacements, are added to the asset’s cost if they provide future service potential. Otherwise they are expensed immediately.

Cost should be the basis used at the acquisition date. The reason is that the cash or cash equivalent price best measures the asset’s value at that time. Disagreement does exist concerning differences between historical cost and other valuation methods (such as replacement cost or fair market value) arising after acquisition. APB Opinion No. 6 states that “property, plant, and equipment should not be written up to reflect appraisal, market, or current values which are above cost.” Although minor exceptions are noted, current standards indicate that departures from historical cost are rare.

The main reasons for this position are as follows: (1) At the date of acquisition, cost reflects fair value. (2) Historical cost involves actual, not hypothetical, transactions and as a result is the most reliable. (3) Gains and losses should not be anticipated but should be recognized when the asset is sold.

Cost of Land

All expenditures made to acquire land and to ready it for use are considered part of the land cost. Land costs typically include the following: (1) the purchase price, (2) closing costs, such as title to the land, attorney’s fees, and recording fees, (3) costs incurred in getting the land in condition for its intended use, such as grading, filling, draining, and clearing, (4) assumption of any liens, mortgages, or encumbrances on the property, and (5) any additional land improvements that have an indefinite life.

When land has been purchased for the purpose of constructing a building, all costs incurred up to the excavation for the new building are considered land costs. Removal of old buildings—clearing, grading, and filling—are considered land costs because these costs are necessary to get the land in condition for its intended purpose. Any proceeds obtained in the process of getting the land ready for its intended use, such as salvage receipts on the demolition of an old building or the sale of cleared timber, are treated as reductions in the price of the land.

In some cases, the purchaser of land has to assume certain obligations on the land such as back taxes or liens. In such situations, the cost of the land is the cash paid for it, plus the encumbrances. In other words, if the purchase price of the land is $50,000 cash, and accrued property taxes of $5,000 and liens of $10,000 are assumed, the cost of the land is $65,000.

Special assessments for local improvements, such as pavements, street lights, sewers, and drainage systems, are usually charged to the Land account. They are permanent in nature and after installation, are maintained and replaced by the local government body. In addition, permanent improvements made by the owner, such as landscaping, are properly chargeable to the Land account. Improvements with limited lives, such as private driveways, walks, fences, and parking lots, are recorded separately as Land Improvements so they can be depreciated over their estimated lives.

Generally, land is part of property, plant, and equipment. However, if the major purpose of acquiring and holding land is speculative, it is more appropriately classified as an investment. If the land is held by a real estate concern for resale, it should be classified as inventory.

In cases where land is held as an investment, what accounting treatment should be given taxes, insurance, and other direct costs incurred while holding the land? Many believe these costs should be capitalized because the revenue from the investment still
has not been received. This approach is reasonable and seems justified except in cases where the asset is currently producing revenue (such as rental property).

**Cost of Buildings**

The cost of buildings should include all expenditures related directly to their acquisition or construction. These costs include (1) materials, labor, and overhead costs incurred during construction and (2) professional fees and building permits. Generally, companies contract to have their buildings constructed. All costs incurred, from excavation to completion, are considered part of the building costs.

One accounting problem is deciding what to do about an old building that is on the site of a newly proposed building. Is the cost of removal of the old building a cost of the land or a cost of the new building? The answer is that if land is purchased with an old building on it, then the cost of demolition less its salvage value is a cost of getting the land ready for its intended use. Therefore the cost of removal relates to the land rather than to the new building. As indicated earlier, all costs of getting an asset ready for its intended use are costs of that asset.

**Cost of Equipment**

The term “equipment” in accounting includes delivery equipment, office equipment, machinery, furniture and fixtures, furnishings, factory equipment, and similar fixed assets. The cost of such assets includes the purchase price, freight and handling charges incurred, insurance on the equipment while in transit, cost of special foundations if required, assembling and installation costs, and costs of conducting trial runs. Costs thus include all expenditures incurred in acquiring the equipment and preparing it for use.

**Self-Constructed Assets**

Occasionally companies (particularly in the railroad and utility industries) construct their own assets. Determining the cost of such machinery and other fixed assets can be a problem. Without a purchase price or contract price, the company must allocate costs and expenses in order to arrive at the cost of the self-constructed asset. Materials and direct labor used in construction pose no problem; these costs can be traced directly to work and material orders related to the fixed assets constructed.

However, the assignment of indirect costs of manufacturing creates special problems. These indirect costs, called overhead or burden, include power, heat, light, insurance, property taxes on factory buildings and equipment, factory supervisory labor, depreciation of fixed assets, and supplies. These costs might be handled in one of two ways:

1. **Assign No Fixed Overhead to the Cost of the Constructed Asset.** The major argument for this treatment is that indirect overhead is generally fixed in nature and does not increase as a result of constructing one’s own plant or equipment. This approach assumes that the company will have the same costs regardless of whether the company constructs the asset or not. Therefore, to charge a portion of the overhead costs to the equipment will normally relieve current expenses and consequently overstate income of the current period. In contrast, variable overhead costs that increase as a result of the construction are assigned to the cost of the asset.

2. **Assign a Portion of All Overhead to the Construction Process.** This approach, a full costing concept, is appropriate if one believes that costs attach to all products and assets manufactured or constructed. This procedure assigns overhead costs to construction as it would to normal production. Advocates say that failure to allo-
Acquire overhead costs understates the initial cost of the asset and results in an inaccurate future allocation.

A pro rata portion of the fixed overhead should be assigned to the asset to obtain its cost. This treatment is employed extensively because many believe a better matching of costs with revenues is obtained. If the allocated overhead results in recording construction costs in excess of the costs that would be charged by an outside independent producer, the excess overhead should be recorded as a period loss rather than be capitalized, to avoid capitalizing the asset at more than its probable market value.2

**Interest Costs During Construction**

The proper accounting for interest costs has been a long-standing controversy. Three approaches have been suggested to account for the interest incurred in financing the construction or acquisition of property, plant, and equipment:

1. **Capitalize No Interest Charges During Construction.** Under this approach interest is considered a cost of financing and not a cost of construction. It is contended that if the company had used stock financing rather than debt financing, this expense would not have been incurred. The major argument against this approach is that an implicit interest cost is associated with the use of cash regardless of its source; if stock financing is employed, a real cost exists to the stockholders although a contractual claim does not take place.

2. **Charge Construction with All Costs of Funds Employed, Whether Identifiable or Not.** This method maintains that one part of the cost of construction is the cost of financing, whether by debt, cash, or stock financing. An asset should be charged with all costs necessary to get it ready for its intended use. Interest, whether actual or imputed, is a cost of building, just as labor, materials, and overhead are costs. A major criticism of this approach is that imputation of a cost of equity capital is subjective and outside the framework of an historical cost system.

3. **Capitalize Only the Actual Interest Costs Incurred During Construction.** This approach relies on the historical cost concept that only actual transactions are recorded. It is argued that interest incurred is as much a cost of acquiring the asset as the cost of the materials, labor, and other resources used. As a result, a company that uses debt financing will have an asset of higher cost than an enterprise that uses stock financing. The results achieved by this approach are considered unsatisfactory by some because the cost of an asset should be the same whether cash, debt financing, or stock financing is employed.

Illustration 10-1 on the next page shows the interest costs (if any) that would be added to the cost of an asset under the three capitalization approaches.

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2Recently, the Accounting Standards Executive Committee (AcSEC) of the AICPA issued an exposure draft related to property, plant, and equipment. In this exposure draft, AcSEC argues against allocation of overhead. Instead, it basically supports capitalization of only direct costs (costs directly related to the specific activities involved in the construction process). AcSEC was concerned that the allocation of overhead costs may lead to overly aggressive allocations and therefore misstatements of income. In addition, not reporting these costs as period costs during the construction period may affect favorably the comparison of period costs and resulting net income from one period to the next. See Accounting Standards Executive Committee, “Accounting for Certain Costs and Activities Related to Property, Plant, and Equipment,” Exposure Draft (New York: AICPA, June 29, 2001).
As indicated, in general, capitalizing actual interest (with modification) is the approach recommended under GAAP. This method is in accordance with the concept that the historical cost of acquiring an asset includes all costs (including interest) incurred to bring the asset to the condition and location necessary for its intended use. The rationale for this approach is that during construction the asset is not generating revenues, and therefore interest costs should be deferred (capitalized). Once construction is completed, the asset is ready for its intended use and revenues can be earned. At this point interest should be reported as an expense and matched to these revenues. It follows that any interest cost incurred in purchasing an asset that is ready for its intended use should be expensed.

To implement this general approach, three items must be considered:

1. Qualifying assets.
2. Capitalization period.
3. Amount to capitalize.

**Qualifying Assets**

To qualify for interest capitalization, assets must require a period of time to get them ready for their intended use. Interest costs are capitalized starting with the first expenditure related to the asset. Capitalization continues until the asset is substantially completed and ready for its intended use.

Assets that qualify for interest cost capitalization include two types: (1) assets under construction for an enterprise’s own use (including buildings, plants, and large machinery), and (2) assets intended for sale or lease that are constructed or otherwise produced as discrete projects (e.g., ships or real estate developments).

Examples of assets that do not qualify for interest capitalization are (1) assets that are in use or ready for their intended use, and (2) assets that are not being used in the earnings activities of the enterprise and that are not undergoing the activities necessary to get them ready for use. Examples would be land that is not being developed and assets not being used because of obsolescence, excess capacity, or need for repair.

**Capitalization Period**

The capitalization period is the period of time during which interest must be capitalized. It begins when three conditions are present:

1. Expenditures for the asset have been made.
2. Activities that are necessary to get the asset ready for its intended use are in progress.
3. Interest cost is being incurred.

Interest capitalization continues as long as these three conditions are present. The capitalization period ends when the asset is substantially complete and ready for its intended use.

**Amount to Capitalize**

The amount of interest to be capitalized is limited to the lower of actual interest cost incurred during the period or avoidable interest. **Avoidable interest** is the amount of interest cost during the period that theoretically could have been avoided if expenditures for the asset had not been made. If the actual interest cost for the period is $90,000 and the avoidable interest is $80,000, only $80,000 is capitalized. If the actual interest cost is $80,000 and the avoidable interest is $90,000, only $80,000 is capitalized. In no situation should interest cost include a cost of capital charge for stockholders’ equity. And, interest capitalization is required for a qualifying asset only if its effect, compared with the effect of expensing interest, is material.4

To apply the avoidable interest concept, the potential amount of interest that may be capitalized during an accounting period is determined by multiplying the interest rate(s) by the **weighted-average accumulated expenditures** for qualifying assets during the period.

**Weighted-Average Accumulated Expenditures.** In computing the weighted-average accumulated expenditures, the construction expenditures are weighted by the amount of time (fraction of a year or accounting period) that interest cost could be incurred on the expenditure.

To illustrate, assume a 17-month bridge construction project with current-year payments to the contractor of $240,000 on March 1, $480,000 on July 1, and $360,000 on November 1. The weighted-average accumulated expenditures for the year ended December 31 are computed as follows.

<table>
<thead>
<tr>
<th>Date</th>
<th>Amount</th>
<th>Capitalization Period*</th>
<th>Weighted-Average Accumulated Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 1</td>
<td>$240,000</td>
<td>10/12</td>
<td>$200,000</td>
</tr>
<tr>
<td>July 1</td>
<td>480,000</td>
<td>6/12</td>
<td>240,000</td>
</tr>
<tr>
<td>November 1</td>
<td>360,000</td>
<td>2/12</td>
<td>60,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,080,000</strong></td>
<td><strong>$500,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Months between date of expenditure and date interest capitalization stops or end of year, whichever comes first (in this case December 31).

To compute the weighted-average accumulated expenditures, we weight the expenditures by the amount of time that interest cost could be incurred on each one. For the March 1 expenditure, 10 months’ interest costs can be associated with the expenditure. For the expenditure on July 1, only 6 months’ interest costs can be incurred. For the expenditure made on November 1, only 2 months of interest cost is incurred.

**Interest Rates.** The principles to be used in selecting the appropriate interest rates to be applied to the weighted-average accumulated expenditures are as follows.

1 For the portion of weighted-average accumulated expenditures that is less than or equal to any amounts borrowed specifically to finance construction of the assets, use the interest rate incurred on the specific borrowings.

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4Ibid., summary paragraph.
For the portion of weighted-average accumulated expenditures that is greater than any debt incurred specifically to finance construction of the assets, use a weighted average of interest rates incurred on all other outstanding debt during the period.\(^5\)

An illustration of the computation of a weighted-average interest rate for debt greater than the amount incurred specifically to finance construction of the assets is shown in Illustration 10-3.

### Comprehensive Illustration of Interest Capitalization

To illustrate the issues related to interest capitalization, assume that on November 1, 2003, Shalla Company contracted with Pfeifer Construction Co. to have a building constructed for $1,400,000 on land costing $100,000 (purchased from the contractor and included in the first payment). Shalla made the following payments to the construction company during 2004.

<table>
<thead>
<tr>
<th>Date</th>
<th>Amount</th>
<th>Capitalization Period</th>
<th>Interest Capitalized</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1</td>
<td>$210,000</td>
<td>12/12</td>
<td>$210,000</td>
</tr>
<tr>
<td>March 1</td>
<td>$300,000</td>
<td>10/12</td>
<td>$250,000</td>
</tr>
<tr>
<td>May 1</td>
<td>$540,000</td>
<td>8/12</td>
<td>$360,000</td>
</tr>
<tr>
<td>December 31</td>
<td>$450,000</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,500,000</strong></td>
<td></td>
<td><strong>$820,000</strong></td>
</tr>
</tbody>
</table>

Construction was completed and the building was ready for occupancy on December 31, 2004. Shalla Company had the following debt outstanding at December 31, 2004.

1. 15%, 3-year note to finance purchase of land and construction of the building, dated December 31, 2003, with interest payable annually on December 31 $750,000
2. 10%, 5-year note payable, dated December 31, 2000, with interest payable annually on December 31 $550,000
3. 12%, 10-year bonds issued December 31, 1999, with interest payable annually on December 31 $600,000

The weighted-average accumulated expenditures during 2004 are computed as follows.

### Illustration 10-3

Computation of Weighted-Average Interest Rate

<table>
<thead>
<tr>
<th>Principal</th>
<th>Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>$600,000</td>
<td>$ 72,000</td>
</tr>
<tr>
<td>2,000,000</td>
<td>180,000</td>
</tr>
<tr>
<td>5,000,000</td>
<td>375,000</td>
</tr>
<tr>
<td><strong>$7,600,000</strong></td>
<td><strong>$627,000</strong></td>
</tr>
</tbody>
</table>

Weighted-average interest rate = $627,000 / $7,600,000 = 8.25%
Note that the expenditure made on December 31, the last day of the year, does not have any interest cost.

The avoidable interest is computed as follows.

<table>
<thead>
<tr>
<th>Weighted-Average</th>
<th>Interest Rate</th>
<th>Avoidable Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accumulated Expenditures</td>
<td>$750,000</td>
<td>.15 (construction note)</td>
</tr>
<tr>
<td>$70,000&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.1104 (weighted average of other debt)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>$7,728</td>
</tr>
<tr>
<td>$820,000</td>
<td></td>
<td>$120,228</td>
</tr>
</tbody>
</table>

<sup>a</sup>The amount by which the weighted-average accumulated expenditures exceeds the specific construction loan.

<sup>b</sup>Weighted-average interest rate computation:

<table>
<thead>
<tr>
<th>Principal</th>
<th>Interest</th>
<th>Total interest</th>
<th>Total principal</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%, 5-year note</td>
<td>$550,000</td>
<td>$5,500</td>
<td>$55,000</td>
</tr>
<tr>
<td>12%, 10-year bonds</td>
<td>$600,000</td>
<td>72,000</td>
<td></td>
</tr>
<tr>
<td>$1,150,000</td>
<td>$127,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Weighted-average interest rate = $127,000 / $1,150,000 = 11.04%

The actual interest cost, which represents the maximum amount of interest that may be capitalized during 2004, is computed as shown below.

<table>
<thead>
<tr>
<th>Construction note</th>
<th>$750,000 × .15</th>
<th>$112,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-year note</td>
<td>$550,000 × .10</td>
<td>55,000</td>
</tr>
<tr>
<td>10-year bonds</td>
<td>$600,000 × .12</td>
<td>72,000</td>
</tr>
</tbody>
</table>

Actual interest = $239,500

The interest cost to be capitalized is the lesser of avoidable interest ($120,228) or actual interest ($239,500). In this case, the interest cost to be capitalized is $120,228.

The journal entries made by Shalla Company during 2004 would be as follows.

<table>
<thead>
<tr>
<th>Date</th>
<th>Account Description</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1</td>
<td>Land</td>
<td>100,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Building (or Construction in Process)</td>
<td>110,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td></td>
<td>210,000</td>
</tr>
<tr>
<td>March 1</td>
<td>Building</td>
<td>300,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td></td>
<td>300,000</td>
</tr>
<tr>
<td>May 1</td>
<td>Building</td>
<td>540,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td></td>
<td>540,000</td>
</tr>
<tr>
<td>December 31</td>
<td>Building (Capitalized Interest)</td>
<td>120,228</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>450,000</td>
<td>450,000</td>
</tr>
<tr>
<td></td>
<td>Interest Expense ($239,500 − $120,228)</td>
<td>119,272</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cash ($112,500 + $55,000 + $72,000)</td>
<td>239,500</td>
<td></td>
</tr>
</tbody>
</table>

Capitalized interest cost should be written off as part of depreciation over the useful life of the assets involved—and not over the term of the debt. The total interest cost incurred during the period should be disclosed, with the portion charged to expense and the portion capitalized indicated.

At December 31, 2004, Shalla would disclose the amount of interest capitalized either as part of the nonoperating section of the income statement or in the notes accompanying the financial statements. Both forms of disclosure are shown in Illustrations 10-7 and 10-8.
Special Issues Related to Interest Capitalization

Two issues related to interest capitalization merit special attention:

1. Expenditures for land.
2. Interest revenue.

Expenditures for Land. When land is purchased with the intent of developing it for a particular use, interest costs associated with those expenditures qualify for interest capitalization. If land is purchased as a site for a structure (such as a plant site), interest costs capitalized during the period of construction are part of the cost of the plant, not the land. In the Shalla illustration, where land was acquired for a structure, all interest costs capitalized (including those related to land expenditures) should be allocated to the cost of the building. Conversely, if land is being developed for lot sales, any capitalized interest cost should be part of the acquisition cost of the developed land.

Interest costs involved in purchasing land held for speculation should not be capitalized because the asset is ready for its intended use.

Interest Revenue. Companies frequently borrow money to finance construction of assets and temporarily invest the excess borrowed funds in interest-bearing securities until the funds are needed to pay for construction. During the early stages of construction, interest revenue earned may exceed the interest cost incurred on the borrowed funds. The question is whether it is appropriate to offset interest revenue against interest cost when determining the amount of interest to be capitalized as a part of the construction cost of assets. According to FASB Statement No. 62 on capitalization of interest cost, interest revenue should not be netted or offset against interest cost, except in cases involving externally restricted tax-exempt borrowings. Temporary or short-term investment decisions are not related to the interest incurred as part of the acquisition cost of assets. Therefore, the interest incurred on qualifying assets should be capitalized whether or not excess funds are temporarily invested in short-term securities. Some are critical of this accounting because a company can defer the interest cost but report the interest revenue in the current period.

Observations

The interest capitalization requirement, while now universally adopted, is still debated. From a conceptual viewpoint, many believe that either no interest cost should be capitalized or all interest costs, actual or imputed, should be capitalized for the reasons mentioned earlier in this section.
We have seen that an asset should be recorded at the fair market value of what is given up or at the fair value of the asset received, whichever is more clearly evident. Fair market value, however, is sometimes obscured by the process through which the asset is acquired. As an example, assume that land and buildings are bought together for one price. How are separate values for the land and buildings determined? A number of accounting problems of this nature are examined in the following sections.

Cash Discounts
When plant assets are purchased subject to cash discounts for prompt payment, how should the discount be reported? If the discount is taken, it should be considered a reduction in the purchase price of the asset. What is not clear, however, is whether a reduction in the asset cost should occur even if the discount is not taken.

Two points of view exist on this matter. Under one approach, the discount—whether taken or not—is considered a reduction in the cost of the asset. The rationale for this approach is that the real cost of the asset is the cash or cash equivalent price of the asset. In addition, some argue that the terms of cash discounts are so attractive that failure to take them indicates management error or inefficiency. Proponents of the other approach argue that the discount should not always be considered a loss because the terms may be unfavorable or because it might not be prudent for the company to take the discount. At present, both methods are employed in practice. The former method is generally preferred.

Deferred Payment Contracts
Plant assets are purchased frequently on long-term credit contracts through the use of notes, mortgages, bonds, or equipment obligations. To properly reflect cost, assets purchased on long-term credit contracts should be accounted for at the present value of the consideration exchanged between the contracting parties at the date of the transaction. For example, an asset purchased today in exchange for a $10,000 zero-interest-
bearing note payable 4 years from now should not be recorded at $10,000. The present value of the $10,000 note establishes the exchange price of the transaction (the purchase price of the asset). Assuming an appropriate interest rate of 12 percent at which to discount this single payment of $10,000 due 4 years from now, this asset should be recorded at $6,355.20 ($10,000 \times .63552). [See Table 6-2 for the present value of a single sum, \( PV = \frac{10,000}{(1 + .12)^4}. \)]

When no interest rate is stated, or if the specified rate is unreasonable, an appropriate interest rate must be imputed. The objective is to approximate the interest rate that the buyer and seller would negotiate at arm’s length in a similar borrowing transaction. Factors to be considered in imputing an interest rate are the borrower’s credit rating, the amount and maturity date of the note, and prevailing interest rates. **If determinable, the cash exchange price of the asset acquired should be used as the basis for recording the asset and measuring the interest element.**

To illustrate, Sutter Company purchases a specially built robot spray painter for its production line. The company issues a $100,000, 5-year, zero-interest-bearing note to Wrigley Robotics, Inc. for the new equipment when the prevailing market rate of interest for obligations of this nature is 10 percent. Sutter is to pay off the note in five $20,000 installments made at the end of each year. The fair market value of this specially built robot is not readily determinable and must therefore be approximated by establishing the market value (present value) of the note. Computation of the present value of the note and the date of purchase and dates of payment entries are as follows.

<table>
<thead>
<tr>
<th>Date of Purchase</th>
<th>Equipment</th>
<th>75,816*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Discount on Notes Payable</td>
<td>24,184</td>
</tr>
<tr>
<td></td>
<td>Notes Payable</td>
<td>100,000</td>
</tr>
</tbody>
</table>

*Present value of note = $20,000 \( PVF_{5,10\%} \) = $20,000 \( \times 3.79079 \); Table 6-4 = $75,816

<table>
<thead>
<tr>
<th>End of First Year</th>
<th>Interest Expense</th>
<th>7,582</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Notes Payable</td>
<td>20,000</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>20,000</td>
</tr>
<tr>
<td></td>
<td>Discount on Notes Payable</td>
<td>7,582</td>
</tr>
</tbody>
</table>

Interest expense in the first year under the effective-interest approach is $7,582 [($100,000 – $24,184) \times 10\%]. The entry at the end of the second year to record interest and principal payment is as follows.

<table>
<thead>
<tr>
<th>End of Second Year</th>
<th>Interest Expense</th>
<th>6,340</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Notes Payable</td>
<td>20,000</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>20,000</td>
</tr>
<tr>
<td></td>
<td>Discount on Notes Payable</td>
<td>6,340</td>
</tr>
</tbody>
</table>

Interest expense in the second year under the effective-interest approach is $6,340 \([($100,000 – $24,184) – ($20,000 – $7,582)] \times 10\%\).

If an interest rate were not imputed for such deferred payment contracts, the asset would be recorded at an amount greater than its fair value. In addition, interest expense reported in the income statement would be understated for all periods involved.

**Lump-Sum Purchases**

A special problem of pricing fixed assets arises when a group of plant assets is purchased at a single lump-sum price. Such a situation is not at all unusual. When it occurs, the practice is to allocate the total cost among the various assets on the basis of their relative fair market values. The assumption is that costs will vary in direct proportion to sales value. This is the same principle that is applied to allocate a lump-sum cost among different inventory items.
To determine fair market value, any of the following might be used: an appraisal for insurance purposes, the assessed valuation for property taxes, or simply an independent appraisal by an engineer or other appraiser.

To illustrate, Norduct Homes, Inc. decides to purchase several assets of a small heating concern, Comfort Heating, for $80,000. Comfort Heating is in the process of liquidation, and its assets sold are:

<table>
<thead>
<tr>
<th></th>
<th>Book Value</th>
<th>Fair Market Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory</td>
<td>$30,000</td>
<td>$25,000</td>
</tr>
<tr>
<td>Land</td>
<td>20,000</td>
<td>25,000</td>
</tr>
<tr>
<td>Building</td>
<td>35,000</td>
<td>50,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$85,000</strong></td>
<td><strong>$100,000</strong></td>
</tr>
</tbody>
</table>

Assuming specific identification of costs is not practicable, the $80,000 purchase price would be allocated on the basis of the relative fair market values in the following manner.

\[
\text{Allocation of Purchase Price—Relative Fair Market Value Basis}
\]

\[
\begin{array}{c|c|c}
\hline
\text{Asset} & \text{Valuation} & \text{Purchase Price} \\
\hline
\text{Inventory} & \begin{array}{c}
\text{Book Value} \\
\$25,000 \\
\$100,000 \\
\end{array} & \begin{array}{c}
\text{Fair Market Value} \\
$80,000 \\
\end{array} \\
\text{Land} & \begin{array}{c}
\text{Book Value} \\
\$25,000 \\
\$100,000 \\
\end{array} & \begin{array}{c}
\text{Fair Market Value} \\
$80,000 \\
\end{array} \\
\text{Building} & \begin{array}{c}
\text{Book Value} \\
\$50,000 \\
\$100,000 \\
\end{array} & \begin{array}{c}
\text{Fair Market Value} \\
$80,000 \\
\end{array} \\
\hline
\end{array}
\]

**Issuance of Stock**

When property is acquired by issuance of securities (such as common stock), the cost of the property is not properly measured by the par or stated value of such stock. If the stock is actively traded, the *market value of the stock issued is a fair indication of the cost of the property acquired because the stock is a good measure of the current cash equivalent price.*

For example, Upgrade Living Co. decides to purchase some adjacent land for expansion of its carpeting and cabinet operation. In lieu of paying cash for the land, the company issues to Deedland Company 5,000 shares of common stock (par value $10) that have a fair market value of $12 per share. Upgrade Living Co. would make the following entry.

\[
\begin{align*}
\text{Land (5,000 × $12)} & \quad 60,000 \\
\text{Common Stock} & \quad 50,000 \\
\text{Additional Paid-In Capital} & \quad 10,000 \\
\end{align*}
\]

If the market value of the common stock exchanged is not determinable, the market value of the property should be established and used as the basis for recording the asset and issuance of the common stock.\(^6\)

\(^6\)When the fair market value of the stock is used as the basis of valuation, careful consideration must be given to the effect that the issuance of additional shares will have on the existing market price. Where the effect on market price appears significant, an independent appraisal of the asset received should be made. This valuation should be employed as the basis for valuation of the asset as well as for the stock issued. In the unusual case where the fair market value of the stock or the fair market value of the asset cannot be determined objectively, the board of directors of the corporation may set the value.
Exchanges of Nonmonetary Assets

The proper accounting for exchanges of nonmonetary assets (such as inventories and property, plant, and equipment) is controversial. Some argue that the accounting for these types of exchanges should be based on the fair value of the asset given up or the fair value of the asset received, with a gain or loss recognized. Others believe that the accounting should be based on the recorded amount (book value) of the asset given up, with no gain or loss recognized. Still others favor an approach that would recognize losses in all cases, but defer gains in special situations.

Ordinarily accounting for the exchange of nonmonetary assets should be based on the fair value of the asset given up or the fair value of the asset received, whichever is clearly more evident. Thus, any gains or losses on the exchange should be recognized immediately. The rationale for such immediate recognition is that the earnings process related to these assets is completed, and therefore a gain or loss should be recognized. This approach is always employed when the assets are dissimilar in nature, such as the exchange of computers for a truck or the exchange of equipment for inventory. If the fair value of either asset is not reasonably determinable, the book value of the asset given up is usually used as the basis for recording the nonmonetary exchange. The alternative exchange situations are summarized in Illustration 10-10.

The general rule of immediate recognition is modified when exchanges of similar nonmonetary assets occur for gain situations. For example, when a company exchanges its inventory items with inventory of another company because of color, size, etc. to facilitate sale to an outside customer, the earnings process is not considered completed and a gain should not be recognized. Likewise, if a company trades similar productive assets such as land for land or equipment for equipment, the earnings process is not considered complete and a gain should not be recognized. However, if the exchange transaction involving similar assets would result in a loss, the loss is recognized immediately.

In certain situations, gains on exchange of similar nonmonetary assets may be recognized where monetary consideration (boot) is received. When monetary considera-

---

ILLUSTRATION 10-10
Accounting for Exchanges

<table>
<thead>
<tr>
<th>Type of Exchange</th>
<th>Accounting Guidance</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dissimilar assets</td>
<td>Recognize gains and losses immediately.</td>
<td>Earnings process is complete.</td>
</tr>
<tr>
<td>Similar assets — No cash received</td>
<td>Defer gains; recognize losses immediately.</td>
<td>Earnings process is not complete.</td>
</tr>
<tr>
<td>Similar assets — Cash received</td>
<td>Recognize partial gain, recognize losses immediately.*</td>
<td>Earnings process is partially complete.*</td>
</tr>
</tbody>
</table>

*If cash is 25% or more of the fair value of the exchange, recognize entire gain because earnings process is complete.

---

7Nonmonetary assets are items whose price in terms of the monetary unit may change over time. Monetary assets—cash and short- or long-term accounts and notes receivable—are fixed in terms of units of currency by contract or otherwise.

tion such as cash is received in addition to the nonmonetary asset, it is assumed that a portion of the earnings process is completed, and therefore a partial gain is recognized.\footnote{When the monetary consideration is significant, i.e., \textbf{25 percent or more} of the fair value of the exchange, the transaction is considered a \textit{monetary exchange} by both parties. In such monetary exchanges the fair values are used to measure the gains or losses that are recognized in their entirety. \textit{EITF Issue No. 86–29}, “Nonmonetary Transactions: Magnitude of Boot and the Exception to the Use of Fair Value,” \textit{Emerging Issues Task Force Abstracts} (October 1, 1987).}

To illustrate the accounting for these different types of transactions, we will look at the following three situations:

1. Accounting for dissimilar assets.
2. Accounting for similar assets—loss situation.
3. Accounting for similar assets—gain situation.

**Dissimilar Assets**

The cost of a nonmonetary asset acquired in exchange for a \textbf{dissimilar nonmonetary asset} is usually recorded at the \textbf{fair value of the asset given up}, and a gain or loss is recognized. The \textbf{fair value of the asset received} should be used only if it is more clearly evident than the fair value of the asset given up.

To illustrate, Interstate Transportation Company exchanged a number of used trucks plus cash for vacant land that might be used for a future plant site. The trucks have a combined book value of $42,000 (cost $64,000 less $22,000 accumulated depreciation). Interstate’s purchasing agent, who has had previous dealings in the second-hand market, indicates that the trucks have a fair market value of $49,000. In addition to the trucks, Interstate must pay $17,000 cash for the land. The cost of the land to Interstate is $66,000 computed as follows.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair value of trucks exchanged</td>
<td>$49,000</td>
</tr>
<tr>
<td>Cash paid</td>
<td>$17,000</td>
</tr>
<tr>
<td>Cost of land</td>
<td>$66,000</td>
</tr>
</tbody>
</table>

The journal entry to record the exchange transaction is:

\[
\begin{align*}
\text{Land} & \quad 66,000 \\
\text{Accumulated Depreciation—Trucks} & \quad 22,000 \\
\text{Trucks} & \quad 64,000 \\
\text{Gain on Disposal of Trucks} & \quad 7,000 \\
\text{Cash} & \quad 17,000 \\
\end{align*}
\]

The gain is the difference between the fair value of the trucks and their book value. It is verified as follows.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair value of trucks</td>
<td>$49,000</td>
</tr>
<tr>
<td>Cost of trucks</td>
<td>$64,000</td>
</tr>
<tr>
<td>Less: Accumulated depreciation</td>
<td>$22,000</td>
</tr>
<tr>
<td>Book value of trucks</td>
<td>$42,000</td>
</tr>
<tr>
<td>Gain on disposal of used trucks</td>
<td>$ 7,000</td>
</tr>
</tbody>
</table>

It follows that if the fair value of the trucks was $39,000 instead of $49,000, a loss on the exchange of $3,000 ($42,000 \(-\) $39,000) would be reported. In either case, as a result of the exchange of dissimilar assets, the earnings process on the used trucks has been completed and a \textbf{gain or loss should be recognized}.\footnote{When the monetary consideration is significant, i.e., \textbf{25 percent or more} of the fair value of the exchange, the transaction is considered a \textit{monetary exchange} by both parties. In such monetary exchanges the fair values are used to measure the gains or losses that are recognized in their entirety. \textit{EITF Issue No. 86–29}, “Nonmonetary Transactions: Magnitude of Boot and the Exception to the Use of Fair Value,” \textit{Emerging Issues Task Force Abstracts} (October 1, 1987).}
Similar Nonmonetary Assets

Similar nonmonetary assets are those that are of the same general type, or that perform the same function, or that are employed in the same line of business. When similar nonmonetary assets are exchanged and a loss results, the loss should be recognized immediately.

For example, Information Processing, Inc. trades its used machine for a new model. The machine given up has a book value of $8,000 (original cost $12,000 less $4,000 accumulated depreciation) and a fair value of $6,000. It is traded for a new model that has a list price of $16,000. In negotiations with the seller, a trade-in allowance of $9,000 is finally agreed on for the used machine. The cash payment that must be made for the new asset and the cost of the new machine are computed as follows.

ILLUSTRATION 10-13
Computation of Cost of New Machine

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>List price of new machine</td>
<td>$16,000</td>
</tr>
<tr>
<td>Less: Trade-in allowance for used machine</td>
<td>9,000</td>
</tr>
<tr>
<td>Cash payment due</td>
<td>7,000</td>
</tr>
<tr>
<td>Fair value of used machine</td>
<td>6,000</td>
</tr>
<tr>
<td><strong>Cost of new machine</strong></td>
<td><strong>$13,000</strong></td>
</tr>
</tbody>
</table>

The journal entry to record this transaction is:

\[
\begin{align*}
\text{Equipment} & \quad 13,000 \\
\text{Accumulated Depreciation—Equipment} & \quad 4,000 \\
\text{Loss on Disposal of Equipment} & \quad 2,000 \\
\text{Equipment} & \quad 12,000 \\
\text{Cash} & \quad 7,000
\end{align*}
\]

The loss on the disposal of the used machine can be verified as follows.

ILLUSTRATION 10-14
Computation of Loss on Disposal of Used Machine

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair value of used machine</td>
<td>$6,000</td>
</tr>
<tr>
<td>Book value of used machine</td>
<td>8,000</td>
</tr>
<tr>
<td>Loss on disposal of used machine</td>
<td>$2,000</td>
</tr>
</tbody>
</table>

Why was the trade-in allowance or the book value of the old asset not used as a basis for the new equipment? The trade-in allowance is not used because it included a price concession (similar to a price discount) to the purchaser. For example, few individuals pay list price for a new car. Trade-in allowances on the used car are often inflated so that actual selling prices are below list prices. To record the car at list price would state it at an amount in excess of its cash equivalent price because the new car’s list price is usually inflated. Similarly, use of book value in this situation would overstate the value of the new machine by $2,000. Because assets should not be valued at more than their cash equivalent price, the loss should be recognized immediately rather than added to the cost of the newly acquired asset.

Similar Assets—Gain Situation, No Cash Received

The accounting treatment for exchanges of similar nonmonetary assets when a gain develops is more complex. If the exchange does not complete the earnings process, then any gain should be deferred.

The real estate industry provides a good example of why the accounting profession decided not to recognize gains on exchanges of similar nonmonetary assets. In this industry, it is common practice for companies to “swap” real estate holdings. Assume that Landmark Company and Hillfarm, Inc. each had undeveloped land on which they intended to build shopping centers. Appraisals indicated that the land of both companies had increased significantly in value. The companies decided to exchange (swap) their undeveloped land, record a gain, and report their new parcels of land at current
fair values. But should gains be recognized at this point? No—the earnings process is not completed because the companies remain in the same economic position after the swap as before. Therefore, the asset acquired should be recorded at book value with no gain recognized. In contrast, had book value exceeded fair value, a loss would be recognized immediately.

Davis Rent-A-Car has a rental fleet of automobiles consisting primarily of Ford Motor Company products. Davis’s management is interested in increasing the variety of automobiles in its rental fleet by adding numerous General Motors models. Davis arranges with Nertz Rent-A-Car to exchange a group of Ford automobiles with a fair value of $160,000 and a book value of $135,000 (cost $150,000 less accumulated depreciation $15,000) for a number of GM models with a fair value of $170,000. Davis pays $10,000 in cash in addition to the Ford automobiles exchanged. The total gain to Davis Rent-A-Car is computed as shown in Illustration 10-15.

<table>
<thead>
<tr>
<th>Illustration 10-15 Computation of Gain (Unrecognized)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair value of Ford automobiles exchanged $160,000</td>
</tr>
<tr>
<td>Book value of Ford automobiles exchanged 135,000</td>
</tr>
<tr>
<td>Total gain (unrecognized) $ 25,000</td>
</tr>
</tbody>
</table>

But the earnings process is not considered completed in this transaction. The company still has a fleet of cars, although different models. Therefore, the total gain is deferred, and the basis of the General Motors automobiles is reduced via two different but acceptable computations as shown below.

<table>
<thead>
<tr>
<th>Illustration 10-16 Basis of New Automobiles—Fair Value vs. Book Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair value of GM automobiles $170,000</td>
</tr>
<tr>
<td>Less: Gain deferred (25,000) OR Cash paid 10,000</td>
</tr>
<tr>
<td>Basis of GM automobiles $145,000</td>
</tr>
</tbody>
</table>

The entry by Davis to record this transaction is as follows.

- Automobiles (GM) 145,000
- Accumulated Depreciation—Automobiles 15,000
- Automobiles (Ford) 150,000
- Cash 10,000

The gain that reduced the basis of the new automobiles will be recognized when those automobiles are sold to an outside party. While these automobiles are held, depreciation charges will be lower and net income will be higher in subsequent periods because of the reduced basis.

**Similar Assets—Gain Situation, Some Cash Received**

The accounting issue of gain recognition becomes more difficult if monetary consideration such as cash is received in an exchange of similar nonmonetary assets. When cash is received, part of the nonmonetary asset is considered sold and part exchanged; therefore, only a portion of the gain is deferred. The general formula for gain recognition when some cash is received is as follows.

\[
\text{Cash Received (Boot)} + \text{Fair Value of Other Assets Received} \times \frac{\text{Total Gain}}{\text{Recognized Gain}}
\]

If the book value of Nertz’s GM automobiles exchanged in the foregoing example is $136,000 (cost $200,000 less accumulated depreciation $64,000), then the total gain on the exchange to Nertz would be computed as shown on the next page.
The ratio of monetary assets ($10,000) to the total consideration received ($10,000 + $160,000) is the portion of the total gain ($34,000) to be recognized—that is, $2,000. Because only a gain of $2,000 is recognized on this transaction, the remaining $32,000 ($34,000 - $2,000) is deferred and reduces the basis (recorded cost) of the new automobiles. The computation of the basis is as follows.

\[
\frac{10,000}{10,000 + 160,000} \times 34,000 = 2,000
\]

The entry by Nertz to record this transaction is as follows.

\[
\begin{align*}
\text{Cash} & \quad 10,000 \\
\text{Automobiles (Ford)} & \quad 128,000 \\
\text{Accumulated Depreciation—Automobiles (GM)} & \quad 64,000 \\
\text{Automobiles (GM)} & \quad 200,000 \\
\text{Gain on Disposal of GM Automobiles} & \quad 2,000
\end{align*}
\]

The rationale for this treatment is as follows: Before the exchange, Nertz Rent-A-Car had an unrecognized gain of $34,000, as evidenced by the difference between the book value ($136,000) and the fair value ($170,000) of its GM automobiles. When the exchange occurred, a portion of the fair value ($10,000 / $170,000 or 1/17) was converted to a more liquid asset. The ratio of this liquid asset ($10,000) to the total consideration received ($160,000 + $10,000) is the portion of the gain realized ($34,000). Thus, a gain of $2,000 (1/17 \times 34,000) is recognized and recorded.

Presented below in summary form are the accounting requirements for recognizing gains and losses on exchanges of nonmonetary assets.10

<table>
<thead>
<tr>
<th>Step</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Compute the total gain or loss on the transaction. This amount is equal to the difference between the fair value of the asset given up and the book value of the asset given up.</td>
</tr>
<tr>
<td>2.</td>
<td>If a loss is computed in 1, always recognize the entire loss.</td>
</tr>
<tr>
<td>3.</td>
<td>If a gain is computed in 1, (a) and the earnings process is considered completed, the entire gain is recognized (dissimilar assets), (b) and the earnings process is not considered completed (similar assets), (1) and no cash is involved, no gain is recognized, (2) and some cash is given, no gain is recognized, (3) and some cash is received, the following portion of the gain is recognized:</td>
</tr>
<tr>
<td></td>
<td>Cash Received (Boot) + Fair Value of Other Assets Received \times Total Gain*</td>
</tr>
</tbody>
</table>

*If the amount of cash exchanged is 25% or more, recognize entire gain.

An enterprise that engages in one or more nonmonetary exchanges during a period should disclose in financial statements for the period the nature of the transactions, the method of accounting for the assets transferred, and gains or losses recognized on transfers.11

In a press release, Roy Olofson, former vice president of finance for Global Crossing, accused company executives of improperly describing the company’s revenue to the public. Olofson said Global Crossing had improperly recorded long-term sales immediately rather than over the term of the contract, that the company improperly booked swaps of capacity with other carriers as cash transactions, and that Global Crossing fired him when he blew the whistle.

The accounting for the swaps is of particular interest here. The accounting for swaps involves exchanges of similar network capacity. Companies engaged in such deals, they have said, because it was less costly and quicker than building segments that their own networks lacked, or because such pacts provided redundancies to make their own networks more reliable to customers. In one expert’s view, an exchange of similar network capacity is the equivalent of trading a blue truck for a red truck—it shouldn’t boost a company’s revenue.

But Global Crossing and Qwest, among others, used the transactions to do just that, counting as revenue the money received from the company on the other end of the deal. (In general, in transactions involving leased capacity, the companies booked the revenue over the life of the contract.) Some of these companies then treated their own purchases as capital expenditures, which weren’t run through the income statement. Instead, the spending led to the addition of assets on the balance sheet.

Both congressional and Securities and Exchange Commission investigators are seeking to determine whether some of these capacity exchanges may have been a device to pad revenue. Revenue growth was a key factor in the valuation of some of these companies, such as Global Crossing and Qwest, throughout the craze for tech stocks in the late 1990s and 2000.


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**Accounting for Contributions**

Companies sometimes receive or make contributions (donations or gifts). Such contributions are referred to as nonreciprocal transfers because they are transfers of assets in one direction. A contribution is often some type of asset (such as cash, securities, land, buildings, or use of facilities), but it also could be the forgiveness of a debt.

When assets are acquired as a donation, a strict cost concept dictates that the valuation of the asset should be zero. A departure from the cost principle seems justified, however, because the only costs incurred (legal fees and other relatively minor expenditures) do not constitute a reasonable basis of accounting for the assets acquired. To record nothing is to ignore the economic realities of an increase in wealth and assets. Therefore, the fair value of the asset should be used to establish its value on the books.

Two general approaches have been used to record the credit for the asset received. Some believe the credit should be to Donated Capital (an additional paid-in capital account). The increase in assets as a result of a donation is viewed more as contributed capital than as earned revenue. Others argue that capital is contributed only by the owners of the business and that donations are benefits to the enterprise that should be reported as revenues from contributions. At issue is whether the revenue should be

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11“Accounting for Nonmonetary Transactions,” op. cit., par. 28.
reported immediately or over the period that the asset is employed. For example, to attract new industry a city may offer land, but the receiving enterprise may incur additional costs in the future (transportation, higher state income taxes, etc.) because the location is not the most desirable. As a consequence, some argue that the revenue should be deferred and recognized as the costs are incurred.

The FASB has taken the position that, in general, contributions received should be recognized as revenues in the period received. Contributions would be measured at the fair value of the assets received. To illustrate, Max Wayer Meat Packing, Inc. has recently accepted a donation of land with a fair value of $150,000 from the Memphis Industrial Development Corp. in return for a promise to build a packing plant in Memphis. Max Wayer’s entry is:

\[
\begin{array}{ccc}
\text{Land} & 150,000 \\
\text{Contribution Revenue} & 150,000 \\
\end{array}
\]

When a nonmonetary asset is contributed, the amount of the donation should be recorded as an expense at the fair value of the donated asset. If a difference exists between the fair value of the asset and its book value, a gain or loss should be recognized. To illustrate, Kline Industries donates land that cost $80,000 and has a fair market value of $110,000 to the city of Los Angeles for a city park. The entry to record this donation would be:

\[
\begin{array}{ccc}
\text{Contribution Expense} & 110,000 \\
\text{Land} & 80,000 \\
\text{Gain on Disposal of Land} & 30,000 \\
\end{array}
\]

In some cases, companies will promise to give (pledge) some type of asset in the future. The question is whether this promise should be recorded immediately or at the time the assets are given. If the promise is unconditional (depends only on the passage of time or on demand by the recipient for performance), the contribution expense and related payable should be reported. If the promise is conditional, the expense is recognized in the period benefited by the contribution, which is generally when the asset is transferred.

**Other Asset Valuation Methods**

As indicated above, an exception to the historical cost principle arises in the acquisition of plant assets through donation, which is based on fair value. Another approach that is sometimes allowed and not considered a violation of historical cost is a concept often referred to as prudent cost. This concept states that if for some reason you were ignorant about a certain price and paid too much for the asset originally, it is theoretically preferable to charge a loss immediately.

As an example, assume that a company constructs an asset at a cost substantially in excess of its present economic usefulness. In this case, it would be appropriate to charge these excess costs as a loss to the current period, rather than capitalize them as part of the cost of the asset. This problem seldom develops because at the outset individuals either use good reasoning in paying a given price or fail to recognize any such errors.

On the other hand, a purchase that is obtained at a bargain, or a piece of equipment internally constructed at a cost savings, should not result in immediate recognition of a gain under any circumstances. Although immediate recognition of a gain is conceptually appealing, the implications of such a treatment would be to change completely the entire basis of accounting.

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\(^{12}\) Accounting for Contributions Received and Contributions Made, “Statement of Financial Accounting Standards No. 116” (Norwalk, Conn.: FASB, 1993). Transfers of assets from governmental units to business enterprises are excluded from the scope of this standard. However, we believe that the basic requirements should hold also for these types of contributions, and therefore all assets should be recorded at fair value and all credits should be recorded as revenue.

\(^{13}\) Accounting for Nonmonetary Transactions, “op. cit., par. 18. Also, FASB No. 116 indicates that expenses on contributions made should be recorded at the fair value of the assets given up.
After plant assets are installed and ready for use, additional costs are incurred that range from ordinary repair to significant additions. The major problem is allocating these costs to the proper time periods. In general, costs incurred to achieve greater future benefits should be capitalized, and expenditures that simply maintain a given level of services should be expensed.

In order for costs to be capitalized, one of three conditions must be present:

1. The useful life of the asset must be increased.
2. The quantity of units produced from the asset must be increased.
3. The quality of the units produced must be enhanced.

Expenditures that do not increase an asset’s future benefits should be expensed. Ordinary repairs are expenditures that maintain the existing condition of the asset or restore it to normal operating efficiency. Such repairs should be expensed immediately.

Most expenditures below an established arbitrary minimum amount are expensed rather than capitalized. Many enterprises have adopted the rule that expenditures below, say, $100 or $500, should always be expensed. Although conceptually this treatment may not be correct, expediency demands it. Otherwise, depreciation schedules would have to be set up for such items as wastepaper baskets and ash trays.

Soon after this discovery, WorldCom filed for bankruptcy.

The distinction between a capital (asset) expenditure and a revenue (expense) expenditure is not always clear-cut. Determining the property unit with which costs should be associated is critical. If a fully equipped steamship is considered a property unit, then replacement of the engine might be considered an expense. On the other hand, if the ship’s engine is considered a property unit, then its replacement would be capitalized.

Generally, four major types of expenditures are incurred relative to existing assets.

<table>
<thead>
<tr>
<th>Major Types of Expenditures</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additions</td>
<td>Increase or extension of existing assets.</td>
</tr>
<tr>
<td>Improvements and Replacements</td>
<td>Substitution of an improved asset for an existing one.</td>
</tr>
<tr>
<td>Rearrangement and Reinstallation</td>
<td>Movement of assets from one location to another.</td>
</tr>
<tr>
<td>Repairs</td>
<td>Expenditures that maintain assets in condition for operation.</td>
</tr>
</tbody>
</table>

**Additions**

Additions should present no major accounting problems. By definition, **any addition to plant assets is capitalized** because a new asset has been created. The addition of a wing to a hospital or the addition of an air conditioning system to an office, for example, increases the service potential of that facility. Such expenditures should be capitalized and matched against the revenues that will result in future periods.

The most difficult problem that develops in this area is accounting for any changes related to the existing structure as a result of the addition. Is the cost that is incurred to tear down an old wall to make room for the addition a cost of the addition or an expense or loss of the period? The answer is that it depends on the original intent. If the company had anticipated that an addition was going to be added later, then this cost of removal is a proper cost of the addition. But if the company had not anticipated this development, it should properly be reported as a loss in the current period on the basis that the company was inefficient in its planning. Normally, the carrying amount of the old wall remains in the accounts, although theoretically it should be removed.

**Improvements and Replacements**

Improvements (often referred to as betterments) and replacements are substitutions of one asset for another. What is the difference between an improvement and a replacement? An improvement is the substitution of a better asset for the one currently used (say, a concrete floor for a wooden floor). A replacement, on the other hand, is the substitution of a similar asset (a wooden floor for a wooden floor).

Many times improvements and replacements result from a general policy to modernize or rehabilitate an older building or piece of equipment. The problem is differentiating these types of expenditure from normal repairs. Does the expenditure increase the future service potential of the asset, or does it merely maintain the existing level of service? Frequently, the answer is not clear-cut, and good judgment must be used in order to classify these expenditures.

If it is determined that the expenditure increases the future service potential of the asset and, therefore, should be capitalized, the accounting is handled in one of three ways, depending on the circumstances:

1. **Substitution Approach.** Conceptually, the substitution approach is the correct procedure if the carrying amount of the old asset is available. If the carrying amount
of the old asset can be determined, it is a simple matter to remove the cost of the old asset and replace it with the cost of the new asset.

To illustrate, Instinct Enterprises decides to replace the pipes in its plumbing system. A plumber suggests that in place of the cast iron pipes and copper tubing, a newly developed plastic tubing be used. The old pipe and tubing have a book value of $15,000 (cost of $150,000 less accumulated depreciation of $135,000) and a scrap value of $1,000. The plastic tubing system has a cost of $125,000. Assuming that Instinct has to pay $124,000 for the new tubing after exchanging the old tubing, the entry is:

<table>
<thead>
<tr>
<th>Account</th>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plumbing System</td>
<td>125,000</td>
<td></td>
</tr>
<tr>
<td>Accumulated Depreciation</td>
<td>135,000</td>
<td></td>
</tr>
<tr>
<td>Loss on Disposal of Plant Assets</td>
<td>14,000</td>
<td></td>
</tr>
<tr>
<td>Plumbing System</td>
<td>150,000</td>
<td></td>
</tr>
<tr>
<td>Cash ($125,000 – $1,000)</td>
<td>124,000</td>
<td></td>
</tr>
</tbody>
</table>

The problem is determining the book value of the old asset. Generally, the components of a given asset depreciate at different rates, but no separate accounting is made. As an example, the tires, motor, and body of a truck depreciate at different rates, but most companies use only one depreciation rate for the entire truck. Separate depreciation rates could be set for each component. If the carrying amount of the old asset cannot be determined, one of two other approaches is adopted.

2 **Capitalizing the New Cost.** The justification for capitalizing the cost of the improvement or replacement is that even though the carrying amount of the old asset is not removed from the accounts, sufficient depreciation was taken on the item to reduce the carrying amount almost to zero. Although this assumption may not be true in every case, the differences are not often significant. Improvements are usually handled in this manner.

3 **Charging to Accumulated Depreciation.** There are times when the quantity or quality of the asset itself has not been improved, but its useful life has been extended. Replacements, particularly, may extend the useful life of the asset, yet may not improve its quality or quantity. In these circumstances, the expenditure may be debited to Accumulated Depreciation rather than to an asset account. The theory behind this approach is that the replacement extends the useful life of the asset and thereby recaptures some or all of the past depreciation. The net carrying amount of the asset is the same whether the asset is debited or the accumulated depreciation is debited.

**Rearrangement and Reinstallation**

**Rearrangement and reinstallation costs,** which are expenditures intended to benefit future periods, are different from additions, replacements, and improvements. An example is the rearrangement and reinstallation of a group of machines to facilitate future production. If the original installation cost and the accumulated depreciation taken to date can be determined or estimated, the rearrangement and reinstallation cost is handled as a replacement. If not—and this is generally the case—the new costs (if material in amount) should be capitalized as an asset to be amortized over those future periods expected to benefit. If these costs are not material, if they cannot be separated from other operating expenses, or if their future benefit is questionable, they should be immediately expensed.

**Repairs**

**Ordinary repairs** are expenditures made to maintain plant assets in operating condition. They are charged to an expense account in the period in which they are incurred on the basis that it is the primary period benefited. Replacing minor parts, lubricating and adjusting equipment, repainting, and cleaning are examples of maintenance charges that occur regularly and are treated as ordinary operating expenses.
It is often difficult to distinguish a repair from an improvement or replacement. The major consideration is whether the expenditure benefits more than one year or one operating cycle, whichever is longer. If a major repair (such as an overhaul) occurs, several periods will benefit, and the cost should be handled as an addition, improvement, or replacement.\(^{14}\)

If income statements are prepared for short periods of time, say, monthly or quarterly, the same principles apply. Ordinary repairs and other regular maintenance charges for an annual period may benefit several quarters, and allocation of the cost among the periods concerned might be required. A company will often find it advantageous to concentrate its repair program at a certain time of the year, perhaps during the period of least activity or when the plant is shut down for vacation. Short-term comparative statements might be misleading if such expenditures were shown as expenses of the quarter in which they were incurred. To give comparability to monthly or quarterly income statements, an account such as Allowance for Repairs might be used so that repair costs could be better assigned to periods benefited.

To illustrate, Cricket Tractor Company estimated that its total repair expense for the year would be $720,000. It decided to charge each quarter for a portion of the repair cost even though the total cost for the year would occur in only two quarters.

\[
\begin{array}{ll}
\text{End of First Quarter (zero repair costs incurred)} & \\
\text{Repair Expense} & 180,000 \\
\text{Allowance for Repairs (} \frac{1}{4} \times \$720,000\text{)} & 180,000 \\
\end{array}
\]

\[
\begin{array}{ll}
\text{End of Second Quarter ($344,000 repair costs incurred)} & \\
\text{Allowance for Repairs} & 344,000 \\
\text{Cash, Wages Payable, Inventory, etc.} & 344,000 \\
\text{Repair Expense} & 180,000 \\
\text{Allowance for Repairs (} \frac{1}{4} \times \$720,000\text{)} & 180,000 \\
\end{array}
\]

\[
\begin{array}{ll}
\text{End of Third Quarter (zero repair costs incurred)} & \\
\text{Repair Expense} & 180,000 \\
\text{Allowance for Repairs (} \frac{1}{4} \times \$720,000\text{)} & 180,000 \\
\end{array}
\]

\[
\begin{array}{ll}
\text{End of Fourth Quarter ($380,800 repair costs incurred)} & \\
\text{Allowance for Repairs} & 380,800 \\
\text{Cash, Wages Payable, Inventory, etc.} & 380,800 \\
\text{Repair Expense} & 184,800 \\
\text{Allowance for Repairs (} \$344,000 + \$380,800 - \$180,000 - \$180,000 - \$180,000 \text{)} & 184,800 \\
\end{array}
\]

No balance in the Allowance for Repairs account should be carried over to the following year. The fourth quarter would normally absorb the variation from estimates. If balance sheets are prepared during the year, the Allowance account should be added to or subtracted from the property, plant, and equipment section to determine a proper valuation.\(^{15}\)

**Summary of Costs Subsequent to Acquisition**

Illustration 10-22 on the next page summarizes the accounting treatment for various costs incurred subsequent to the acquisition of capitalized assets.

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\(^{14}\)AcSEC in a recent exposure draft (see footnote 2) argues that costs involved for planned major expenditures should be expensed as incurred unless they represent an additional component or the replacement of an existing component. The “expense as incurred” approach is justified on the basis that these costs are relatively consistent from period to period, that they are not separately identifiable assets or property units in and of themselves, and that they serve only to restore other assets to their original operating condition.

\(^{15}\)Some might argue that the Allowance for Repairs account should be reported as a liability, because it has a credit balance. However, reporting a liability is inappropriate because to whom do you owe the amount? Placement in the stockholders’ equity section is also illogical because no addition to the stockholders’ investment has taken place.
Plant assets may be retired voluntarily or disposed of by sale, exchange, involuntary conversion, or abandonment. Regardless of the time of disposal, depreciation must be taken up to the date of disposition, and then all accounts related to the retired asset should be removed. Ideally, the book value of the specific plant asset would be equal to its disposal value, but this is generally not the case. As a result, a gain or loss develops. The reason: Depreciation is an estimate of cost allocation and not a process of valuation. The gain or loss is really a correction of net income for the years during which the fixed asset was used. If it had been possible at the time of acquisition to forecast the exact date of disposal and the amount to be realized at disposition, then a more accurate estimate of depreciation could have been recorded and no gain or loss would be incurred.

Gains or losses on the retirement of plant assets should be shown in the income statement along with other items that arise from customary business activities. If, however, the “operations of a component of a business” are sold, abandoned, spun off, or otherwise disposed of, then the results of “continuing operations” should be reported separately from “discontinued operations.” Any gain or loss from disposal of a component of a business should be reported with the related results of discontinued operations, and not as an extraordinary item.

**Sale of Plant Assets**

Depreciation must be recorded for the period of time between the date of the last depreciation entry and the date of sale. To illustrate, assume that depreciation on a machine costing $18,000 has been recorded for 9 years at the rate of $1,200 per year. If the machine is sold in the middle of the tenth year for $7,000, the entry to record depreciation to the date of sale is:

\[
\begin{align*}
\text{Depreciation Expense} & \quad 600 \\
\text{Accumulated Depreciation—Machinery} & \quad 600
\end{align*}
\]

This separate entry ordinarily is not made because most companies enter all depreciation, including this amount, in one entry at the end of the year. In either case the entry for the sale of the asset is:

\[
\begin{align*}
\text{Depreciation Expense} & \quad 600 \\
\text{Accumulated Depreciation—Machinery} & \quad 600 \\
\text{Cash} & \quad 7,000
\end{align*}
\]
The book value of the machinery at the time of the sale is $6,600 ($18,000 – $11,400). Because it is sold for $7,000, the amount of the gain on the sale is $400.

Involuntary Conversion

Sometimes, an asset’s service is terminated through some type of involuntary conversion such as fire, flood, theft, or condemnation. The gains or losses are treated no differently from those in any other type of disposition except that they are often reported in the extraordinary items section of the income statement.

To illustrate, Camel Transport Corp. was forced to sell a plant located on company property that stood directly in the path of an interstate highway. For a number of years the state had sought to purchase the land on which the plant stood, but the company resisted. The state ultimately exercised its right of eminent domain and was upheld by the courts. In settlement, Camel received $500,000, which was substantially in excess of the $200,000 book value of the plant and land (cost of $400,000 less accumulated depreciation of $200,000). The following entry was made.

\[
\begin{align*}
\text{Cash} & \quad 500,000 \\
\text{Accumulated Depreciation—Plant Assets} & \quad 200,000 \\
\text{Plant Assets} & \quad 400,000 \\
\text{Gain on Disposal of Plant Assets} & \quad 300,000
\end{align*}
\]

However, some object to the recognition of a gain or loss in certain involuntary conversions. For example, the federal government often condemns forests for national parks. As a result, the paper companies that owned these forests are required to report a gain or loss on the condemnation. However, companies such as Georgia-Pacific contend that because they must replace this condemned forest land immediately, they are in the same economic position as they were before and so no gain or loss should be reported. The issue is whether the condemnation and subsequent purchase should be viewed as one or two transactions. FASB Interpretation No. 30 rules against the companies by requiring “that gain or loss be recognized when a nonmonetary asset is involuntarily converted to monetary assets even though an enterprise reinvests or is obligated to reinvest the monetary assets in replacement nonmonetary assets.”

The gain or loss that develops on these types of unusual, nonrecurring transactions should be shown as an extraordinary item. Similar treatment is given to other types of involuntary conversions such as those resulting from a major casualty (such as an earthquake) or an expropriation, assuming that it meets other conditions for extraordinary item treatment. The difference between the amount recovered (condemnation award or insurance recovery), if any, and the asset’s book value is reported as a gain or loss.

Miscellaneous Problems

If an asset is scrapped or abandoned without any cash recovery, a loss should be recognized equal to the asset’s book value. If scrap value exists, the gain or loss that occurs is the difference between the asset’s scrap value and its book value. If an asset still can be used even though it is fully depreciated, it may be kept on the books at historical cost less depreciation.

Disclosure of the amount of fully depreciated assets in service should be made in notes to the financial statements. For example, Petroleum Equipment Tools Inc. in its Annual Report disclosed, “The amount of fully depreciated assets included in property, plant, and equipment at December 31 amounted to approximately $98,900,000.”
SUMMARY OF LEARNING OBJECTIVES

1. **Describe the major characteristics of property, plant, and equipment.** The major characteristics of property, plant, and equipment are: (1) They are acquired for use in operations and not for resale; (2) they are long-term in nature and usually subject to depreciation; and (3) they possess physical substance.

2. **Identify the costs included in the initial valuation of land, buildings, and equipment.**
   - **Cost of land:** Includes all expenditures made to acquire land and to ready it for use. Land costs typically include (1) the purchase price; (2) closing costs, such as title to the land, attorney's fees, and recording fees; (3) costs incurred in getting the land in condition for its intended use, such as grading, filling, draining, and clearing; (4) assumption of any liens, mortgages, or encumbrances on the property; and (5) any additional land improvements that have an indefinite life.
   - **Cost of buildings:** Includes all expenditures related directly to their acquisition or construction. These costs include (1) materials, labor, and overhead costs incurred during construction and (2) professional fees and building permits.
   - **Cost of equipment:** Includes the purchase price, freight and handling charges incurred, insurance on the equipment while in transit, cost of special foundations if required, assembling and installation costs, and costs of conducting trial runs.

3. **Describe the accounting problems associated with self-constructed assets.** The assignment of indirect costs of manufacturing creates special problems because these costs cannot be traced directly to work and material orders related to the fixed assets constructed. These costs might be handled in one of two ways: (1) Assign no fixed overhead to the cost of the constructed asset or (2) assign a portion of all overhead to the construction process. The second method is used extensively in practice.

4. **Describe the accounting problems associated with interest capitalization.** Only actual interest (with modifications) should be capitalized. The rationale for this approach is that during construction the asset is not generating revenue and therefore interest cost should be deferred (capitalized). Once construction is completed, the asset is ready for its intended use and revenues can be earned. Any interest cost incurred in purchasing an asset that is ready for its intended use should be expensed.

5. **Understand accounting issues related to acquiring and valuing plant assets.** The following issues relate to acquiring and valuing plant assets: (1) **Cash discounts:** Whether taken or not, they are generally considered a reduction in the cost of the asset. The real cost of the asset is the cash or cash equivalent price of the asset. (2) **Assets purchased on long-term credit contracts:** Such assets are accounted for at the present value of the consideration exchanged between the contracting parties. (3) **Lump-sum purchase:** For such purchases, allocate the total cost among the various assets on the basis of their relative fair market values. (4) **Issuance of stock:** If the stock is actively traded, the market value of the stock issued is a fair indication of the cost of the property acquired. If the market value of the common stock exchanged cannot be determined, the value of the property should be established and used as the basis for recording the asset and issuance of the common stock. (5) **Exchanges of property, plant, and equipment.** See Illustrations 10-10 and 10-21 for summaries of how to account for exchanges. (6) **Contributions:** These should be recorded at the fair value of the asset received, and a related credit should be made to revenue for the same amount.

6. **Describe the accounting treatment for costs subsequent to acquisition.** See Illustration 10-22 for a summary of how to account for costs subsequent to acquisition.

7. **Describe the accounting treatment for the disposal of property, plant, and equipment.** Regardless of the time of disposal, depreciation must be taken up to the date of disposition, and then all accounts related to the retired asset should be removed. Gains
or losses on the retirement of plant assets should be shown in the income statement along with other items that arise from customary business activities. Gains or losses on involuntary conversions should be reported as extraordinary items. If an asset is scrapped or abandoned without any cash recovery, a loss should be recognized equal to the asset’s book value. If scrap value exists, the gain or loss that occurs is the difference between the asset’s scrap value and its book value.

### QUESTIONS

1. What are the major characteristics of plant assets?

2. Esplanade Inc. owns land that it purchased on January 1, 1997, for $420,000. At December 31, 2004, its current value is $770,000 as determined by appraisal. At what amount should Esplanade report this asset on its December 31, 2004, balance sheet? Explain.

3. Name the items, in addition to the amount paid to the former owner or contractor, that may properly be included as part of the acquisition cost of the following plant assets.
   (a) Land.
   (b) Machinery and equipment.
   (c) Buildings.

4. Indicate where the following items would be shown on a balance sheet.
   (a) A lien that was attached to the land when purchased.
   (b) Landscaping costs.
   (c) Attorney’s fees and recording fees related to purchasing land.
   (d) Variable overhead related to construction of machinery.
   (e) A parking lot servicing employees in the building.
   (f) Cost of temporary building for workers during construction of a building.
   (g) Interest expense on bonds payable incurred during construction of a building.
   (h) Assessments for sidewalks that are maintained by the city.
   (i) The cost of demolishing an old building that was on the land when purchased.

5. Two positions have normally been taken with respect to the recording of fixed manufacturing overhead as an element of the cost of plant assets constructed by a company for its own use:
   (a) It should be excluded completely.
   (b) It should be included at the same rate as is charged to normal operations.
   What are the circumstances or rationale that support or deny the application of these methods?

6. The Buildings account of Diego Rivera Inc. includes the following items that were used in determining the basis for depreciating the cost of a building:
   (a) Organization and promotion expenses.
   (b) Architect’s fees.
   (c) Interest and taxes during construction.
   (d) Commission paid on the sale of capital stock.
   (e) Bond discount.
   Do you agree with these charges? If not, how would you deal with each of the items above in the corporation’s books and in its annual financial statements?

7. Jones Company has purchased two tracts of land. One tract will be the site of its new manufacturing plant, while the other is being purchased with the hope that it will be sold in the next year at a profit. How should these two tracts of land be reported in the balance sheet?

8. One financial accounting issue encountered when a company constructs its own plant is whether the interest cost on funds borrowed to finance construction should be capitalized and then amortized over the life of the assets constructed. What is a common accounting justification for capitalizing such interest?

9. Provide examples of assets that do not qualify for interest capitalization.

10. What interest rates should be used in determining the amount of interest to be capitalized? How should the amount of interest to be capitalized be determined?

11. How should the amount of interest capitalized be disclosed in the notes to the financial statements? How should interest revenue from temporarily invested excess funds borrowed to finance the construction of assets be accounted for?

12. Discuss the basic accounting problem that arises in handling each of the following situations.
   (a) Assets purchased by issuance of capital stock.
   (b) Acquisition of plant assets by gift or donation.
   (c) Purchase of a plant asset subject to a cash discount.
   (d) Assets purchased on a long-term credit basis.
   (e) A group of assets acquired for a lump sum.
   (f) An asset traded in or exchanged for another asset.

13. Yukio Mishima Industries acquired equipment this year to be used in its operations. The equipment was delivered by the suppliers, installed by Mishima, and placed into operation. Some of it was purchased for cash with discounts available for prompt payment. Some of it was purchased under long-term payment plans for which the
interest charges approximated prevailing rates. What costs should Mishima capitalize for the new equipment purchased this year? Explain.

14. Adam Mickiewicz Co. purchased for $2,200,000 property that included both land and a building to be used in operations. The seller’s book value was $300,000 for the land and $900,000 for the building. By appraisal, the fair market value was estimated to be $500,000 for the land and $2,000,000 for the building. At what amount should Mickiewicz report the land and the building at the end of the year?

15. Richardson Co. acquires machinery by paying $10,000 cash and signing a $5,000, 2-year, zero-interest-bearing note payable. The note has a present value of $4,058, and Richardson purchased a similar machine last month for $13,500. At what cost should the new equipment be recorded?

16. Ron Dayne is evaluating two recent transactions involving exchanges of equipment. In one case, similar assets were exchanged. In the second situation, dissimilar assets were exchanged. Explain to Ron the differences in accounting for these two situations.

17. Saadi Company purchased a heavy-duty truck on July 1, 2001, for $30,000. It was estimated that it would have a useful life of 10 years and then would have a trade-in value of $6,000. It was traded on August 1, 2005, for a similar truck costing $39,000; $13,000 was allowed as trade-in value (also fair value) on the old truck and $26,000 was paid in cash. What is the entry to record the trade-in? The company uses the straight-line method.

18. Once equipment has been installed and placed in operation, subsequent expenditures relating to this equipment are frequently thought of as repairs or general maintenance and, hence, chargeable to operations in the period in which the expenditure is made. Actually, determination of whether such an expenditure should be charged to operations or capitalized involves a much more careful analysis of the character of the expenditure. What are the factors that should be considered in making such a decision? Discuss fully.

19. What accounting treatment is normally given to the following items in accounting for plant assets?

(a) Additions.
(b) Major repairs.
(c) Improvements and replacements.

20. New machinery, which replaced a number of employees, was installed and put in operation in the last month of the fiscal year. The employees had been dismissed after payment of an extra month’s wages, and this amount was added to the cost of the machinery. Discuss the propriety of the charge. If it was improper, describe the proper treatment.

21. To what extent do you consider the following items to be proper costs of the fixed asset? Give reasons for your opinions.

(a) Overhead of a business that builds its own equipment.
(b) Cost of constructing new models of machinery.
(c) Cash discounts on purchases of equipment.
(d) Interest paid during construction of a building.
(e) Cost of a safety device installed on a machine.
(f) Freight on equipment returned before installation, for replacement by other equipment of greater capacity.
(g) Cost of moving machinery to a new location.
(h) Cost of plywood partitions erected as part of the remodeling of the office.
(i) Replastering of a section of the building.
(j) Cost of a new motor for one of the trucks.

22. Recently, Michelangelo Manufacturing Co. presented the account “Allowance for Repairs” in the long-term liabilities section. Evaluate this procedure.

23. Dimitri Enterprises has a number of fully depreciated assets that are still being used in the main operations of the business. Because the assets are fully depreciated, the president of the company decides not to show them on the balance sheet or disclose this information in the notes. Evaluate this procedure.

24. What are the general rules for how gains or losses on retirement of plant assets should be reported in income?

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**Brief Exercises**

**BE10-1** Bonanza Brothers Inc. purchased land at a price of $27,000. Closing costs were $1,400. An old building was removed at a cost of $12,200. What amount should be recorded as the cost of the land?

**BE10-2** Brett Hull Company is constructing a building. Construction began on February 1 and was completed on December 31. Expenditures were $1,500,000 on March 1, $1,200,000 on June 1, and $3,000,000 on December 31. Compute Hull’s weighted-average accumulated expenditures for interest capitalization purposes.

**BE10-3** Brett Hull Company (see BE10-2) borrowed $1,000,000 on March 1 on a 5-year, 12% note to help finance construction of the building. In addition, the company had outstanding all year a 13%, 5-year, $2,000,000 note payable and a 15%, 4-year, $3,500,000 note payable. Compute the weighted-average interest rate used for interest capitalization purposes.
BE10-4 Use the information for Brett Hull Company from BE10-2 and BE10-3. Compute avoidable interest for Brett Hull Company.

BE10-5 Chavez Corporation purchased a truck by issuing an $80,000, 4-year, non-interest-bearing note to Equinox Inc. The market rate of interest for obligations of this nature is 12%. Prepare the journal entry to record the purchase of this truck.

BE10-6 Cool Spot Inc. purchased land, building, and equipment from Pinball Wizard Corporation for a cash payment of $306,000. The estimated fair values of the assets are land $60,000, building $220,000, and equipment $80,000. At what amounts should each of the three assets be recorded?

BE10-7 Dark Wizard Company obtained land by issuing 2,000 shares of its $10 par value common stock. The land was recently appraised at $85,000. The common stock is actively traded at $41 per share. Prepare the journal entry to record the acquisition of the land.

BE10-8 Strider Corporation traded a used truck (cost $20,000, accumulated depreciation $18,000) for a small computer worth $3,700. Strider also paid $1,000 in the transaction. Prepare the journal entry to record the exchange.

BE10-9 Sloan Company traded a used welding machine (cost $9,000, accumulated depreciation $3,000) for office equipment with an estimated fair value of $5,000. Sloan also paid $2,000 cash in the transaction. Prepare the journal entry to record the exchange.

BE10-10 Bubey Company traded a used truck for a new truck. The used truck cost $30,000 and has accumulated depreciation of $27,000. The new truck is worth $35,000. Bubey also made a cash payment of $33,000. Prepare Bubey's entry to record the exchange.

BE10-11 Buck Rogers Corporation traded a used truck for a new truck. The used truck cost $20,000 and has accumulated depreciation of $17,000. The new truck is worth $35,000. Rogers also made a cash payment of $33,000. Prepare Rogers' entry to record the exchange.

BE10-12 Indicate which of the following costs should be expensed when incurred.
   (a) $13,000 paid to rearrange and reinstall machinery.
   (b) $200 paid for tune-up and oil change on delivery truck.
   (c) $200,000 paid for addition to building.
   (d) $7,000 paid to replace a wooden floor with a concrete floor.
   (e) $2,000 paid for a major overhaul on a truck, which extends useful life.
   (f) $700,000 paid for relocation of company headquarters.

BE10-13 Sim City Corporation owns machinery that cost $20,000 when purchased on January 1, 2001. Depreciation has been recorded at a rate of $3,000 per year, resulting in a balance in accumulated depreciation of $9,000 at December 31, 2003. The machinery is sold on September 1, 2004, for $10,500. Prepare journal entries to (a) update depreciation for 2004 and (b) record the sale.

BE10-14 Use the information presented for Sim City Corporation in BE10-13, but assume the machinery is sold for $5,200 instead of $10,500. Prepare journal entries to (a) update depreciation for 2004 and (b) record the sale.

**EXERCISES**

E10-1 (Acquisition Costs of Realty) The following expenditures and receipts are related to land, land improvements, and buildings acquired for use in a business enterprise. The receipts are enclosed in parentheses.

(a) Money borrowed to pay building contractor (signed a note) $(275,000)
(b) Payment for construction from note proceeds 275,000
(c) Cost of land fill and clearing 8,000
(d) Delinquent real estate taxes on property assumed by purchaser 7,000
(e) Premium on 6-month insurance policy during construction 6,000
(f) Refund of 1-month insurance premium because construction completed early 1,000
(g) Architect's fee on building 22,000
(h) Cost of real estate purchased as a plant site (land $200,000 and building $50,000) 250,000
(i) Commission fee paid to real estate agency 9,000
(j) Installation of fences around property 4,000
(k) Cost of razing and removing building 11,000
(l) Proceeds from salvage of demolished building (5,000)
(m) Interest paid during construction on money borrowed for construction 13,000
(n) Cost of parking lots and driveways 19,000
(o) Cost of trees and shrubbery planted (permanent in nature) 14,000
(p) Excavation costs for new building 3,000

Instructions
Identify each item by letter and list the items in columnar form, using the headings shown below. All receipt amounts should be reported in parentheses. For any amounts entered in the Other Accounts column also indicate the account title.

<table>
<thead>
<tr>
<th>Item</th>
<th>Land</th>
<th>Land Improvements</th>
<th>Building</th>
<th>Other Accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>E10-2 (Acquisition Costs of Realty)</td>
<td>Martin Buber Co. purchased land as a factory site for $400,000. The process of tearing down two old buildings on the site and constructing the factory required 6 months. The company paid $42,000 to raze the old buildings and sold salvaged lumber and brick for $6,300. Legal fees of $1,850 were paid for title investigation and drawing the purchase contract. Martin Buber paid $2,200 to an engineering firm for a land survey, and $68,000 for drawing the factory plans. The land survey had to be made before definitive plans could be drawn. Title insurance on the property cost $1,500, and a liability insurance premium paid during construction was $900. The contractor's charge for construction was $2,740,000. The company paid the contractor in two installments: $1,200,000 at the end of 3 months and $1,540,000 upon completion. Interest costs of $170,000 were incurred to finance the construction.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| E10-3 (Acquisition Costs of Trucks) | Alexei Urmanov Corporation operates a retail computer store. To improve delivery services to customers, the company purchases four new trucks on April 1, 2004. The terms of acquisition for each truck are described below.

1. Truck #1 has a list price of $15,000 and is acquired for a cash payment of $13,900.
2. Truck #2 has a list price of $16,000 and is acquired for a down payment of $2,000 cash and a non-interest-bearing note with a face amount of $14,000. The note is due April 1, 2005. Urmanov would normally have to pay interest at a rate of 10% for such a borrowing, and the dealership has an incremental borrowing rate of 8%.
3. Truck #3 has a list price of $16,000. It is acquired in exchange for a computer system that Urmanov carries in inventory. The computer system cost $12,000 and is normally sold by Urmanov for $15,200. Urmanov uses a perpetual inventory system.
4. Truck #4 has a list price of $14,000. It is acquired in exchange for 1,000 shares of common stock in Urmanov Corporation. The stock has a par value per share of $10 and a market value of $13 per share. |
| E10-4 (Purchase and Self-Constructed Cost of Assets) | Worf Co. both purchases and constructs various equipment it uses in its operations. The following items for two different types of equipment were recorded in random order during the calendar year 2005.

### Purchase
- Cash paid for equipment, including sales tax of $5,000 $105,000
- Freight and insurance cost while in transit 2,000
- Cost of moving equipment into place at factory 3,100
- Wage cost for technicians to test equipment 4,000
- Insurance premium paid during first year of operation on this equipment 1,500
- Special plumbing fixtures required for new equipment 8,000
- Repair cost incurred in first year of operations related to this equipment 1,300

### Construction
- Material and purchased parts (gross cost $200,000; failed to take 2% cash discount) $200,000
- Imputed interest on funds used during construction (stock financing) 14,000
- Labor costs 190,000
- Allocated overhead costs (fixed—$20,000; variable—$30,000) 50,000
- Profit on self-construction 30,000
- Cost of installing equipment 4,400
Instructions

Compute the total cost for each of these two pieces of equipment. If an item is not capitalized as a cost of the equipment, indicate how it should be reported.

**E10-5 (Treatment of Various Costs)** Ben Sisko Supply Company, a newly formed corporation, incurred the following expenditures related to Land, to Buildings, and to Machinery and Equipment.

- Abstract company's fee for title search $520
- Architect's fees 2,800
- Cash paid for land and dilapidated building thereon 87,000
- Removal of old building $20,000
- Less: Salvage 5,500
- Surveying before construction 370
- Interest on short-term loans during construction 7,400
- Excavation before construction for basement 19,000
- Machinery purchased (subject to 2% cash discount, which was not taken) 55,000
- Freight on machinery purchased 1,340
- Storage charges on machinery, necessitated by noncompletion of building when machinery was delivered 2,180
- New building constructed (building construction took 6 months from date of purchase of land and old building) 485,000
- Assessment by city for drainage project 1,600
- Hauling charges for delivery of machinery from storage to new building 620
- Installation of machinery 2,000
- Trees, shrubs, and other landscaping after completion of building (permanent in nature) 5,400

Instructions

Determine the amounts that should be debited to Land, to Buildings, and to Machinery and Equipment. Assume the benefits of capitalizing interest during construction exceed the cost of implementation. Indicate how any costs not debited to these accounts should be recorded.

**E10-6 (Correction of Improper Cost Entries)** Plant acquisitions for selected companies are as follows.

1. Belanna Industries Inc. acquired land, buildings, and equipment from a bankrupt company, Torres Co., for a lump-sum price of $700,000. At the time of purchase, Torres's assets had the following book and appraisal values.

<table>
<thead>
<tr>
<th>Book Values</th>
<th>Appraisal Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>$200,000</td>
</tr>
<tr>
<td>Buildings</td>
<td>250,000</td>
</tr>
<tr>
<td>Equipment</td>
<td>300,000</td>
</tr>
</tbody>
</table>

To be conservative, the company decided to take the lower of the two values for each asset acquired. The following entry was made.

```plaintext
Land 150,000
Buildings 250,000
Equipment 300,000
Cash 700,000
```

2. Harry Enterprises purchased store equipment by making a $2,000 cash down payment and signing a 1-year, $23,000, 10% note payable. The purchase was recorded as follows.

```plaintext
Store Equipment 27,300
Cash 2,000
Note Payable 23,000
Interest Payable 2,300
```

3. Kim Company purchased office equipment for $20,000, terms 2/10, n/30. Because the company intended to take the discount, it made no entry until it paid for the acquisition. The entry was:

```plaintext
Office Equipment 20,000
Cash 19,600
Purchase Discounts 400
```

4. Kaisson Inc. recently received at zero cost land from the Village of Cardassia as an inducement to locate its business in the Village. The appraised value of the land is $27,000. The company made no entry to record the land because it had no cost basis.

5. Zimmerman Company built a warehouse for $600,000. It could have purchased the building for $740,000. The controller made the following entry.
## Instructions

Prepare the entry that should have been made at the date of each acquisition.

### E10-7 (Capitalization of Interest)

Harrisburg Furniture Company started construction of a combination office and warehouse building for its own use at an estimated cost of $5,000,000 on January 1, 2004. Harrisburg expected to complete the building by December 31, 2004. Harrisburg has the following debt obligations outstanding during the construction period.

- **Construction loan**—12% interest, payable semiannually, issued December 31, 2003: $2,000,000
- **Short-term loan**—10% interest, payable monthly, and principal payable at maturity on May 30, 2005: $1,400,000
- **Long-term loan**—11% interest, payable on January 1 of each year. Principal payable on January 1, 2008: $1,000,000

### Instructions

(Carry all computations to two decimal places.)

(a) Assume that Harrisburg completed the office and warehouse building on December 31, 2004, as planned at a total cost of $5,200,000, and the weighted average of accumulated expenditures was $3,600,000. Compute the avoidable interest on this project.

(b) Compute the depreciation expense for the year ended December 31, 2005. Harrisburg elected to depreciate the building on a straight-line basis and determined that the asset has a useful life of 30 years and a salvage value of $300,000.

### E10-8 (Capitalization of Interest)

On December 31, 2003, Alma-Ata Inc. borrowed $3,000,000 at 12% payable annually to finance the construction of a new building. In 2004, the company made the following expenditures related to this building: March 1, $360,000; June 1, $600,000; July 1, $1,500,000; December 1, $1,500,000. Additional information is provided as follows.

1. Other debt outstanding
   - 10-year, 13% bond, December 31, 1997, interest payable annually: $4,000,000
   - 6-year, 10% note, dated December 31, 2001, interest payable annually: $1,600,000
2. March 1, 2004, expenditure included land costs of $150,000
3. Interest revenue earned in 2004: $49,000

### Instructions

(a) Determine the amount of interest to be capitalized in 2004 in relation to the construction of the building.

(b) Prepare the journal entry to record the capitalization of interest and the recognition of interest expense, if any, at December 31, 2004.

### E10-9 (Capitalization of Interest)

On July 31, 2004, Amsterdam Company engaged Minsk Tooling Company to construct a special-purpose piece of factory machinery. Construction was begun immediately and was completed on November 1, 2004. To help finance construction, on July 31 Amsterdam issued a $300,000, 3-year, 12% note payable at Netherlands National Bank, on which interest is payable each July 31. $200,000 of the proceeds of the note was paid to Minsk on July 31. The remainder of the proceeds was temporarily invested in short-term marketable securities at 10% until November 1. On November 1, Amsterdam made a final $100,000 payment to Minsk. Other than the note to Netherlands, Amsterdam’s only outstanding liability at December 31, 2004, is a $30,000, 8%, 6-year note payable, dated January 1, 2001, on which interest is payable each December 31.

### Instructions

(a) Calculate the interest revenue, weighted-average accumulated expenditures, avoidable interest, and total interest cost to be capitalized during 2004. Round all computations to the nearest dollar.

(b) Prepare the journal entries needed on the books of Amsterdam Company at each of the following dates.

E10-10 (Capitalization of Interest) The following three situations involve the capitalization of interest.

**Situation I**
On January 1, 2004, Oksana Baiul, Inc. signed a fixed-price contract to have Builder Associates construct a major plant facility at a cost of $4,000,000. It was estimated that it would take 3 years to complete the project. Also on January 1, 2004, to finance the construction cost, Oksana Baiul borrowed $4,000,000 payable in 10 annual installments of $400,000, plus interest at the rate of 10%. During 2004, Oksana Baiul made deposit and progress payments totaling $1,500,000 under the contract; the weighted-average amount of accumulated expenditures was $800,000 for the year. The excess borrowed funds were invested in short-term securities, from which Oksana Baiul realized investment income of $250,000.

**Instructions**
What amount should Oksana Baiul report as capitalized interest at December 31, 2004?

**Situation II**
During 2004, Midori Ito Corporation constructed and manufactured certain assets and incurred the following interest costs in connection with those activities.

<table>
<thead>
<tr>
<th>Interest Costs Incurred</th>
<th>$30,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warehouse constructed for Ito’s own use</td>
<td>$30,000</td>
</tr>
<tr>
<td>Special-order machine for sale to unrelated customer, produced according to customer’s specifications</td>
<td>9,000</td>
</tr>
<tr>
<td>Inventories routinely manufactured, produced on a repetitive basis</td>
<td>8,000</td>
</tr>
</tbody>
</table>

All of these assets required an extended period of time for completion.

**Instructions**
Assuming the effect of interest capitalization is material, what is the total amount of interest costs to be capitalized?

**Situation III**
Peggy Fleming, Inc. has a fiscal year ending April 30. On May 1, 2004, Peggy Fleming borrowed $10,000,000 at 11% to finance construction of its own building. Repayments of the loan are to commence the month following completion of the building. During the year ended April 30, 2005, expenditures for the partially completed structure totaled $7,000,000. These expenditures were incurred evenly throughout the year. Interest earned on the unexpended portion of the loan amounted to $650,000 for the year.

**Instructions**
How much should be shown as capitalized interest on Peggy Fleming’s financial statements at April 30, 2005?

E10-11 (Entries for Equipment Acquisitions)
Jane Geddes Engineering Corporation purchased conveyor equipment with a list price of $10,000. The vendor’s credit terms were 2/10, n/30. Presented below are three independent cases related to the equipment. Assume that the purchases of equipment are recorded gross. (Round to nearest dollar.)

(a) Geddes paid cash for the equipment 8 days after the purchase.
(b) Geddes traded in equipment with a book value of $2,000 (initial cost $8,000), and paid $9,500 in cash one month after the purchase. The old equipment could have been sold for $400 at the date of trade (assume similar equipment).
(c) Geddes gave the vendor a $10,800 non-interest-bearing note for the equipment on the date of purchase. The note was due in one year and was paid on time. Assume that the effective interest rate in the market was 9%.

**Instructions**
Prepare the general journal entries required to record the acquisition and payment in each of the independent cases above. Round to the nearest dollar.

E10-12 (Entries for Asset Acquisition, Including Self-Construction)
Below are transactions related to Fred Couples Company.

(a) The City of Pebble Beach gives the company 5 acres of land as a plant site. The market value of this land is determined to be $81,000.
(b) 13,000 shares of common stock with a par value of $50 per share are issued in exchange for land and buildings. The property has been appraised at a fair market value of $810,000, of which $180,000 has been allocated to land and $630,000 to buildings. The stock of Fred Couples Com-
company is not listed on any exchange, but a block of 100 shares was sold by a stockholder 12 months ago at $65 per share, and a block of 200 shares was sold by another stockholder 18 months ago at $58 per share.

(c) No entry has been made to remove from the accounts for Materials, Direct Labor, and Overhead the amounts properly chargeable to plant asset accounts for machinery constructed during the year. The following information is given relative to costs of the machinery constructed.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials used</td>
<td>$12,500</td>
</tr>
<tr>
<td>Factory supplies used</td>
<td>900</td>
</tr>
<tr>
<td>Direct labor incurred</td>
<td>15,000</td>
</tr>
<tr>
<td>Additional overhead (over regular) caused by construction of machinery, excluding factory supplies used</td>
<td>2,700</td>
</tr>
<tr>
<td>Fixed overhead rate applied to regular manufacturing operations</td>
<td>60% of direct labor cost</td>
</tr>
<tr>
<td>Cost of similar machinery if it had been purchased from outside suppliers</td>
<td>44,000</td>
</tr>
</tbody>
</table>

Instructions
Prepare journal entries on the books of Fred Couples Company to record these transactions.

E10-13 (Entries for Acquisition of Assets) Presented below is information related to Zonker Company.

1. On July 6 Zonker Company acquired the plant assets of Doonesbury Company, which had discontinued operations. The appraised value of the property is:

<table>
<thead>
<tr>
<th>Asset</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>$400,000</td>
</tr>
<tr>
<td>Building</td>
<td>1,200,000</td>
</tr>
<tr>
<td>Machinery and equipment</td>
<td>800,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$2,400,000</strong></td>
</tr>
</tbody>
</table>

Zonker Company gave 12,500 shares of its $100 par value common stock in exchange. The stock had a market value of $168 per share on the date of the purchase of the property.

2. Zonker Company expended the following amounts in cash between July 6 and December 15, the date when it first occupied the building:

- Repairs to building: $105,000
- Construction of bases for machinery to be installed later: $135,000
- Driveways and parking lots: $122,000
- Remodeling of office space in building, including new partitions and walls: $161,000
- Special assessment by city on land: $18,000

3. On December 20, the company paid cash for machinery, $260,000, subject to a 2% cash discount, and freight on machinery of $10,500.

Instructions
Prepare entries on the books of Zonker Company for these transactions.

E10-14 (Purchase of Equipment with Non-Interest-Bearing Debt) Chippewas Inc. has decided to purchase equipment from Central Michigan Industries on January 2, 2004, to expand its production capacity to meet customers’ demand for its product. Chippewas issues an $800,000, 5-year, non-interest-bearing note to Central Michigan for the new equipment when the prevailing market rate of interest for obligations of this nature is 12%. The company will pay off the note in five $160,000 installments due at the end of each year over the life of the note.

Instructions
(a) Prepare the journal entry(ies) at the date of purchase. (Round to nearest dollar in all computations.)

(b) Prepare the journal entry(ies) at the end of the first year to record the payment and interest, assuming that the company employs the effective-interest method.

(c) Prepare the journal entry(ies) at the end of the second year to record the payment and interest.

(d) Assuming that the equipment had a 10-year life and no salvage value, prepare the journal entry necessary to record depreciation in the first year. (Straight-line depreciation is employed.)

E10-15 (Purchase of Computer with Non-Interest-Bearing Debt) Cardinals Corporation purchased a computer on December 31, 2003, for $105,000, paying $30,000 down and agreeing to pay the balance in five equal installments of $15,000 payable each December 31 beginning in 2004. An assumed interest rate of 10% is implicit in the purchase price.
Instructions
(a) Prepare the journal entry(ies) at the date of purchase. (Round to two decimal places.)
(b) Prepare the journal entry(ies) at December 31, 2004, to record the payment and interest (effective-interest method employed).
(c) Prepare the journal entry(ies) at December 31, 2005, to record the payment and interest (effective-interest method employed).

E10-16 (Asset Acquisition) Hayes Industries purchased the following assets and constructed a building as well. All this was done during the current year.

Assets 1 and 2
These assets were purchased as a lump sum for $100,000 cash. The following information was gathered.

<table>
<thead>
<tr>
<th>Description</th>
<th>Initial Cost on Seller's Books</th>
<th>Depreciation to Date on Seller's Books</th>
<th>Book Value on Seller's Books</th>
<th>Appraised Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machinery</td>
<td>$100,000</td>
<td>$50,000</td>
<td>$50,000</td>
<td>$85,000</td>
</tr>
<tr>
<td>Office equipment</td>
<td>60,000</td>
<td>10,000</td>
<td>50,000</td>
<td>45,000</td>
</tr>
</tbody>
</table>

Asset 3
This machine was acquired by making a $10,000 down payment and issuing a $30,000, 2-year, zero-interest-bearing note. The note is to be paid off in two $15,000 installments made at the end of the first and second years. It was estimated that the asset could have been purchased outright for $35,900.

Asset 4
This machinery was acquired by trading in similar used machinery. Facts concerning the trade-in are as follows.

Cost of machinery traded $100,000
Accumulated depreciation to date of sale 40,000
Fair market value of machinery traded 80,000
Cash received 10,000
Fair market value of machinery acquired 70,000

Asset 5
Office equipment was acquired by issuing 100 shares of $8 par value common stock. The stock had a market value of $11 per share.

Construction of Building
A building was constructed on land purchased last year at a cost of $150,000. Construction began on February 1 and was completed on November 1. The payments to the contractor were as follows.

<table>
<thead>
<tr>
<th>Date</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/1</td>
<td>$120,000</td>
</tr>
<tr>
<td>6/1</td>
<td>360,000</td>
</tr>
<tr>
<td>9/1</td>
<td>480,000</td>
</tr>
<tr>
<td>11/1</td>
<td>100,000</td>
</tr>
</tbody>
</table>

To finance construction of the building, a $600,000, 12% construction loan was taken out on June 1. The loan was repaid on November 1. The firm had $200,000 of other outstanding debt during the year at a borrowing rate of 8%.

Instructions
Record the acquisition of each of these assets.

E10-17 (Nonmonetary Exchange with Boot) Busytown Corporation, which manufactures shoes, hired a recent college graduate to work in its accounting department. On the first day of work, the accountant was assigned to total a batch of invoices with the use of an adding machine. Before long, the accountant, who had never before seen such a machine, managed to break the machine. Busytown Corporation gave the machine plus $340 to Dick Tracy Business Machine Company (dealer) in exchange for a new machine. Assume the following information about the machines.

<table>
<thead>
<tr>
<th></th>
<th>Busytown Corp. (Old Machine)</th>
<th>Dick Tracy Co. (New Machine)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine cost</td>
<td>$290</td>
<td>$270</td>
</tr>
<tr>
<td>Accumulated depreciation</td>
<td>140</td>
<td>--0--</td>
</tr>
<tr>
<td>Fair value</td>
<td>85</td>
<td>425</td>
</tr>
</tbody>
</table>
Instructions
For each company, prepare the necessary journal entry to record the exchange.

E10-18  (Nonmonetary Exchange with Boot)  Cannondale Company purchased an electric wax melter on April 30, 2005, by trading in its old gas model and paying the balance in cash. The following data relate to the purchase.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>List price of new melter</td>
<td>$15,800</td>
</tr>
<tr>
<td>Cash paid</td>
<td>10,000</td>
</tr>
<tr>
<td>Cost of old melter (5-year life, $700 residual value)</td>
<td>11,200</td>
</tr>
<tr>
<td>Accumulated depreciation—old melter (straight-line)</td>
<td>8,300</td>
</tr>
<tr>
<td>Second-hand market value of old melter</td>
<td>5,200</td>
</tr>
</tbody>
</table>

Instructions
Prepare the journal entry(ies) necessary to record this exchange, assuming that the melters exchanged are (a) similar in nature, and (b) dissimilar in nature. Cannondale’s fiscal year ends on December 31, and depreciation has been recorded through December 31, 2004.

E10-19  (Nonmonetary Exchange with Boot)  Carlos Arruza Company exchanged equipment used in its manufacturing operations plus $3,000 in cash for similar equipment used in the operations of Tony LoBianco Company. The following information pertains to the exchange.

<table>
<thead>
<tr>
<th></th>
<th>Carlos Arruza Co.</th>
<th>Tony LoBianco Co.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment (cost)</td>
<td>$28,000</td>
<td>$28,000</td>
</tr>
<tr>
<td>Accumulated depreciation</td>
<td>19,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Fair value of equipment</td>
<td>12,500</td>
<td>15,500</td>
</tr>
<tr>
<td>Cash given up</td>
<td>3,000</td>
<td></td>
</tr>
</tbody>
</table>

Instructions
Prepare the journal entries to record the exchange on the books of both companies.

E10-20  (Nonmonetary Exchange with Boot)  Dana Ashbrook Inc. has negotiated the purchase of a new piece of automatic equipment at a price of $8,000 plus trade-in, f.o.b. factory. Dana Ashbrook Inc. paid $8,000 cash and traded in used equipment. The used equipment had originally cost $62,000; it had a book value of $42,000 and a secondhand market value of $47,800, as indicated by recent transactions involving similar equipment. Freight and installation charges for the new equipment required a cash payment of $1,100.

Instructions
(a) Prepare the general journal entry to record this transaction, assuming that the assets Dana Ashbrook Inc. exchanged are similar in nature.
(b) Assuming the same facts as in (a) except that the assets exchanged are dissimilar in nature, prepare the general journal entry to record this transaction.

E10-21  (Analysis of Subsequent Expenditures)  King Donovan Resources Group has been in its plant facility for 15 years. Although the plant is quite functional, numerous repair costs are incurred to maintain it in sound working order. The company’s plant asset book value is currently $800,000, as indicated below.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original cost</td>
<td>$1,200,000</td>
</tr>
<tr>
<td>Accumulated depreciation</td>
<td>400,000</td>
</tr>
<tr>
<td></td>
<td>$ 800,000</td>
</tr>
</tbody>
</table>

During the current year, the following expenditures were made to the plant facility.

(a) Because of increased demands for its product, the company increased its plant capacity by building a new addition at a cost of $270,000.
(b) The entire plant was repainted at a cost of $23,000.
(c) The roof was an asbestos cement slate. For safety purposes it was removed and replaced with a wood shingle roof at a cost of $61,000. Book value of the old roof was $41,000.
(d) The electrical system was completely updated at a cost of $22,000. The cost of the old electrical system was not known. It is estimated that the useful life of the building will not change as a result of this updating.
(e) A series of major repairs were made at a cost of $47,000, because parts of the wood structure were rotting. The cost of the old wood structure was not known. These extensive repairs are estimated to increase the useful life of the building.
Indicate how each of these transactions would be recorded in the accounting records.

E10-22 (Analysis of Subsequent Expenditures) The following transactions occurred during 2005. Assume that depreciation of 10% per year is charged on all machinery and 5% per year on buildings, on a straight-line basis, with no estimated salvage value. Depreciation is charged for a full year on all fixed assets acquired during the year, and no depreciation is charged on fixed assets disposed of during the year.

Jan. 30 A building that cost $132,000 in 1988 is torn down to make room for a new building. The wrecking contractor was paid $5,100 and was permitted to keep all materials salvaged.
Mar. 10 Machinery that was purchased in 1998 for $16,000 is sold for $2,900 cash, f.o.b. purchaser's plant. Freight of $300 is paid on this machinery.
Mar. 20 A gear breaks on a machine that cost $9,000 in 2000. The gear is replaced at a cost of $385. The replacement does not extend the useful life of the machine.
May 18 A special base installed for a machine in 1999 when the machine was purchased has to be replaced at a cost of $5,500 because of defective workmanship on the original base. The cost of the machinery was $14,200 in 1999. The cost of the base was $3,500, and this amount was charged to the Machinery account in 1999.
June 23 One of the buildings is repainted at a cost of $6,900. It had not been painted since it was constructed in 2001.

Instructions
Prepare general journal entries for the transactions. (Round to the nearest dollar.)

E10-23 (Analysis of Subsequent Expenditures) Plant assets often require expenditures subsequent to acquisition. It is important that they be accounted for properly. Any errors will affect both the balance sheets and income statements for a number of years.

Instructions
For each of the following items, indicate whether the expenditure should be capitalized (C) or expensed (E) in the period incurred.

(a) Improvement.
(b) Replacement of a minor broken part on a machine.
(c) Expenditure that increases the useful life of an existing asset.
(d) Expenditure that increases the efficiency and effectiveness of a productive asset but does not increase its salvage value.
(e) Expenditure that increases the efficiency and effectiveness of a productive asset and increases the asset’s salvage value.
(f) Expenditure that increases the quality of the output of the productive asset.
(g) Improvement to a machine that increased its fair market value and its production capacity by 30% without extending the machine’s useful life.
(h) Ordinary repairs.
(i) Interest on borrowing necessary to finance a major overhaul of machinery. The overhaul extended the life of the machinery.

E10-24 (Entries for Disposition of Assets) On December 31, 2004, Travis Tritt Inc. has a machine with a book value of $940,000. The original cost and related accumulated depreciation at this date are as follows.

<table>
<thead>
<tr>
<th>Machine</th>
<th>$1,300,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accumulated depreciation</td>
<td>$360,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$ 940,000</strong></td>
</tr>
</tbody>
</table>

Depreciation is computed at $60,000 per year on a straight-line basis.

Instructions
Presented below is a set of independent situations. For each independent situation, indicate the journal entry to be made to record the transaction. Make sure that depreciation entries are made to update the book value of the machine prior to its disposal.

(a) A fire completely destroys the machine on August 31, 2005. An insurance settlement of $430,000 was received for this casualty. Assume the settlement was received immediately.
(b) On April 1, 2005, Tritt sold the machine for $1,040,000 to Dwight Yoakam Company.
(c) On July 31, 2005, the company donated this machine to the Mountain King City Council. The fair market value of the machine at the time of the donation was estimated to be $1,100,000.
E10-25  (Disposition of Assets)  On April 1, 2004, Gloria Estefan Company received a condemnation award of $430,000 cash as compensation for the forced sale of the company’s land and building, which stood in the path of a new state highway. The land and building cost $60,000 and $280,000, respectively, when they were acquired. At April 1, 2004, the accumulated depreciation relating to the building amounted to $160,000. On August 1, 2004, Estafan purchased a piece of replacement property for cash. The new land cost $90,000, and the new building cost $400,000.

Instructions
Prepare the journal entries to record the transactions on April 1 and August 1, 2004.

PROBLEMS

P10-1  (Classification of Acquisition and Other Asset Costs)  At December 31, 2003, certain accounts included in the property, plant, and equipment section of Craig Ehlo Company’s balance sheet had the following balances.

<table>
<thead>
<tr>
<th>Account</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>$230,000</td>
</tr>
<tr>
<td>Buildings</td>
<td>890,000</td>
</tr>
<tr>
<td>Leasehold improvements</td>
<td>660,000</td>
</tr>
<tr>
<td>Machinery and equipment</td>
<td>875,000</td>
</tr>
</tbody>
</table>

During 2004 the following transactions occurred.

1. Land site number 621 was acquired for $850,000. In addition, to acquire the land Ehlo paid a $51,000 commission to a real estate agent. Costs of $35,000 were incurred to clear the land. During the course of clearing the land, timber and gravel were recovered and sold for $13,000.

2. A second tract of land (site number 622) with a building was acquired for $420,000. The closing statement indicated that the land value was $300,000 and the building value was $120,000. Shortly after acquisition, the building was demolished at a cost of $41,000. A new building was constructed for $330,000 plus the following costs.
   - Excavation fees $38,000
   - Architectural design fees 11,000
   - Building permit fee 2,500
   - Imputed interest on funds used during construction (stock financing) 8,500

The building was completed and occupied on September 30, 2004.

3. A third tract of land (site number 623) was acquired for $650,000 and was put on the market for resale.

4. During December 2004 costs of $89,000 were incurred to improve leased office space. The related lease will terminate on December 31, 2006, and is not expected to be renewed. (Hint: Leasehold improvements should be handled in the same manner as land improvements.)

5. A group of new machines was purchased under a royalty agreement that provides for payment of royalties based on units of production for the machines. The invoice price of the machines was $87,000, freight costs were $3,300, installation costs were $2,400, and royalty payments for 2004 were $17,500.

Instructions
(a) Prepare a detailed analysis of the changes in each of the following balance sheet accounts for 2004.
   - Land
   - Leasehold improvements
   - Buildings
   - Machinery and equipment

Disregard the related accumulated depreciation accounts.

(b) List the items in the situation that were not used to determine the answer to (a) above, and indicate where, or if, these items should be included in Ehlo’s financial statements.

(AICPA adapted)

P10-2  (Classification of Acquisition Costs)  Selected accounts included in the property, plant, and equipment section of Spud Webb Corporation’s balance sheet at December 31, 2003, had the following balances.

<table>
<thead>
<tr>
<th>Account</th>
<th>Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>$300,000</td>
</tr>
<tr>
<td>Land improvements</td>
<td>140,000</td>
</tr>
<tr>
<td>Buildings</td>
<td>1,100,000</td>
</tr>
<tr>
<td>Machinery and equipment</td>
<td>960,000</td>
</tr>
</tbody>
</table>

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During 2004 the following transactions occurred.

1. A tract of land was acquired for $150,000 as a potential future building site.
2. A plant facility consisting of land and building was acquired from Ken Norman Company in exchange for 20,000 shares of Webb’s common stock. On the acquisition date, Webb’s stock had a closing market price of $37 per share on a national stock exchange. The plant facility was carried on Norman’s books at $110,000 for land and $320,000 for the building at the exchange date. Current appraised values for the land and building, respectively, are $230,000 and $690,000.
3. Items of machinery and equipment were purchased at a total cost of $400,000. Additional costs were incurred as follows:

<table>
<thead>
<tr>
<th>Cost</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freight and unloading</td>
<td>$13,000</td>
</tr>
<tr>
<td>Sales taxes</td>
<td>$20,000</td>
</tr>
<tr>
<td>Installation</td>
<td>$26,000</td>
</tr>
</tbody>
</table>

4. Expenditures totaling $95,000 were made for new parking lots, streets, and sidewalks at the corporation’s various plant locations. These expenditures had an estimated useful life of 15 years.
5. A machine costing $80,000 on January 1, 1996, was scrapped on June 30, 2004. Double-declining-balance depreciation has been recorded on the basis of a 10-year life.
6. A machine was sold for $20,000 on July 1, 2004. Original cost of the machine was $44,000 on January 1, 2001, and it was depreciated on the straight-line basis over an estimated useful life of 7 years and a salvage value of $2,000.

Instructions

(a) Prepare a detailed analysis of the changes in each of the following balance sheet accounts for 2004.

- Land
- Land improvements
- Buildings
- Machinery and equipment

(Hint: Disregard the related accumulated depreciation accounts.)

(b) List the items in the fact situation that were not used to determine the answer to (a), showing the pertinent amounts and supporting computations in good form for each item. In addition, indicate where, or if, these items should be included in Spud Webb’s financial statements.

(AICPA adapted)

P10-3  (Classification of Land and Building Costs)  Lenny Wilkins Company was incorporated on January 2, 2005, but was unable to begin manufacturing activities until July 1, 2005, because new factory facilities were not completed until that date.

The Land and Building account at December 31, 2005, was as follows.

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 31, 2005</td>
<td>Land and building</td>
<td>$160,000</td>
</tr>
<tr>
<td>February 28, 2005</td>
<td>Cost of removal of building</td>
<td>9,800</td>
</tr>
<tr>
<td>May 1, 2005</td>
<td>Partial payment of new construction</td>
<td>60,000</td>
</tr>
<tr>
<td>May 1, 2005</td>
<td>Legal fees paid</td>
<td>3,770</td>
</tr>
<tr>
<td>June 1, 2005</td>
<td>Second payment of new construction</td>
<td>40,000</td>
</tr>
<tr>
<td>June 1, 2005</td>
<td>Insurance premium</td>
<td>2,280</td>
</tr>
<tr>
<td>June 1, 2005</td>
<td>Special tax assessment</td>
<td>4,000</td>
</tr>
<tr>
<td>June 30, 2005</td>
<td>General expenses</td>
<td>36,300</td>
</tr>
<tr>
<td>July 1, 2005</td>
<td>Final payment on new construction</td>
<td>40,000</td>
</tr>
<tr>
<td>December 31, 2005</td>
<td>Asset write-up</td>
<td>43,800</td>
</tr>
<tr>
<td></td>
<td>Depreciation—2005 at 1%</td>
<td>4,000</td>
</tr>
<tr>
<td></td>
<td>Account balance</td>
<td>$395,950</td>
</tr>
</tbody>
</table>

The following additional information is to be considered.

1. To acquire land and building the company paid $80,000 cash and 800 shares of its 8% cumulative preferred stock, par value $100 per share. Fair market value of the stock is $107 per share.
2. Cost of removal of old buildings amounted to $9,800, and the demolition company retained all materials of the building.
3. Legal fees covered the following.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost of organization</td>
<td>$610</td>
</tr>
<tr>
<td>Examination of title covering purchase of land</td>
<td>1,300</td>
</tr>
<tr>
<td>Legal work in connection with construction contract</td>
<td>1,860</td>
</tr>
</tbody>
</table>

$3,770
4. Insurance premium covered the building for a 2-year term beginning May 1, 2005.
5. The special tax assessment covered street improvements that are permanent in nature.
6. General expenses covered the following for the period from January 2, 2005, to June 30, 2005.

<table>
<thead>
<tr>
<th>Expense</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>President's salary</td>
<td>$32,100</td>
</tr>
<tr>
<td>Plant superintendent covering supervision of new building</td>
<td>4,200</td>
</tr>
<tr>
<td></td>
<td>$36,300</td>
</tr>
</tbody>
</table>

7. Because of a general increase in construction costs after entering into the building contract, the board of directors increased the value of the building $43,800, believing that such an increase was justified to reflect the current market at the time the building was completed. Retained earnings was credited for this amount.

8. Estimated life of building—50 years.
Write-off for 2005—1% of asset value (1% of $400,000, or $4,000).

**Instructions**

(a) Prepare entries to reflect correct land, building, and depreciation allowance accounts at December 31, 2005.
(b) Show the proper presentation of land, building, and depreciation on the balance sheet at December 31, 2005.

(AICPA adapted)

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**P10-4 (Dispositions, Including Condemnation, Demolition, and Trade-in)**

Presented below is a schedule of property dispositions for Frank Thomas Co.

<table>
<thead>
<tr>
<th>Schedule of Property Dispositions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Cost</strong></td>
</tr>
<tr>
<td>Land</td>
</tr>
<tr>
<td>Building</td>
</tr>
<tr>
<td>Warehouse</td>
</tr>
<tr>
<td>Machine</td>
</tr>
<tr>
<td>Furniture</td>
</tr>
<tr>
<td>Automobile</td>
</tr>
</tbody>
</table>

The following additional information is available.

**Land**

On February 15, a condemnation award was received as consideration for unimproved land held primarily as an investment, and on March 31, another parcel of unimproved land to be held as an investment was purchased at a cost of $35,000.

**Building**

On April 2, land and building were purchased at a total cost of $75,000, of which 20% was allocated to the building on the corporate books. The real estate was acquired with the intention of demolishing the building, and this was accomplished during the month of November. Cash proceeds received in November represent the net proceeds from demolition of the building.

**Warehouse**

On June 30, the warehouse was destroyed by fire. The warehouse was purchased January 2, 2001, and had depreciated $11,000. On December 27, the insurance proceeds and other funds were used to purchase a replacement warehouse at a cost of $90,000.

**Machine**

On December 26, the machine was exchanged for another machine having a fair market value of $6,300 and cash of $900 was received.

**Furniture**

On August 15, furniture was contributed to a qualified charitable organization. No other contributions were made or pledged during the year.

**Automobile**

On November 3, the automobile was sold to Ozzie Guillen, a stockholder.

**Instructions**

Indicate how these items would be reported on the income statement of Frank Thomas Co.

(AICPA adapted)
Chapter 10  Acquisition and Disposition of Property, Plant, and Equipment

P10-5 (Classification of Costs and Interest Capitalization)  On January 1, 2004, George Solti Corporation purchased for $600,000 a tract of land (site number 101) with a building. Solti paid a real estate broker’s commission of $36,000, legal fees of $6,000, and title guarantee insurance of $18,000. The closing statement indicated that the land value was $500,000 and the building value was $100,000. Shortly after acquisition, the building was razed at a cost of $54,000.

Solti entered into a $3,000,000 fixed-price contract with Slatkin Builders, Inc. on March 1, 2004, for the construction of an office building on land site number 101. The building was completed and occupied on September 30, 2005. Additional construction costs were incurred as follows.

- Plans, specifications, and blueprints: $21,000
- Architects’ fees for design and supervision: $82,000

The building is estimated to have a 40-year life from date of completion and will be depreciated using the 150% declining balance method.

To finance construction costs, Solti borrowed $3,000,000 on March 1, 2004. The loan is payable in 10 annual installments of $300,000 plus interest at the rate of 10%. Solti’s weighted-average amounts of accumulated building construction expenditures were as follows.

<table>
<thead>
<tr>
<th>Period</th>
<th>Accumulated Expenditures</th>
</tr>
</thead>
<tbody>
<tr>
<td>For the period March 1 to December 31, 2004</td>
<td>$1,200,000</td>
</tr>
<tr>
<td>For the period January 1 to September 30, 2005</td>
<td>$1,900,000</td>
</tr>
</tbody>
</table>

Instructions
(a) Prepare a schedule that discloses the individual costs making up the balance in the land account in respect of land site number 101 as of September 30, 2005.
(b) Prepare a schedule that discloses the individual costs that should be capitalized in the office building account as of September 30, 2005. Show supporting computations in good form.

P10-6 (Interest During Construction)  Jerry Landscaping began construction of a new plant on December 1, 2002. On this date the company purchased a parcel of land for $142,000 in cash. In addition, it paid $2,000 in surveying costs and $4,000 for a title insurance policy. An old dwelling on the premises was demolished at a cost of $3,000, with $1,000 being received from the sale of materials.

Architectural plans were also formalized on December 1, 2002, when the architect was paid $30,000. The necessary building permits costing $3,000 were obtained from the city and paid for on December 1 as well. The excavation work began during the first week in December with payments made to the contractor as follows.

<table>
<thead>
<tr>
<th>Date</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 1</td>
<td>$240,000</td>
</tr>
<tr>
<td>May 1</td>
<td>360,000</td>
</tr>
<tr>
<td>July 1</td>
<td>60,000</td>
</tr>
</tbody>
</table>

The building was completed on July 1, 2003.

To finance construction of this plant, Jerry borrowed $600,000 from the bank on December 1, 2002. Jerry had no other borrowings. The $600,000 was a 10-year loan bearing interest at 8%.

Instructions
Compute the balance in each of the following accounts at December 31, 2002, and December 31, 2003.
(a) Land.
(b) Buildings.
(c) Interest Expense.

P10-7 (Capitalization of Interest)  Wordcrafters Inc. is a book distributor that had been operating in its original facility since 1979. The increase in certification programs and continuing education requirements in several professions has contributed to an annual growth rate of 15% for Wordcrafters since 1999. Wordcrafters’ original facility became obsolete by early 2004 because of the increased sales volume and the fact that Wordcrafters now carries tapes and disks in addition to books.

On June 1, 2004, Wordcrafters contracted with Favre Construction to have a new building constructed for $5,000,000 on land owned by Wordcrafters. The payments made by Wordcrafters to Favre Construction are shown in the schedule below.

<table>
<thead>
<tr>
<th>Date</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 30, 2004</td>
<td>$1,200,000</td>
</tr>
<tr>
<td>January 30, 2005</td>
<td>1,500,000</td>
</tr>
<tr>
<td>May 30, 2005</td>
<td>1,300,000</td>
</tr>
<tr>
<td>Total payments</td>
<td>$4,000,000</td>
</tr>
</tbody>
</table>
Construction was completed and the building was ready for occupancy on May 27, 2005. Wordcrafters had no new borrowings directly associated with the new building but had the following debt outstanding at May 31, 2005, the end of its fiscal year.

14%/2%, 5-year note payable of $2,000,000, dated April 1, 2001, with interest payable annually on April 1.
12%, 10-year bond issue of $3,000,000 sold at par on June 30, 1997, with interest payable annually on June 30.

The new building qualifies for interest capitalization. The effect of capitalizing the interest on the new building, compared with the effect of expensing the interest, is material.

**Instructions**

(a) Compute the weighted average accumulated expenditures on Wordcrafters' new building during the capitalization period.
(b) Compute the avoidable interest on Wordcrafters' new building.
(c) Some interest cost of Wordcrafters Inc. is capitalized for the year ended May 31, 2005.
   (1) Identify the items relating to interest costs that must be disclosed in Wordcrafters' financial statements.
   (2) Compute the amount of each of the items that must be disclosed.

(CMA adapted)

P10-8 (Nonmonetary Exchanges with Boot) Susquehanna Corporation wishes to exchange a machine used in its operations. Susquehanna has received the following offers from other companies in the industry.

1. Choctaw Company offered to exchange a similar machine plus $23,000.
2. Powhatan Company offered to exchange a similar machine.
3. Shawnee Company offered to exchange a similar machine, but wanted $8,000 in addition to Susquehanna’s machine.

In addition, Susquehanna contacted Seminole Corporation, a dealer in machines. To obtain a new machine, Susquehanna must pay $93,000 in addition to trading in its old machine.

<table>
<thead>
<tr>
<th></th>
<th>Susquehanna</th>
<th>Choctaw</th>
<th>Powhatan</th>
<th>Shawnee</th>
<th>Seminole</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine cost</td>
<td>$160,000</td>
<td>$120,000</td>
<td>$147,000</td>
<td>$160,000</td>
<td>$130,000</td>
</tr>
<tr>
<td>Accumulated depreciation</td>
<td>50,000</td>
<td>45,000</td>
<td>71,000</td>
<td>75,000</td>
<td>0–</td>
</tr>
<tr>
<td>Fair value</td>
<td>92,000</td>
<td>69,000</td>
<td>92,000</td>
<td>100,000</td>
<td>185,000</td>
</tr>
</tbody>
</table>

**Instructions**

For each of the four independent situations, prepare the journal entries to record the exchange on the books of each company. (Round to nearest dollar.)

P10-9 (Nonmonetary Exchanges with Boot) On August 1, Arna, Inc. exchanged productive assets with Bontemps, Inc. Arna’s asset is referred to below as “Asset A,” and Bontemps’ is referred to as “Asset B.” The following facts pertain to these assets.

<table>
<thead>
<tr>
<th></th>
<th>Asset A</th>
<th>Asset B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original cost</td>
<td>$96,000</td>
<td>$110,000</td>
</tr>
<tr>
<td>Accumulated depreciation (to date of exchange)</td>
<td>45,000</td>
<td>52,000</td>
</tr>
<tr>
<td>Fair market value at date of exchange</td>
<td>60,000</td>
<td>75,000</td>
</tr>
<tr>
<td>Cash paid by Arna, Inc.</td>
<td>15,000</td>
<td></td>
</tr>
<tr>
<td>Cash received by Bontemps, Inc.</td>
<td>15,000</td>
<td></td>
</tr>
</tbody>
</table>

**Instructions**

(a) Assuming that Assets A and B are dissimilar, record the exchange for both Arna, Inc. and Bontemps, Inc. in accordance with generally accepted accounting principles.
(b) Assuming that Assets A and B are similar, record the exchange for both Arna, Inc. and Bontemps, Inc. in accordance with generally accepted accounting principles.

P10-10 (Nonmonetary Exchanges with Boot) During the current year, Garrison Construction trades an old crane that has a book value of $80,000 (original cost $140,000 less accumulated depreciation $60,000) for a new crane from Keillor Manufacturing Co. The new crane cost Keillor $165,000 to manufacture and is classified as inventory. The following information is also available.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair market value of old crane</td>
<td>$ 72,000</td>
<td>$190,000</td>
</tr>
<tr>
<td>Fair market value of new crane</td>
<td>118,000</td>
<td></td>
</tr>
<tr>
<td>Cash paid</td>
<td>118,000</td>
<td></td>
</tr>
<tr>
<td>Cash received</td>
<td>118,000</td>
<td></td>
</tr>
</tbody>
</table>
Instructions

(a) Assuming that this exchange is considered to involve dissimilar assets, prepare the journal entries on the books of (1) Garrison Construction and (2) Keillor Manufacturing.

(b) Assuming that this exchange is considered to involve similar assets, prepare the journal entries on the books of (1) Garrison Construction and (2) Keillor Manufacturing.

(c) Assuming the same facts as those in (a), except that the fair market value of the old crane is $98,000 and the cash paid is $92,000, prepare the journal entries on the books of (1) Garrison Construction and (2) Keillor Manufacturing.

(d) Assuming the same facts as those in (b), except that the fair market value of the old crane is $87,000 and the cash paid $103,000, prepare the journal entries on the books of (1) Garrison Construction and (2) Keillor Manufacturing.

P10-11 (Purchases by Deferred Payment, Lump-sum, and Nonmonetary Exchanges) Kent Adamson Company, a manufacturer of ballet shoes, is experiencing a period of sustained growth. In an effort to expand its production capacity to meet the increased demand for its product, the company recently made several acquisitions of plant and equipment. Tod Mullinger, newly hired in the position of fixed-asset accountant, requested that Watt Kaster, Adamson’s controller, review the following transactions.

Transaction 1
On June 1, 2004, Adamson Company purchased equipment from Venghaus Corporation. Adamson issued a $20,000, 4-year, non-interest-bearing note to Venghaus for the new equipment. Adamson will pay off the note in four equal installments due at the end of each of the next 4 years. At the date of the transaction, the prevailing market rate of interest for obligations of this nature was 10%. Freight costs of $425 and installation costs of $500 were incurred in completing this transaction. The appropriate factors for the time value of money at a 10% rate of interest are given below.

<table>
<thead>
<tr>
<th>Future value of $1 for 4 periods</th>
<th>1.46</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future value of an ordinary annuity for 4 periods</td>
<td>4.64</td>
</tr>
<tr>
<td>Present value of $1 for 4 periods</td>
<td>0.68</td>
</tr>
<tr>
<td>Present value of an ordinary annuity for 4 periods</td>
<td>3.17</td>
</tr>
</tbody>
</table>

Transaction 2
On December 1, 2004, Adamson Company purchased several assets of Haukap Shoes Inc., a small shoe manufacturer whose owner was retiring. The purchase amounted to $210,000 and included the assets listed below. Adamson Company engaged the services of Tennyson Appraisal Inc., an independent appraiser, to determine the fair market values of the assets which are also presented below.

<table>
<thead>
<tr>
<th>Asset</th>
<th>Book Value</th>
<th>Fair Market Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inventory</td>
<td>$ 60,000</td>
<td>$ 50,000</td>
</tr>
<tr>
<td>Land</td>
<td>40,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Building</td>
<td>70,000</td>
<td>120,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$170,000</td>
<td><strong>$250,000</strong></td>
</tr>
</tbody>
</table>

During its fiscal year ended May 31, 2005, Adamson incurred $8,000 for interest expense in connection with the financing of these assets.

Transaction 3
On March 1, 2005, Adamson Company exchanged a number of used trucks plus cash for vacant land adjacent to its plant site. Adamson intends to use the land for a parking lot. The trucks had a combined book value of $35,000, as Adamson had recorded $20,000 of accumulated depreciation against these assets. Adamson’s purchasing agent, who has had previous dealings in the second-hand market, indicated that the trucks had a fair market value of $46,000 at the time of the transaction. In addition to the trucks, Adamson Company paid $19,000 cash for the land.

Instructions

(a) Plant assets such as land, buildings, and equipment receive special accounting treatment. Describe the major characteristics of these assets that differentiate them from other types of assets.

(b) For each of the three transactions described above, determine the value at which Adamson Company should record the acquired assets. Support your calculations with an explanation of the underlying rationale.

(c) The books of Adamson Company show the following additional transactions for the fiscal year ended May 31, 2005.
Acquisition of a building for speculative purposes.
Purchase of a 2-year insurance policy covering plant equipment.
Purchase of the rights for the exclusive use of a process used in the manufacture of ballet shoes.

For each of these transactions, indicate whether the asset should be classified as a plant asset. If it is a plant asset, explain why it is. If it is not a plant asset, explain why not, and identify the proper classification.

(CMA adapted)

CONCEPTUAL CASES

C10-1 (Acquisition, Improvements, and Sale of Realty) William Bradford Company purchased land for use as its corporate headquarters. A small factory that was on the land when it was purchased was torn down before construction of the office building began. Furthermore, a substantial amount of rock blasting and removal had to be done to the site before construction of the building foundation began. Because the office building was set back on the land far from the public road, Bradford Company had the contractor construct a paved road that led from the public road to the parking lot of the office building.

Three years after the office building was occupied, Bradford Company added four stories to the office building. The four stories had an estimated useful life of 5 years more than the remaining estimated useful life of the original office building.

Ten years later the land and building were sold at an amount more than their net book value, and Bradford Company had a new office building constructed in another state for use as its new corporate headquarters.

Instructions
(a) Which of the expenditures above should be capitalized? How should each be depreciated or amortized? Discuss the rationale for your answers.
(b) How would the sale of the land and building be accounted for? Include in your answer an explanation of how to determine the net book value at the date of sale. Discuss the rationale for your answer.

C10-2 (Accounting for Self-Constructed Assets) Shanette Medical Labs, Inc., began operations 5 years ago producing stetrics, a new type of instrument it hoped to sell to doctors, dentists, and hospitals. The demand for stetrics far exceeded initial expectations, and the company was unable to produce enough stetrics to meet demand.

The company was manufacturing its product on equipment that it built at the start of its operations. To meet demand, more efficient equipment was needed. The company decided to design and build the equipment, because the equipment currently available on the market was unsuitable for producing stetrics.

In 2004, a section of the plant was devoted to development of the new equipment and a special staff was hired. Within 6 months a machine developed at a cost of $714,000 increased production dramatically and reduced labor costs substantially. Elated by the success of the new machine, the company built three more machines of the same type at a cost of $441,000 each.

Instructions
(a) In general, what costs should be capitalized for self-constructed equipment?
(b) Discuss the propriety of including in the capitalized cost of self-constructed assets:
   (1) The increase in overhead caused by the self-construction of fixed assets.
   (2) A proportionate share of overhead on the same basis as that applied to goods manufactured for sale.

(c) Discuss the proper accounting treatment of the $273,000 ($714,000 − $441,000) by which the cost of the first machine exceeded the cost of the subsequent machines. This additional cost should not be considered research and development costs.

C10-3 (Capitalization of Interest) Zucker Airline is converting from piston-type planes to jets. Delivery time for the jets is 3 years, during which substantial progress payments must be made. The multi-million-dollar cost of the planes cannot be financed from working capital; Zucker must borrow funds for the payments.

Because of high interest rates and the large sum to be borrowed, management estimates that interest costs in the second year of the period will be equal to one-third of income before interest and taxes, and one-half of such income in the third year.
After conversion, Zucker’s passenger-carrying capacity will be doubled with no increase in the number of planes, although the investment in planes would be substantially increased. The jet planes have a 7-year service life.

**Instructions**
Give your recommendation concerning the proper accounting for interest during the conversion period. Support your recommendation with reasons and suggested accounting treatment. (Disregard income tax implications.)

(AICPA adapted)

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**C10-4 (Capitalization of Interest)**

Petri Magazine Company started construction of a warehouse building for its own use at an estimated cost of $6,000,000 on January 1, 2002, and completed the building on December 31, 2002. During the construction period, Petri has the following debt obligations outstanding.

<table>
<thead>
<tr>
<th>Debt Obligation</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction loan—12% interest, payable semiannually, issued December 31, 2001</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Short-term loan—10% interest, payable monthly, and principal payable at maturity, on May 30, 2003</td>
<td>$1,400,000</td>
</tr>
<tr>
<td>Long-term loan—11% interest, payable on January 1 of each year. Principal payable on January 1, 2005</td>
<td>$2,000,000</td>
</tr>
</tbody>
</table>

Total cost amounted to $6,200,000, and the weighted average of accumulated expenditures was $4,000,000.

Dee Pettepiece, the president of the company, has been shown the costs associated with this construction project and capitalized on the balance sheet. She is bothered by the "avoidable interest" included in the cost. She argues that, first, all the interest is unavoidable—no one lends money without expecting to be compensated for it. Second, why can’t the company use all the interest on all the loans when computing this avoidable interest? Finally, why can’t her company capitalize all the annual interest that accrued over the period of construction?

**Instructions**
You are the manager of accounting for the company. In a memo, explain what avoidable interest is, how you computed it (being especially careful to explain why you used the interest rates that you did), and why the company cannot capitalize all its interest for the year. Attach a schedule supporting any computations that you use.

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**C10-5 (Nonmonetary Exchanges)**

You have two clients that are considering trading machinery with each other. Although the machines are different from each other, you believe that they are “similar” for the purposes of recording a nonmonetary exchange. Your clients would prefer that the machines be considered dissimilar, to allow them to record gains. Here are the facts:

<table>
<thead>
<tr>
<th></th>
<th>Client A</th>
<th>Client B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original cost</td>
<td>$100,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Accumulated depreciation</td>
<td>40,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Market value</td>
<td>95,000</td>
<td>125,000</td>
</tr>
<tr>
<td>Cash received (paid)</td>
<td>(30,000)</td>
<td>30,000</td>
</tr>
</tbody>
</table>

**Instructions**
(a) Record the trade-in on Client A’s books assuming the assets are dissimilar.
(b) Record the trade-in on Client A’s books assuming the assets are similar.
(c) Write a memo to the controller of Company A indicating and explaining the dollar impact on current and future statements of treating the assets as “similar” versus “dissimilar.”
(d) Record the entry on Client B’s books assuming the assets are dissimilar.
(e) Record the entry on Client B’s books assuming the assets are similar.
(f) Write a memo to the controller of Company B indicating and explaining the dollar impact on current and future statements of treating the assets as “similar” versus “dissimilar.”

---

**C10-6 (Costs of Acquisition)**

The invoice price of a machine is $40,000. Various other costs relating to the acquisition and installation of the machine including transportation, electrical wiring, special base, and so on amount to $7,500. The machine has an estimated life of 10 years, with no residual value at the end of that period.

The owner of the business suggests that the incidental costs of $7,500 be charged to expense immediately for the following reasons.

1. If the machine should be sold, these costs cannot be recovered in the sales price.
2. The inclusion of the $7,500 in the machinery account on the books will not necessarily result in a closer approximation of the market price of this asset over the years, because of the possibility of changing demand and supply levels.
3. Charging the $7,500 to expense immediately will reduce federal income taxes.
C10-7 (Cost of Land vs. Building) Field Company purchased a warehouse in a downtown district where land values are rapidly increasing. Adolph Phillips, controller, and Wilma Smith, financial vice-president, are trying to allocate the cost of the purchase between the land and the building. Noting that depreciation can be taken only on the building, Phillips favors placing a very high proportion of the cost on the warehouse itself, thus reducing taxable income and income taxes. Smith, his supervisor, argues that the allocation should recognize the increasing value of the land, regardless of the depreciation potential of the warehouse. Besides, she says, net income is negatively impacted by additional depreciation and will cause the company’s stock price to go down.

Instructions
Discuss each of the points raised by the owner of the business.

(AICPA adapted)

(a) What stakeholder interests are in conflict?
(b) What ethical issues does Phillips face?
(c) How should these costs be allocated?

Using Your Judgment

Johnson & Johnson
Johnson & Johnson, the world’s leading and most diversified health-care corporation, serves its customers through specialized worldwide franchises. Each of its franchises consists of a number of companies throughout the world that focus on a particular health-care market, such as surgical sutures, consumer pharmaceuticals, or contact lenses. Information related to its property, plant, and equipment in its 2001 annual report is shown in the notes to the financial statements as follows.

Note 1: Property, Plant, and Equipment and Depreciation
Property, plant, and equipment are stated at cost. The Company utilizes the straight-line method of depreciation on estimated useful lives of the assets:

- Building and building equipment: 20–40 years
- Land and leasehold improvements: 10–20 years
- Machinery and equipment: 2–13 years

Note 3: Property, Plant, and Equipment
At the end of 2001 and 2000, property, plant, and equipment at cost and accumulated depreciation were:

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land and land improvements</td>
<td>$459</td>
<td>$427</td>
</tr>
<tr>
<td>Buildings and building equipment</td>
<td>3,911</td>
<td>3,659</td>
</tr>
<tr>
<td>Machinery and equipment</td>
<td>6,805</td>
<td>6,312</td>
</tr>
<tr>
<td>Construction in progress</td>
<td>1,283</td>
<td>1,468</td>
</tr>
<tr>
<td></td>
<td>12,458</td>
<td>11,866</td>
</tr>
<tr>
<td>Less: Accumulated depreciation</td>
<td>4,739</td>
<td>4,457</td>
</tr>
<tr>
<td></td>
<td>$7,719</td>
<td>$7,409</td>
</tr>
</tbody>
</table>

The Company capitalizes interest expense as part of the cost of construction of facilities and equipment. Interest expense capitalized in 2001, 2000, and 1999 was $95 million, $97 million, and $84 million, respectively.

Upon retirement or other disposal of fixed assets, the cost and related amount of accumulated depreciation or amortization are eliminated from the asset and accumulated depreciation accounts, respectively. The difference, if any, between the net asset value and the proceeds is adjusted to earnings.
In Johnson & Johnson’s cash flow statement for 2001, the following selected information is provided.

<table>
<thead>
<tr>
<th>Node</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net cash flows from operating activities</td>
<td>$8,864</td>
</tr>
<tr>
<td>Cash flows from investing activities</td>
<td></td>
</tr>
<tr>
<td>Additions to property, plant and equipment</td>
<td>(1,731)</td>
</tr>
<tr>
<td>Proceeds from the disposal of assets</td>
<td>163</td>
</tr>
<tr>
<td>Acquisition of businesses, net of cash acquired (Note 17)</td>
<td>(225)</td>
</tr>
<tr>
<td>Purchases of investments</td>
<td>(8,188)</td>
</tr>
<tr>
<td>Sales of investments</td>
<td>5,967</td>
</tr>
<tr>
<td>Other</td>
<td>(79)</td>
</tr>
<tr>
<td>Net cash used by investing activities</td>
<td>(4,093)</td>
</tr>
<tr>
<td>Cash flows from financing activities</td>
<td></td>
</tr>
<tr>
<td>Dividends to shareowners</td>
<td>(2,047)</td>
</tr>
<tr>
<td>Repurchase of common stock</td>
<td>(2,570)</td>
</tr>
<tr>
<td>Proceeds from short-term debt</td>
<td>338</td>
</tr>
<tr>
<td>Retirement of short-term debt</td>
<td>(1,109)</td>
</tr>
<tr>
<td>Proceeds from long-term debt</td>
<td>14</td>
</tr>
<tr>
<td>Retirement of long-term debt</td>
<td>(391)</td>
</tr>
<tr>
<td>Proceeds from the exercise of stock options</td>
<td>514</td>
</tr>
<tr>
<td>Net cash used by financing activities</td>
<td>(5,251)</td>
</tr>
<tr>
<td>Effect of exchange rate changes on cash and cash equivalents</td>
<td>(40)</td>
</tr>
<tr>
<td>(Decrease)/increase in cash and cash equivalents</td>
<td>(520)</td>
</tr>
<tr>
<td>Cash and cash equivalents, beginning of year (Note 1)</td>
<td>4,278</td>
</tr>
<tr>
<td>Cash and cash equivalents, end of year (Note 1)</td>
<td>$3,758</td>
</tr>
</tbody>
</table>

**Instructions**

(a) What was the cost of buildings and building equipment at the end of 2001?
(b) Does Johnson & Johnson use a conservative or liberal method to depreciate its property, plant, and equipment?
(c) What was the actual interest expense incurred by the company in 2001?
(d) What is Johnson & Johnson’s free cash flow? From the information provided, comment on Johnson & Johnson’s financial flexibility.

**RESEARCH CASE**

The March 26, 2002, *Wall Street Journal* includes an article by Henny Sender entitled “Telecoms Draw Focus for Moves in Accounting.” (Subscribers to *Business Extra* can access the article at that site.)

**Instructions**

Read the article and answer the following questions.
(a) What is the EITF referred to in this article?
(b) Explain the accounting issue related to the exchange of similar network capacity.
(c) Why did the EITF not address the issues related to swaps that occurred at companies such as Global Crossing and Qwest Communications?
PROFESSIONAL SIMULATION

Accounting–Property, Plant, and Equipment

In this simulation, you will be asked various questions regarding accounting for property, plant, and equipment. Prepare responses to all parts.

Situation
Norwel Company manufactures miniature circuit boards used in wireless phones and personal organizers. On January 2, 2003, Norwel purchased a circuit board stamping machine at a retail price of $12,000. Norwel paid 5% sales tax on this purchase. Norwel paid a contractor $1,400 for a specially wired platform for the machine, to ensure non-interrupted power to the machine. Norwel estimates the machine will have a 4-year useful life, with a salvage value of $2,000 at the end of 4 years. Norwel uses straight-line depreciation and employs the "half-year" convention in accounting for partial-year depreciation (that is, it takes a half year of depreciation in the first year of an asset's useful life). Norwel's fiscal year ends on December 31.

Measurement
At what amount should Norwel record the acquisition cost of the machine?

Journal Entry
What journal entry should Norwel record in 2003?

Financial Statements
At what amount will the machine be reported in Norwel's balance sheet at December 31, 2004?

Analysis
On July 1, 2005, Norwel decides to outsource its circuit board operations to Boards-R-Us Inc. As part of this plan, Norwel sells the machine (and the platform) to Boards-R-Us for $7,000. What is the impact of this disposal on Norwel's 2005 income before taxes?

Remember to check the Take Action! CD and the book's companion Web site to find additional resources for this chapter.