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Property, plant, equipment and other assets

Partially updated November 2021

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About the Property, plant, equipment and other assets guide

PwC is pleased to offer our updated accounting and financial reporting guide for *Property, plant, equipment and other assets*. Although many view the accounting for property, plant, and equipment to be relatively straightforward, there is limited technical guidance and there can be many areas that require judgment. Some areas, such as construction in process, capitalized software, long-lived asset impairment, and asset disposals, can be complex. In addition to these areas, this guide addresses a variety of other topics including the accounting for asset acquisitions, asset retirement obligations, environmental obligations, insurance recoveries, and research and development costs and funding arrangements.

This guide summarizes the applicable accounting literature, including relevant references to and excerpts from the FASB's Accounting Standards Codification (the Codification). It also provides our insights and perspectives, interpretative and application guidance, illustrative examples, and discussion on emerging practice issues.

This guide should be used in combination with a thorough analysis of the relevant facts and circumstances, review of the authoritative accounting literature, and appropriate professional and technical advice.

References to US GAAP

Definitions, full paragraphs, and excerpts from the FASB's Accounting Standards Codification are clearly designated, either within quotes in the regular text or enclosed within a shaded box. In some instances, guidance was cited with minor editorial modification to flow in the context of the PwC Guide. The remaining text is PwC's original content.

References to other PwC guidance

This guide provides general and specific references to chapters in other PwC guides to assist users in finding other relevant information. References to other guides are indicated by the applicable guide abbreviation followed by the specific section number. The other PwC guides referred to in this guide, including their abbreviations, are:

- *Business combinations and noncontrolling interests (BCG)*
- *Consolidation (CG)*
- *Derivatives and hedging (DH)*
- *Equity method investments and joint ventures (EM)*
- *Fair value measurements (FV)*
- *Financial statement presentation (FSP)*
- *Financing transactions (FG)*

- *Income taxes (TX)*
- *Leases (LG)*
- *Revenue from contracts with customers (RR)*
- *Transfers and servicing of financial assets (TS)*
- *Utilities and power companies (UP)*

Summary of significant changes

The following is a summary of recent noteworthy revisions made to the guide. Additional updates may be made to future versions to keep pace with significant developments.

Revisions made in November 2021

Chapter 2: Asset acquisitions

- **PPE 2.1** was updated to include guidance regarding the treatment of a change in interest of a subsidiary that is not a business that does not result in a loss of control.
- **PPE 2.3.1** was updated to provide additional guidance on the measurement elections available when an entity acquires assets through the issuance of equity interests.

Chapter 5: Long-lived asset impairment and assets held for sale

- **PPE 5.3.1.4** was updated to include incremental guidance on assessing the held for sale criteria when there is a planned sale and leaseback transaction under ASC 842, *Leases*.

Chapter 6: Asset disposals

- The order of certain sections within PPE 6 was rearranged. Certain sections related to transitioning to ASC 610-20 were also removed.

Chapter 8: Other assets

- **PPE 8.2.1** was updated to include additional clarifying guidance on the recognition of insurance recoverable assets.

Revisions made in May 2021

Chapter 5: Long-lived asset impairment and assets held for sale

- Figure PPE 5-2 was added to **PPE 5.2** to illustrate the model for assessing the impairment of long-lived assets that are held and used.
- **PPE 5.2.1.1** was updated to include guidance for assessing the impairment of assets included within entity-wide asset groups.
- **PPE 5.2.1.2** was added to provide guidance on accounting for changes to asset groups.

- **PPE 5.2.3.1** was added to include considerations when individual assets within a broader asset group experience an impairment indicator.

- **PPE 5.2.4.4** through **PPE 5.2.4.15** were updated to include incremental guidance and considerations for specific assets and liabilities included in asset groups (e.g., debt and other long-term obligations, income taxes, and amounts in AOCI).

- **PPE 5.3.1.1** through **PPE 5.3.1.7** were updated to include additional guidance when assessing each of the criteria required to be met to qualify for held for sale classification.

- **PPE 5.3.3.2** was updated to include goodwill impairment considerations for scenarios when a disposal group that previously met the definition of a business (i.e., prior to the adoption of ASU 2017-01) no longer meets the definition of a business.

- **PPE 5.3.3.4** was added to include guidance regarding the treatment of amounts included in AOCI when determining the carrying amount of a disposal group that is a foreign entity.

- **PPE 5.3.5** was added to include guidance for newly acquired assets that are classified as held for sale immediately upon acquisition.

Revisions made in March 2021

Chapter 4: Depreciation and amortization

- **PPE 4.2.1.4** was added to include guidance for determining the useful lives of acquired defensive intangible assets.

- Example PPE 4-3 in **PPE 4.3.2.2** was updated to include clarifying guidance for calculating depreciation expense when using the sum-of-the-years'-digits method.

Chapter 6: Asset disposals

- **PPE 6.4.1.1** was updated to include additional guidance and practical considerations when accounting for the abandonment of right-of-use assets under ASC 842.

Chapter 8: Other assets

- **PPE 8.2.5** was updated to include additional guidance related to accounting for business interruption insurance policy recoveries.

- **PPE 8.3.3** was updated to include additional considerations for determining whether research and development (R&D) costs should be capitalized or expensed.

- **PPE 8.3.4** through **PPE 8.3.4.5** were updated to include interpretive guidance for R&D funding arrangements structured through a newly-created entity (PPE 8.3.4.1) and direct R&D funding arrangements (PPE 8.3.4.2 through PPE 8.3.4.5), including considerations for determining the accounting guidance to apply to these arrangements (e.g., ASC 730-20, ASC 470-10).

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Chapter 1: Capitalization of costs—updated October 2020

1.1 Capitalization of costs–chapter overview

This chapter focuses on property, plant, and equipment (PP&E) costs and provides guidance on cost capitalization, including what types of costs are capitalizable and when capitalization should begin. For guidance on assets acquired through an asset acquisition refer to PPE 2. For guidance on assets acquired through a business combination refer to PwC's *Business combinations and noncontrolling interests* guide.

ASC 360, *Property, Plant, and Equipment* is the authoritative US GAAP for PP&E and defines property, plant, and equipment as follows:

Excerpt from ASC 360-10-05-3

Property, plant, and equipment typically consist of long-lived tangible assets used to create and distribute an entity's products and services and include:

a. Land and land improvements

b. Buildings

c. Machinery and equipment

d. Furniture and fixtures

Although ASC 360-10-05-3 defines PP&E, it does not include any specific guidance for capitalization of costs incurred during the development of self-constructed assets for a reporting entity's own use (i.e., capital projects).

Despite the lack of authoritative guidance, many of the concepts included in the 2001 proposed Statement of Position from the Financial Reporting Executive Committee of the AICPA (FinREC), *Accounting for Certain Costs and Activities Related to Property, Plant, and Equipment* reflect current practice regarding the accounting treatment for the capitalization of costs for capital projects. In 2003, the FinREC redeliberated and submitted a proposed Statement of Position to the FASB for approval (herein referred to as the unissued PPE SOP). Although it was not approved for issuance by the FASB and is nonauthoritative, the unissued PPE SOP contains guidance related to the capitalization of costs of an asset constructed or obtained for a reporting entity's own use that is helpful when considering the accounting treatment for such costs.

This chapter provides guidance on accounting for costs incurred as part of capital projects (PPE 1.2), including a table summarizing the nature of costs that are usually incurred when acquiring or constructing assets and the applicable accounting treatment (PPE 1.2.2). In addition, it addresses matters pertaining to the capitalization of costs, such as the accounting for incurred interest (PPE 1.3), maintenance expenses, including major maintenance (PPE 1.4), long-term service agreements (PPE 1.4.2), government incentives (PPE 1.6), real estate projects for sale or rental (PPE 1.7), and other costs (PPE 1.5).

During the acquisition, construction, development, and/or normal operation of an asset, companies may also incur costs related to asset retirement and/or environmental obligations. For details regarding the accounting for asset retirement obligations refer to PPE 3. For details regarding the accounting for environmental obligations refer to PPE 9.

1.2 Accounting for capital projects

Property, plant, and equipment (PP&E) is reported at its historical cost, which is the amount of cash, or its equivalent, paid to acquire an asset, and is commonly adjusted subsequently for amortization, depreciation, and/or impairment. The guidance for the costs to be capitalized when acquiring PP&E can be found in ASC 360-10.

Excerpt from ASC 360-10-30-1

[T]he historical cost of acquiring an asset includes the costs necessarily incurred to bring it to the condition and location necessary for its intended use.

Activities necessary to acquire PP&E and bring it to the condition and location necessary for its intended use is defined in ASC 360-10-20.

Definition from ASC 360-10-20

Activities: The term activities is to be construed broadly. It encompasses physical construction of the asset. In addition, it includes all the steps required to prepare the asset for its intended use. For example, it includes administrative and technical activities during the preconstruction stage, such as the development of plans or the process of obtaining permits from governmental authorities. It also includes activities undertaken after construction has begun in order to overcome unforeseen obstacles, such as technical problems, labor disputes, or litigation.

When determining which costs should be capitalized for assets that are self-constructed, it is important to distinguish between those costs that are "necessarily incurred" and those that could have been avoided by the reporting entity. For example, penalties or fines from the mismanagement of a capital project would not qualify for capitalization as such amounts are not "necessarily incurred" to bring the asset to its intended use. Alternatively, costs relating to unforeseen obstacles encountered during construction (such as additional excavation costs, or additional required permitting) would likely qualify for capitalization. Determining which costs are "necessarily incurred" for a capital project requires judgment.

Generally, costs incurred for replacements or betterments of property, plant, and equipment can be capitalized when they extend the life or increase the functionality of the asset in question; otherwise, they should be expensed as incurred (e.g., repairs and maintenance). See PPE 1.4 for information on accounting for maintenance costs.

Capital costs may include labor, materials and supplies, transportation, engineering services, certain overhead costs, insurance, employee benefits, taxes, and interest. Similarly, an expenditure that adds to the productive capacity or improves the efficiency of an existing asset can be considered a capital item. Costs incurred during construction that are directly attributable to placing it into service should be capitalized. Costs that are not necessary in readying an asset for use should be recognized as an expense as incurred.

ASC 970, *Real Estate - General*, includes incremental guidance on capitalizing the costs of real estate developed for sale or rental. That guidance explicitly excludes capital projects constructed for a reporting entity's own use. However, in the absence of other authoritative guidance, reporting entities

often apply the guidance in ASC 970 by analogy in developing their overall capitalization policies. See PPE 1.7 for information on specific considerations for capital projects built for sale or rental.

1.2.1 *Initial measurement (capital projects)*

The cost of acquiring an asset includes the costs necessarily incurred to bring it to the condition and location necessary for its intended use. The unissued PPE SOP identified four stages during which costs may be incurred related to long-lived assets: the preliminary stage, the pre-acquisition stage, the construction stage, and the in-service stage.

Figure PPE 1-1 in PPE 1.2.2 contains a summary of the accounting for common types of costs incurred during all stages of construction of a capital project. The following sections discuss what costs can be capitalized during each of the stages.

1.2.1.1 *Preliminary stage (capital projects)*

The first stage during which costs are incurred related to long-lived assets is the preliminary stage. During the preliminary stage, the project is not considered probable of being constructed. Accordingly, given the high degree of uncertainty about the future economic benefits, costs incurred during this stage are expensed as incurred.

The preliminary stage commences at the beginning of a project and lasts until the acquisition or construction of the specific long-lived asset is considered probable, as defined in ASC 450, *Contingencies*. In assessing probability, the reporting entity should consider whether (1) management, having the requisite authority, has implicitly or explicitly authorized and committed to funding the acquisition or construction of a specific asset, (2) the financial resources are available consistent with such authorization, and (3) the ability exists to meet the necessary local and other governmental regulations.

During the preliminary stage, activities are performed exploring the opportunities for acquisition or construction of property, plant, and equipment. A reporting entity may conduct feasibility studies and other activities related to asset selection. The reporting entity may incur costs to obtain an option to acquire one or more items of PP&E during this stage. Some examples of other costs that may be incurred during this stage include those related to surveying, zoning, engineering studies, design layouts, traffic studies, and obtaining management's approval to move forward with a particular capital project. Some of these costs may be incurred in one or more of the stages of a project. Therefore, the assessment of probability of a project when the costs are incurred is key to the capitalization decision.

Accounting for costs during the preliminary stage is consistent with guidance in ASC 720-15, *Other Expenses, Start-up Costs*, which addresses costs associated with start-up activities, including those related to new capital projects, and states that such costs should be expensed as incurred.

The accounting for costs to arrange financing for the construction of a new capital project is specifically addressed by ASC 835, *Interest*. See PPE 1.3 for further discussion regarding capitalized interest.

1.2.1.2 *Pre-acquisition stage (capital projects)*

The pre-acquisition stage begins when the construction of specific property, plant, or equipment is probable but prior to the start of construction. The unissued PPE SOP differentiates between costs that are directly identifiable with the specific PP&E and those that are an allocated or overhead cost. Directly identifiable costs should be capitalized in the pre-acquisition stage whereas allocated and other overhead costs should be expensed as incurred. Similarly, in the general guidance on real estate, ASC 970-340-25-3 states that costs that meet specified criteria should be capitalized once the project is probable.

Excerpt from ASC 970-340-25-3

All other costs related to a property that are incurred before the entity acquires the property, or before the entity obtains an option to acquire it, shall be capitalized if all of the following conditions are met and otherwise shall be charged to expense as incurred:

a. The costs are directly identifiable with the specific property.

b. The costs would be capitalized if the property were already acquired.

c. Acquisition of the property or of an option to acquire the property is probable (that is, likely to occur). This condition requires that the prospective purchaser is actively seeking to acquire the property and has the ability to finance or obtain financing for the acquisition and that there is no indication that the property is not available for sale.

Directly identifiable costs include the following:

- Incremental direct costs of PP&E pre-acquisition activities incurred for the specific PP&E in transactions with independent third parties.

- Certain costs directly related to pre-acquisition activities performed by the reporting entity (or by third parties who are not independent of the reporting entity) for the specific PP&E. These costs include payroll and payroll benefit-related costs (e.g., costs of health insurance) for employees who devote time to a PP&E pre-acquisition stage activity, to the extent of time the employees spent directly on that activity and in proportion to the total hours employed (including compensated absences). Additionally, only the service component of net periodic pension and postretirement costs should be capitalized. However, rent, depreciation, and other occupancy costs associated with the physical space occupied by employees should be charged to expense as incurred, as they are not directly identifiable costs.

- Payments to obtain an option to acquire PP&E. The reporting entity should evaluate whether the option is a derivative and should be accounted for under ASC 815. If the option does not meet the definition of a derivative, the unissued PPE SOP indicates that the option should be carried at the lower of cost or fair value. Reductions in the recorded value of an option should be charged to expense. If the fair value less cost to sell of the option subsequently increases, amounts previously charged to expense may not be reinstated to the balance sheet.

General and administrative costs and overhead costs should be charged to expense as incurred, regardless of whether those costs are incurred internally or outsourced to a third party. Those costs include all costs (including payroll and payroll benefit-related costs) of support functions, which

include executive management, corporate accounting, acquisitions, purchasing, legal, office management and administration, marketing, human resources, and information systems. Similarly, a reporting entity that outsources its acquisitions department to a third party should charge the costs to expense as incurred because an acquisitions department represents a support function and the reporting entity could choose to establish its own internal acquisitions department.

If during the pre-acquisition stage the construction or acquisition of the specific long-lived asset is determined to no longer be probable, the capitalized costs related to the project should be assessed for impairment under ASC 360. When evaluating whether the capitalized costs of a project that is no longer probable of being completed are impaired, a reporting entity will need to determine whether the asset will be sold, abandoned, or held and used (e.g., to potentially be completed in the future). When determining the fair value of an impaired project, a rebuttable presumption exists that the fair value of costs incurred before the acquisition or construction stage is zero. Refer to PPE 6.4.1 for further discussion on assets to be abandoned. Refer to PPE 5.3 for additional information on the held for sale model. Refer to PPE 5.2 for additional information on the held and used model.

1.2.1.3 Construction stage (capital projects)

The construction stage begins at the time the reporting entity obtains ownership of the PP&E or obtains the right to use the PP&E through an agreement (e.g., a lease). During this stage, costs are incurred to acquire, construct, or install the PP&E. This stage includes costs incurred prior to the long-lived asset being available for its intended use. Examples of activities performed during this stage include planning for construction or installation once ownership (or the right to use) has been acquired; constructing or installing PP&E; and supervising the construction of PP&E.

Similar to the pre-acquisition stage, costs incurred during the construction stage that are directly identifiable should be capitalized. Directly identifiable costs include:

- Incremental direct costs of acquiring, constructing, or installing the PP&E incurred in transactions with independent third parties.

- Certain costs directly related to activities performed by the reporting entity (or by third parties who are not independent of the reporting entity) for the construction or installation of the specific PP&E, and costs directly related to preproduction test runs of PP&E that are necessary to get the PP&E ready for its intended use. These costs include only (1) payroll and payroll benefit-related costs (including only the service cost component of net periodic pension and postretirement costs) of employees who devote time to a PP&E construction stage activity, to the extent of time the employee spent directly on that activity and in proportion to the total hours employed (including compensated absences), (2) depreciation of machinery and equipment used directly in the construction or installation of PP&E, to the extent of time the machinery and equipment is used directly in that activity as a percentage of its expected useful life and incremental costs directly associated with the utilization of that machinery and equipment (e.g., fuel for such machinery), and (3) inventory used directly in the construction or installation of PP&E (including spare parts).

Rent, depreciation, and other occupancy costs associated with the physical space occupied by employees are not directly identifiable costs and should be expensed as incurred, consistent with the accounting for those types of costs within the pre-acquisition stage. General and administrative and overhead costs should also be expensed as incurred, whether the costs are internal or paid to third parties.

Directly identifiable costs should be distinguished from allocated or overhead costs. Directly identifiable costs should be capitalized, while other costs should be expensed as incurred. Overhead costs are not directly related to the construction of the asset and should be expensed as incurred. Overhead costs should be expensed even when they relate to employees who are specifically involved in the construction of the asset (e.g., occupancy costs specific to internal engineers who are directly involved in the internal construction of PP&E are expensed). This is consistent with the conclusion in ASC 350-40-30-3 for internal-use software, which precludes the capitalization of overhead costs.

In addition, lease costs associated with ground or building operating leases that are incurred during a construction period should be recognized as lease expense if a company is developing a property for its own use.

In certain circumstances, there may be depreciation costs directly related to the construction project, such as depreciation of equipment used to build a long-lived asset for internal use. The depreciation costs of the equipment used to build a long-lived asset are considered directly identifiable and should be capitalized. On the other hand, depreciation related to the company's headquarters would be considered an indirect cost and should be charged to expense as incurred.

As discussed in PPE 1.7, ASC 970 provides specific guidance for the construction of real estate assets for sale or rental whereby certain overhead costs may be capitalized.

Constructing or acquiring a new asset may result in other incremental costs that would have been avoided if the asset had not been constructed or acquired. These should not be capitalized if they do not contribute to bringing the asset into the location and condition necessary for it to be capable of operating in the manner intended by management. For example, a mobile phone operator may be setting up a new network in a new territory, involving the construction of the network system (new transmitter towers, etc.). Costs that do not relate to the construction of the physical assets, such as marketing the cellular service and hiring incremental store employees to establish the territory, do not qualify as part of the cost of the asset even though they are incurred during the construction stage of the new network.

Demolition costs

According to the unissued PPE SOP, “demolition costs incurred by an owner or lessor should be charged to expense as incurred and included in results of operations, except when incurred in conjunction with an acquisition or lease of real estate and the demolition (a) is contemplated as part of the acquisition or at lease inception and (b) occurs within a reasonable period of time thereafter or is delayed, but the delay is beyond the reporting entity’s control (e.g., if demolition cannot commence until the end of an existing tenant’s lease term or demolition is subject to governmental permitting processes).”

For example, if a reporting entity purchases land that includes a building but upon acquisition, the reporting entity plans to demolish the structure to construct a new building and demolition occurs

within a reasonable period of time subsequent to acquisition, the costs incurred to demolish the property are part of preparing the site and thus should be capitalized as part of the land.

If the building is to be renovated rather than razed, any demolition costs would be capitalized as part of the building renovations.

If the demolition is not done in connection with the acquisition of a structure, the incremental costs incurred to demolish the building should be expensed as incurred.

Contributions

Municipalities and other government entities sometimes require entities to construct additional assets or infrastructure unrelated to the project as a condition of obtaining a construction permit. For example, if a company's project plan eliminates trees or green space, the government entity may require that the company build a park or plant a certain number of trees along the municipality's roads or make a charitable contribution to an environmental not-for-profit organization. ASC 720-25-20 defines a contribution, including characteristics that distinguishes a contribution from an exchange transaction.

Partial definition from ASC 720-25-20

Contribution: An unconditional transfer of cash or other assets, as well as unconditional promises to give, to an entity or a reduction, settlement, or cancellation of its liabilities in a voluntary nonreciprocal transfer by another entity acting other than as an owner. Those characteristics distinguish contributions from:

a. Exchange transactions, which are reciprocal transfers in which each party receives and sacrifices approximately commensurate value

b. Investments by owners and distributions to owners, which are nonreciprocal transfers between an entity and its owners

c. Other nonreciprocal transfers, such as impositions of taxes or legal judgments, fines, and thefts, which are not voluntary transfers.

In a contribution transaction, the resource provider often receives value indirectly by providing a societal benefit although that benefit is not considered to be of commensurate value.

Contributions should be expensed in the period made, unless the contribution is for the in-substance purchase of a good or service. Payments made or other services provided to a municipality or governmental entity to obtain a permit, zoning change, or other licenses necessary for construction are not contributions. Instead, such amounts are paid in exchange for the ability to construct a facility, meaning that they represent an exchange transaction. Therefore, capitalization of any required charitable contribution or cost of a municipal improvement project as part of the capital project is generally appropriate if the payment is made once the project is probable or is in construction and can be directly identified with the receipt of the permit or license.

Asset ready for intended use / operating levels

Costs incurred during the construction stage before the plant can operate are capitalized. For example, the cost to run machinery and equipment in order to test that the output meets certain regulatory specifications would be considered costs of the construction stage and should be capitalized.

The construction stage ends when long-lived assets are ready for their intended use. Long-lived assets are considered ready for their intended use when they are first capable of producing a unit of product that is saleable or usable internally by the reporting entity. Refer to PPE 4.3.1 for additional information on the commencement of depreciation.

When the asset is ready for use, even if demand does not support operating the asset at its normal capacity, costs should no longer be capitalized. For example, a new hotel may be available for 100% occupancy almost as soon as it has been constructed. As demand usually builds slowly, there may be initial operating losses due to low occupancy. In such a case, the initial operating losses are not costs that may be capitalized. Similarly, marketing costs associated with generating demand for the hotel may not be capitalized.

Example PPE 1-1 and Example PPE 1-2 illustrate the treatment of operating costs and production costs incurred during the construction stage.

EXAMPLE PPE 1-1

Operating costs incurred during the construction stage

An amusement park has a “soft” opening to the public to conduct a trial run of its attractions. Tickets are sold at a 50% discount during this period and the park is running at 40% operating capacity. The amusement park will officially open in three months. Management asserts that the soft opening is necessary for the amusement park to ensure it is capable of operating in its intended manner.

Should the operating costs during the soft opening be capitalized?

Analysis

No. The soft opening operating costs should not be capitalized but instead should be expensed as incurred. Even though the amusement park is running at less than full operating capacity, it is clear that the amusement park is capable of operating in the intended manner.

EXAMPLE PPE 1-2

Preproduction costs

Manufacturing Corp is a manufacturing company with various plants across the world. Manufacturing Corp is expanding its manufacturing footprint by constructing a facility in China. The facility has been completed and is producing prototype parts, which are being tested to ensure they are in accordance with the customer’s quality specifications.

Should Manufacturing Corp capitalize the costs associated with producing the prototype?

Analysis

Yes. Costs associated with preproduction test runs to prepare the long-lived asset to be ready for its intended use should be accounted for within the construction stage. Since the prototype parts are not yet saleable by the reporting entity, the costs of producing these parts should be capitalized. Costs incurred after the quality control testing has been completed (i.e., when the parts can be sold to customers), would be accounted for in accordance with the requirements for the in-service stage.

Once the asset has reached the in-service stage, depreciation on the long-lived asset should commence. Refer to PPE 4 for additional information on depreciation.

1.2.1.4 In-service stage (capital projects)

The in-service stage of long-lived assets begins when the asset is substantially complete and ready for its intended use. Costs during this stage include:

- Repairs and maintenance of existing components
- Replacement of existing components
- Purchase of additional components

Costs incurred to acquire additional components of PP&E or replace existing components of PP&E should be capitalized. The costs of normal, recurring, or periodic repairs and maintenance activities and all other costs related to PP&E incurred during this stage should be expensed as incurred. In other words, costs during the in-service stage that extend the existing service potential of the long-lived asset or replace significant components of the long-lived asset should be capitalized. All other costs, including normal repairs and maintenance activities, should be expensed as incurred. See PPE 1.4 for additional information on maintenance.

Example PPE 1-3 illustrates the accounting for remodeling costs.

EXAMPLE PPE 1-3

Accounting for the cost to remodel a supermarket

Supermarket Corp, a supermarket chain, is renovating one of its stores. The store will increase in size, have more available space for in-store promotion outlets, and will include a restaurant. Management expects the store renovations to attract new customers and result in a more than nominal increase in sales.

Should the costs incurred to renovate the existing store be capitalized by Supermarket Corp?

Analysis

Yes. The store remodel will create additional available space for in-store promotion outlets and a restaurant. Since the renovation will create additional space and future economic benefits, the cost of remodeling the store should be capitalized.

Costs that are incurred to enhance the productivity of the long-lived asset (such as those intended to increase the long-lived asset's daily output) should be capitalized. However, costs that are incurred to change the long-lived asset from one intended use to another (such as to change a tire manufacturing machine from one model tire to a different model), would generally not be capitalized.

When a reporting entity relocates in-service assets, the costs of dismantling, transporting, and reassembling the assets should usually be expensed as incurred. These types of costs generally do not extend the useful life of the asset or improve the quantity or quality of goods produced by the asset.

Example PPE 1-4 illustrates the determination of incremental costs to be capitalized for a capital project.

EXAMPLE PPE 1-4

Determination of incremental costs to be capitalized for a capital project

PPE Corp has an existing factory that it intends to demolish and redevelop. During the redevelopment period, the company will move its production facilities to another temporary site. The following costs will be incurred for the project:

- Rent of $500,000 for the temporary site
- Removal costs of $300,000 to transport the machinery from the old location to the temporary location
- $1M to install the machinery in the temporary location

Can these costs be capitalized as part of the cost of the new building?

Analysis

No. Even though the costs are incremental, they are not directly attributable to the new building and not necessary for it to be capable of operating in the manner intended by management. The costs related to the temporary facility should be expensed as incurred.

1.2.1.5 Capitalization thresholds for long-lived assets

US GAAP does not permit the establishment of a capitalization threshold. However, for ease of recordkeeping, many reporting entities establish a capitalization threshold to specify the minimum amount of costs that must be incurred before such costs can be capitalized. The assumption underlying the use of a capitalization threshold is that whether the reporting entity capitalizes and depreciates or expenses such amounts immediately would not be material to the financial statements. Accordingly, the decision to expense costs below an established threshold is simply for administrative convenience.

It is important that use of such a threshold does not have a material effect on the financial statements. Management should consider the amount and types of costs expected to be incurred to evaluate the impact of using such a threshold. Materiality should be assessed on both a qualitative and quantitative basis.

Use of a capitalization threshold is not an accounting policy election. As such, a change to the capitalization threshold is not considered a change in accounting policy. Similar to the initial establishment of such a threshold, before increasing a capitalization threshold, management should ensure it does not have a material effect on the financial statements.

Changes to the capitalization threshold should be applied prospectively. Assets capitalized under a previous threshold should not be adjusted. It would be inappropriate to record (1) a cumulative catch-up entry to expense amounts capitalized when the threshold was lower or (2) capitalize costs previously expensed when the threshold was higher.

1.2.2 Summary of accounting for capital project costs

Figure PPE 1-1 summarizes general accounting guidance for costs that are typical with capital projects. This summary is provided for informational purposes only and should be considered in the context of the applicable guidance and the reporting entity's specific facts and circumstances. It should also be read in conjunction with the guidance provided throughout PPE 1.2.

Figure PPE 1-1

Accounting for capital project development and construction costs

Type of cost	Preliminary	Pre-acquisition	Construction	Considerations
Construction labor and other direct costs of construction	Expense	Capitalize	Capitalize	Labor and related direct costs should be expensed until the project is probable. Costs that are direct and clearly incremental should be capitalized once the project is probable and during the construction stage.
Consulting fees	Expense	It depends	It depends	Fees should be expensed until the project is probable. Once the project is probable, directly identifiable costs should be capitalized. The amount capitalized is limited to those amounts directly related to the site and project selected (e.g., costs related to evaluation of potential projects or locations should be expensed).

Type of cost	Preliminary	Pre-acquisition	Construction	Considerations
Contribution to local community organization or other similar gift made as a precondition to obtaining necessary permits or licenses	Expense	It depends	It depends	Contributions should be expensed in the period made unless they are exchange transactions for the purchase of a good or service. Contributions made in exchange for a required license or permit may qualify for capitalization. See PPE 1.2.1.3.
Demolition costs	It depends	It depends	It depends	Demolition costs should be expensed as incurred, except in certain situations when incurred in conjunction with an acquisition or lease of real estate. See PPE 1.2.1.3.
Due diligence fees	Expense	It depends	It depends	See discussion under "Consulting fees."
Engineering, procurement, and construction contract costs	Expense	Capitalize	Capitalize	Direct costs of construction should be capitalized. Other costs should also be capitalized as part of the direct costs of construction if the amounts are considered an incremental direct cost.
Feasibility studies	Expense	It depends	It depends	See discussion under "Consulting fees."
Ground lease expense	Expense	Expense	Generally expense	Capitalization of ground lease expense by a lessee for property constructed for its own use is prohibited. However, ground lease expense should be capitalized during the construction of property for sale or rental. See PPE 1.7.5.
Interest costs	Expense	Capitalize	Capitalize	Interest costs should be capitalized in accordance with the criteria in ASC 835-20. See PPE 1.3.
Land option	Capitalize	Capitalize	Capitalize	The unissued PP&E SOP and ASC 970-340-25-3 specifically permit capitalization of land options, even during the preliminary stage when the project is not yet probable. See PPE 1.2.1.2.

Type of cost	Preliminary	Pre-acquisition	Construction	Considerations
Legal fees	Expense	It depends	It depends	See discussion under "Consulting fees."
Materials and supplies	It depends	Capitalize	Capitalize	Materials and supplies should be expensed during the preliminary stage unless they have an alternative use (e.g., inventory). See PPE 1.2.
Operating contract negotiation (e.g., fuel supply agreements, power sales agreements, operating and maintenance agreements)	Expense	Expense	Expense	Contract negotiation costs should be expensed. Although the project may not be viable without operating contracts (e.g., a signed power sales agreement is a prerequisite for financing), these contracts are not directly related to or necessary for construction of the asset itself.
Organizational costs (e.g., corporate bylaws, other agreements)	Expense	Expense	Expense	Organizational costs should be expensed in accordance with ASC 720-15.
Overhead, including rent, depreciation, and support functions (executive management, accounting, purchasing, corporate legal, human resources, and information systems)	Expense	Expense	Generally expense	General and administrative and overhead costs should be charged to expense as incurred, with a limited exception for property constructed for sale or rental.
Outsourced administrative functions (e.g., accounting, purchases, and payables)	Expense	Expense	Generally expense	General and administrative and overhead costs should be charged to expense as incurred, even if the costs are incurred by a third party on behalf of the reporting entity. These costs may be eligible for capitalization if the property is constructed for sale or rental.

Type of cost	Preliminary	Pre-acquisition	Construction	Considerations
Project financing—external fees	Capitalize	Capitalize	Capitalize	Specific incremental costs directly attributable to a project financing should be capitalized (e.g., debt issuance costs). Any amortization recorded during construction would be included in capitalized interest calculations.
Project financing—internal costs and salaries	Expense	Expense	Expense	General and administrative costs and overhead costs should be charged to expense as incurred.
Property taxes	Expense	Expense	Generally expense	Property taxes are a cost of owning the property and are not a direct incremental cost of construction, thus such amounts should be expensed as incurred. However, similar to ground lease expense, such amounts may be capitalized if the property is being constructed for sale or rental. See PPE 1.7.2.
Recruiting (costs to identify and hire operating and administrative personnel on site)	Expense	Expense	Expense	Recruiting costs should be expensed in accordance with ASC 720-15.

Type of cost	Preliminary	Pre-acquisition	Construction	Considerations
Salaries—developers, legal counsel, and other personnel working directly on the project	Expense	It depends	It depends	All payroll and payroll-related costs should be expensed until the project is probable. Once the project is probable, directly identifiable payroll and payroll-related costs should be capitalized. The amount capitalized should be limited to those amounts directly related to the site and project selected (e.g., costs related to evaluation of potential projects or locations should be expensed). In addition, occupancy and similar costs associated with personnel working on the project should be expensed.
Salaries—support functions	Expense	Expense	Generally expense	General and administrative costs should be expensed as incurred, with a limited exception related to property constructed for sale or rental. See discussion under "Overhead" costs.
Site permit and license fees	Expense	Capitalize	Capitalize	Site permit and related fees are a direct cost of construction and should be capitalized once construction is probable.
Site security costs	Expense	Capitalize	Capitalize	Site security costs are a direct cost of construction and should be capitalized once construction is probable. Amounts capitalized should be limited to incremental security costs.
Internal use software development costs	Expense	Capitalize as permitted	Capitalize as permitted	Internal use software development costs should be capitalized in accordance with the requirements of ASC 350-40. See PPE 7.

Type of cost	Preliminary	Pre-acquisition	Construction	Considerations
Training costs	Expense	Expense	Expense	Training costs should be expensed in accordance with ASC 720-15.
Travel expenses—internal and third party	Expense	It depends	It depends	See discussion under "Consulting fees."

1.3 Capitalized interest

As noted in ASC 835-20, *Interest, Capitalization of Interest*, the objective of capitalizing interest is to obtain a measure of cost that more closely reflects a reporting entity's total investment in the asset and to charge a cost that relates to the acquisition of a resource that will benefit future periods against the revenues of the period it benefits.

1.3.1 Accounting for capitalized interest

The historical cost of acquiring an asset should include all costs necessary to bring it to the condition and location necessary for its intended use. As a result, the cost incurred in financing expenditures for an asset during a required construction or development period is itself a part of the asset's historical acquisition cost. The cause-and-effect relationship between acquiring an asset and the incurrence of interest costs makes interest cost analogous to a direct cost that is readily and objectively assignable to the acquired asset.

ASC 835-20-15-5 defines qualifying assets while ASC 835-20-15-6 lists those assets for which interest should not be capitalized.

>> Assets for Which Interest Shall Be Capitalized

ASC 835-20-15-5

Interest shall be capitalized for the following types of assets (qualifying assets):

a. Assets that are constructed or otherwise produced for an entity's own use, including assets constructed or produced for the entity by others for which deposits or progress payments have been made.

b. Assets intended for sale or lease that are constructed or otherwise produced as discrete projects (for example, ships or real estate developments).

c. Investments (equity, loans, and advances) accounted for by the equity method while the investee has activities in progress necessary to commence its planned principal operations provided that the investee's activities include the use of funds to acquire qualifying assets for its operations. The investor's investment in the investee, not the individual assets or projects of the investee, is the qualifying asset for purposes of interest capitalization.

>> Assets for Which Interest Shall Not Be Capitalized

ASC 835-20-15-6

Interest shall not be capitalized for the following types of assets:

a. Assets that are in use or ready for their intended use in the earning activities of the entity

b. Assets that are not being used in the earning activities of the entity and that are not undergoing the activities necessary to get them ready for use

c. Assets that are not included in the consolidated balance sheet of the parent entity and consolidated subsidiaries

d. Investments accounted for by the equity method after the planned principal operations of the investee begin (see paragraph 835-20-55-2 for clarification of the phrase after planned principal operations begin)

e. Investments in regulated investees that are capitalizing both the cost of debt and equity capital (see paragraph 835-20-55-3 for guidance on capitalization of costs by a regulated investee)

f. Assets acquired with gifts and grants that are restricted by the donor or grantor to acquisition of those assets to the extent that funds are available from such gifts and grants. Interest earned from temporary investment of those funds that is similarly restricted shall be considered an addition to the gift or grant for this purpose.

g. Inventories that are routinely manufactured or otherwise produced in large quantities on a repetitive basis.

The examples provided in ASC 835-20 make it clear that a discrete project should involve a significant revenue-producing asset that is not produced in large quantities, but such an asset may be constructed or otherwise produced on an ongoing basis. The existence of the following characteristics may help in identifying discrete projects: (1) separate cost records, (2) a considerable time period involved in construction or manufacture, (3) significant expenditures, (4) compliance with customer specifications, or (5) progress payments.

When borrowings exist, the expenditures required by a discrete project result in a significant amount of interest cost to bring the project to its intended use. Thus, a discrete project differs from those assets produced routinely and repetitively for sale or lease that individually do not result in the incurrence of significant interest cost.

Failure to capitalize the interest cost associated with qualifying assets improperly reduces reported earnings during the period and increases reporting earnings in later periods. As such, ASC 835-20 requires interest cost to be included as a component of the historical cost of assets constructed for a company’s own use (e.g., facilities or internal-use software).

1.3.1.1 *Amount of interest to be capitalized*

Interest cost that theoretically could have been avoided if expenditures for qualifying assets had not been made should be capitalized. The interest to be capitalized is determined by applying a capitalization rate to the weighted-average carrying amount of expenditures for the asset during the period. The amount of interest cost capitalized should not exceed the amount of interest cost incurred by the reporting entity in that period.

ASC 835-30 permits some flexibility in determining the capitalization rate. It may be the rate of a specific new borrowing that can be associated with a qualifying asset or a rate determined by a weighted-average technique. We believe the weighted-average technique should be viewed as the primary method for determining a capitalization rate since proceeds from a specific borrowing are typically not identifiable to a particular qualifying asset. In identifying the borrowings to be included in the weighted-average carrying amount, the objective is to obtain a reasonable measure of the cost of financing the asset while getting the asset ready for its intended use. However, when a specific new borrowing can be identified with a qualifying asset, ASC 835-20-30-3 provides additional considerations for determining the capitalization rate.

Excerpt from ASC 835-20-30-3

If an entity's financing plans associate a specific new borrowing with a qualifying asset, the entity may use the rate on that borrowing as the capitalization rate to be applied to that portion of the average accumulated expenditures for the asset that does not exceed the amount of that borrowing. If average accumulated expenditures for the asset exceed the amounts of specific new borrowing associated with the asset, the capitalization rate to be applied to such excess shall be a weighted average of the rates applicable to other borrowings of the entity.

Judgment will be required to select borrowings that best accomplish the objective of identifying a reasonable measure of the cost of financing the asset while getting the asset ready for its intended use.

Example PPE 1-5 illustrates how to calculate the capitalization rate using the weighted average of borrowings.

EXAMPLE PPE 1-5

Calculating the capitalization rate using the weighted average of borrowings

PPE Corp begins construction on a new corporate office building on September 1, 20X1. Construction continues without interruption through March 31, 20X2. Directly attributable expenditures for the year ended December 31, 20X1 are:

September	$100,000
October	$400,000
November	$400,000
December	$400,000

PPE Corp has assumed a mid-month convention for the attributable expenditures. Therefore, the weighted average carrying amount of the asset during the period is as follows:

Date	Qualifying expenditures (A)	Capitalization period (B)	Weighted average qualifying expenditures (A × B)
September	$100,000	3.5/12	$29,167
October	$400,000	2.5/12	$83,333
November	$400,000	1.5/12	$50,000
December	$400,000	0.5/12	$16,667
Total	**$1,300,000**		**$179,167**

PPE Corp has not taken out any specific borrowings to finance the construction of the asset, but has incurred finance costs on its general borrowings during the construction period. PPE Corp had a $9,000,000 loan outstanding with a 4% interest rate and a $5,000,000 loan outstanding with a 6% interest rate during the construction period. The loans were not for specific expenditures.

What is the amount of interest that can be capitalized for the year ended December 31, 20X1?

Analysis

The annualized interest costs on the general borrowings outstanding during the construction period is $660,000 ((4% × $9,000,000) + (6% × $5,000,000)), which results in a weighted-average rate of 4.71% ($660,000/$14,000,000).

The amount of interest that can be capitalized is $8,439, calculated as the weighted-average interest rate multiplied by the weighted-average qualifying expenditures amount (4.71% × $179,167).

The objective of ASC 835-20 is to include the interest incurred as a consequence of getting the asset ready for its intended use. Therefore, accumulated expenditures eligible for interest capitalization should be determined on a cash basis rather than on an accrual basis (unless accruals bear interest). Expenditures on discrete projects should be reduced by progress payments received from customers. Equity exchanged for a fixed asset is also considered an expenditure, since debt would not be paid down and interest costs would be incurred if equity had not been issued as consideration to acquire the asset. Capitalized asset retirement costs are not considered expenditures for the purposes of capitalizing interest.

1.3.1.2 Interest capitalization period

As described in ASC 835-20-25-3, interest incurred during the period in which the activities required to get the asset ready for its intended use are performed should be capitalized, provided that expenditures for the asset have been made. Interest capitalization continues as long as those activities continue.

ASC 835-20-25-3

The capitalization period shall begin when the following three conditions are present:

a. Expenditures for the asset have been made.

b. Activities that are necessary to get the asset ready for its intended use are in progress.

c. Interest cost is being incurred.

Interest capitalization shall continue as long as those three conditions are present.

Reporting entities should cease capitalizing interest if substantially all activities related to construction of the asset are suspended. However, brief interruptions in activities, interruptions that are externally imposed, and delays that are inherent in the asset construction process would not require cessation of interest capitalization. For example, some assets must be completed in their entirety before any part of the asset can be used, such as a facility with a sequential production line that requires the entire facility to be completed in order to start production. Therefore, interest capitalization would continue until the entire asset is substantially complete. Conversely, other assets are completed in parts and therefore the entire asset does not need to be completed in order to utilize the individual parts on their own. For example, the structure of a high-rise building may be complete but certain of the individual floors are not. In this example, interest capitalization would only continue for the parts that are not substantially complete.

The guidance prohibits continuation of interest capitalization when completion of the asset is intentionally delayed. For example, interest is not to be capitalized during periods when the reporting entity intentionally defers or suspends activities related to the asset.

It is generally not appropriate to capitalize interest on an asset that was already functioning for its intended purpose prior to being removed from service. However, capitalization of interest on incremental expenditures related to the refurbishment and/or expansion activities related to the asset may be appropriate. When the asset was acquired with the intention of performing immediate refurbishments or expansion (i.e., the asset has not been in operation), this may indicate that the interest on the asset's original cost can be capitalized.

The impairment of a long-lived asset below its acquisition cost does not affect the continuation of interest capitalization after the impairment is recorded.

1.3.1.3 *Materiality of interest (interest capitalization)*

As detailed in ASC 835-20, interest is only required to be capitalized when the benefit outweighs the cost.

ASC 835-20-15-2

In concept, interest cost is capitalizable for all assets that require a period of time to get them ready for their intended use (an acquisition period). However, in many cases, the benefit in terms of information about the entity's resources and earnings may not justify the additional accounting and administrative cost involved in providing the information. The significance of the effect of interest capitalization in relation to the entity's resources and earnings is the most important consideration in assessing its benefit. The ease with which qualifying assets and related expenditures can be separately identified and the number of assets subject to interest capitalization are important factors in assessing the cost of implementation.

ASC 835-20-15-3

Interest capitalization is required only when the balance of the informational benefit and the cost of implementation is favorable. A favorable balance is most likely to be achieved where an asset is constructed or produced as a discrete project for which costs are separately accumulated and where construction of the asset takes considerable time, entails substantial expenditures, and is likely to involve a significant amount of interest cost. A favorable balance is unlikely in the case of inventory items that are routinely manufactured or otherwise produced in large quantities on a repetitive basis. Accordingly, this Subtopic proscribes interest capitalization on those types of inventories (that is, inventory items that are routinely manufactured or produced in large quantities on a repetitive basis) and provides for interest capitalization on assets that are constructed or produced as discrete projects.

The principle objective of ASC 835-20 is to require capitalization of interest on major construction projects when the financial statement effect of capitalization vs. current expense recognition is likely to be material. In addition, ASC 835-20 speaks to minimum thresholds that require capitalization, which are common in inventory and PP&E accounting. These thresholds are designed to minimize a reporting entity's burden of capitalizing interest associated with a large number of assets and accounting for those costs as the assets are used. Companies should apply judgment in determining whether the interest associated with self-constructed assets would have a material effect on the financial statements if not capitalized.

1.3.1.4 *Capitalization of interest associated with land expenditures*

Interest on debt used to purchase land (including interest on a ground lease that is classified as a finance lease) should only be capitalized when development activities are in progress. When a large tract of land is acquired for development, only the interest applicable to the portion of land for which development activities are actually underway should be capitalized. Interest applicable to the portions of the land held for future development do not qualify for capitalization, until such future development begins.

1.3.1.5 Capitalization of interest (equity method investments)

ASC 835-20 addresses the capitalization of interest on investments accounted for using the equity method. ASC 835-20 requires interest to be capitalized by the investor on investments, advances, or loans to equity affiliates, providing the equity affiliate has not begun its planned principal operating activities and its activities include the use of funds to acquire qualifying assets for its operations. Total capitalized interest by the investor pursuant to ASC 835-20 cannot exceed interest cost incurred. Interest capitalized to an equity method investment will create an outside basis difference. For further considerations regarding accounting for basis differences, see CG 4.4.5.

1.3.1.6 Tax-exempt debt financings (capital projects)

In accordance with ASC 835-20-30-10 through ASC 835-20-30-12, reporting entities that finance qualifying assets with the proceeds of tax-exempt debt (such as industrial revenue bonds), should capitalize the entire amount of interest cost associated with the borrowing from the inception of borrowing through the end of the capitalization period. The reporting entity does not need to wait until construction begins to start capitalization.

Ordinarily, the offsetting of interest income against interest cost is not appropriate. However, in the case of tax-exempt debt financings, the direct funds flow from borrowing to temporary investment to construction expenditures are so intertwined and restricted that the interest cost should be offset by any interest earned on unexpended proceeds of the related tax-exempt borrowings. Therefore, the total net cost of financing is accounted for as a cost of the qualifying asset.

Once the interest is no longer eligible for capitalization as part of the specified qualifying assets, interest on the tax-exempt debt may be capitalized as part of other qualifying assets (as defined in ASC 835-20-15-5) of the reporting entity. If no other qualifying assets are available, the interest expense and any associated interest income would be recognized in the income statement.

1.4 Maintenance, including major maintenance

Maintenance can be a significant activity for reporting entities with capital projects. Maintenance programs may involve the use of internal resources or third-party maintenance providers. Third-party agreements may be stand-alone service agreements or embedded in a lease. All routine maintenance should be expensed as incurred. PPE 1.4 focuses on the accounting for major maintenance activities, including specific considerations when the services are provided through a long-term service agreement or lease.

1.4.1 Accounting for major maintenance

The *AICPA Audit and Accounting Guide for Airlines* (the Airline Guide) provides the principal source of guidance on accounting for major maintenance activities. A limited portion of this guidance was codified in ASC 908, *Airlines*.

The term “overhaul” is frequently used to describe the process of inspecting and maintaining an asset. Overhaul costs typically include replacement of parts and major repairs and maintenance. The accounting for the replacement of parts or components is discussed in PPE 1.2.1.4. The treatment of major repairs and maintenance costs will depend on whether such costs meet the specified criteria for recognition as an asset. The costs of “day-to-day servicing” of an asset do not meet the FASB Concepts

Statement No. 6, *Elements of Financial Statements,* asset recognition criteria and do not qualify as major maintenance. However, major repair and maintenance programs carried out as part of a periodic inspection and overhaul and that result in future economic benefits beyond those initially expected may qualify for recognition as an asset. The dry-docking of a ship would be an example of such an event.

There are three acceptable methods of accounting for major maintenance, as highlighted in Figure PPE 1-2. Although based on the Airline Guide, the SEC staff has indicated that the guidance should be applied by analogy to all major maintenance activities.

Figure PPE 1-2

Accounting for major maintenance activities

Method	Guidance
Direct expense (ASC 908-720-25-3)	Overhauls associated with large fleets are relatively constant from period to period, thus most carriers recognize the cost of overhauls as expense as they are incurred.
Deferral (ASC 908-360-30-3 and ASC 908-360-35-6)	The actual cost of each overhaul is capitalized and amortized to the next overhaul.
Built-in overhaul (ASC 908-360-30-2 and ASC 908-360-35-5)	When overhaul costs are included or combined with other costs, a reporting entity would segregate costs into components that (1) are depreciated over the useful life of the asset and (2) require overhaul at periodic intervals. The cost of the initial overhaul is capitalized and amortized to the next overhaul, at which time the process is repeated.

To demonstrate the built-in overhaul method, consider a blast furnace with a lining that needs to be replaced every five years. No provision can be made for replacement of the furnace lining before the reporting entity incurs the expenditure; until that time, the reporting entity has no present obligation because it does not have to replace the lining. For example, it could avoid the obligation by decommissioning the blast furnace. Although no provision can be built up over the five years before the expenditure is incurred, the blast furnace lining should be segregated as a separate component upon acquisition and depreciated over a five year period, rather than over the useful life of the furnace itself. When the expenditure is incurred to replace the lining, it will be capitalized as a component of the cost of the furnace and will be separately depreciated over the period until it is next replaced (i.e., five years). The cost and depreciation attributed to the original blast furnace lining should be removed once the cost of the new blast furnace lining has been capitalized, because the original asset would be disposed of when replaced with the new lining.

Major maintenance costs cannot be accrued in advance of the maintenance taking place. The Airline Guide provides additional information on application of the three acceptable methods.

AICPA Audit and Accounting Guide for Airlines

Paragraph 4.113

The cost of line maintenance and other routine repairs, whether performed by the airline or outsourced to a third-party provider, is expensed as incurred. However, there are three acceptable methods of

accounting for planned major maintenance activities performed under established programs for regulatory compliance related to different fleet types and for engines, airframes, or major components of the same aircraft type. FASB ASC 908-360-25-2 states that air carriers shall adopt an accounting method that recognizes overhaul expenses in the appropriate period. This may result in different methods for different aircraft, as well as different methods of airframe overhauls and engine overhauls. These methods are described in the following paragraphs.

Paragraph 4.114

Expense as incurred method. Under this method, all maintenance costs are expensed in the period incurred because maintenance activities do not represent separately identifiable assets or property units in and of themselves; rather, they serve only to restore assets to their original operating condition.

Paragraph 4.115

Deferral method. Under this method, the actual cost of each planned major maintenance activity is capitalized and amortized to expense in a systematic and rational manner over the estimated period until the next planned major maintenance activity.

Paragraph 4.116

Built-in overhaul method. Under this method, costs of activities that restore the service potential of airframes and engines are considered a component of the asset. This method cannot be applied to leased aircraft. The cost of airframes and engines (upon which the planned major maintenance activity is performed) is segregated into those costs that are to be depreciated over the expected useful life of the airframes and engines and those that represent the estimated cost of the next planned major maintenance activity. Thus, the estimated cost of the first planned major maintenance activity is separated from the cost of the remainder of the airframes and engines and amortized to the date of the initial planned major maintenance activity. The cost of that first planned major maintenance activity is then capitalized and amortized to the next occurrence of the planned major maintenance activity, at which time the process is repeated.

Paragraph 4.117

FinREC believes the expense as incurred method is preferable to all other methods of accounting for maintenance activities.

As noted in paragraph 4.117, FinREC believes that the expense as incurred method is preferable, although any of the three methods may generally be used. The method used to recognize major maintenance expense is an accounting policy election that should be applied consistently for all similar projects.

The deferral or built-in overhaul methods of accounting for major maintenance cannot be used when the group or composite method of depreciation is used. Under the group or composite method of depreciation, depreciation is applied to a pool of assets based on the average useful life of the assets. The application of the deferral or built-in overhaul method of accounting for major maintenance requires separately accounting for maintenance costs associated with component assets. Once the group or composite method of depreciation is applied, individual assets lose their individual identity and the pool is in effect one component. Therefore, any amounts related to major maintenance would need to be accounted for using the direct expense method.

1.4.2 Long-term service agreements

Concurrent with the construction or acquisition of assets, reporting entities may enter into long-term service agreements with third-party providers to perform major maintenance. These agreements usually involve major maintenance services, including refurbishment or replacement of capital parts, as well as routine maintenance activities. Generally, payments under a long-term service agreement (LTSA) are made on a recurring basis and maintenance is performed at scheduled dates in accordance with an agreed-upon milestone schedule.

LTSAs are common in many industries and typically pass the service provider's cost of parts, equipment, and specified costs to the customer, or otherwise share the cost risk between the service provider and the service provider's customer. This feature in an LTSA is a funding or cash flow mechanism and does not drive the timing of expense recognition. Instead, the reporting entity's major maintenance accounting should be determined based on its overall policy for similar capital projects. Some long-term service agreements are based on a pricing mechanism that fully transfers the cost risk to the service provider. The accounting for this type of contract may vary from the general model. Accounting for fixed price LTSAs is discussed in PPE 1.4.2.1; accounting for variable priced LTSAs is discussed in PPE 1.4.2.2.

1.4.2.1 Accounting for fixed-price long-term service agreements

Stand-alone LTSAs usually involve pass-through of certain specific costs to the owner of the capital project or otherwise share price risk between the parties to the agreement. Conversely, some LTSAs have a fixed price for the duration of the contract and may transfer certain risks of providing maintenance services, including cost risk, to the service provider.

The Airline Guide discusses agreements in the airline industry (known as power-by-the-hour (PBTH) contracts). Under PBTH contracts, airlines generally pay the service provider a fixed amount per flight hour in exchange for required maintenance and repairs under the predefined maintenance program. Although the type of contract is specific to the airline industry, the agreements, and the related issues, can be similar to those encountered by companies in other industries. Therefore, in the absence of authoritative guidance, the framework set forth in the Airline Guide can be helpful in evaluating the appropriate accounting for these and similar arrangements in other industries. Paragraph 4.123 of the Airline Guide addresses PBTH agreements.

Excerpt from AICPA Audit and Accounting Guide for Airlines

Paragraph 4.123

FinREC believes the issues relating to PBTH contracts and other similar arrangements with independent maintenance and repair providers include determining whether risk has been transferred to the service provider. The risk transfer criteria discussed in this section provide a framework for determining whether there is a transfer of risk. If the contract transfers risk, FinREC believes the airline should recognize maintenance expense in accordance with the PBTH contract, as opposed to following its maintenance accounting policy. In these situations, FinREC believes there is a presumption that the expense should be recognized at a level rate per hour during the minimum, noncancelable term of the PBTH agreement. That presumption could be overcome by evidence that the level of service effort varies over time, consistent with the variations in the payment pattern under the PBTH contract.

The key criteria in evaluating whether risk has transferred are discussed in paragraph 4.125 of the Airline Guide as summarized in Figure PPE 1-3.

Figure PPE 1-3

Transfer of risk criteria

Criterion	Guidance
True-ups	The service provider absorbing substantially all of the variability of the cost of maintenance may transfer risk to the service provider. A contract that provides for true-up payments to cover actual costs incurred by the service provider would not result in risk transfer.
Contract adjustment provisions	Contracts with adjustments for a change in scope may transfer risk if they are not merely true-up adjustments for the service provider's actual costs. Annual or periodic inflation adjustments are also permitted, as well as increases tied to certain performance criteria, if adjustments tied to performance are capped or otherwise limited.
Termination provisions	Buy-out provisions that provide for cost recovery on termination would not transfer risk. Termination provisions need to be substantive enough to prevent either party from exiting at their discretion or risk is not transferred.

If the reporting entity concludes that risk is transferred to the service provider, the maintenance costs should be accounted for in accordance with the terms of the agreement, rather than based on the reporting entity's normal policy for maintenance. In developing an expense recognition policy for this type of contract, there is a presumption that expense should be recognized on a level rate based on usage; however, this presumption may be overcome if there is evidence that the level of service effort varies over time and that changes in expense are reflective of changes in service. Changes in contractual rates based on an index, such as Consumer Price Index, or rates that cannot be reliably determined at the start of the contract would not be leveled, except to the extent there is a specified minimum increase.

We believe the PBTH model discussed in the Airline Guide is reflective of the underlying economics of a fixed-price maintenance agreement and that it is appropriate for companies, absent other applicable authoritative literature, to apply it in evaluating and accounting for fixed price LTSAs.

Example PPE 1-6 illustrates the accounting for a fixed price long-term service agreement that includes capital spares.

EXAMPLE PPE 1-6

Accounting for a fixed price long-term service agreement that includes capital spares

PPE Corp has a contract with a maintenance provider to perform major maintenance inspections after certain hour intervals on a dual-armed robot used in PPE Corp's production facility. The contract

requires that PPE Corp purchase a portfolio of capital spares to be kept "on the shelf" in storage during the period of the contract for use during major maintenance. The capital spare parts are paid for by PPE Corp at the start of the contract.

The capital spares may not be resold or used for any purpose other than major maintenance activities on PPE Corp's robot. PPE Corp will have title to the parts when purchased; however, title to any remaining capital spares in storage when the maintenance contract expires will transfer to the maintenance provider.

How should PPE Corp account for the spare parts?

Analysis

In this example, the contract is a fixed-price long-term service agreement that transfers cost risk to the maintenance provider. The initial purchase will provide PPE Corp with capital spares on hand for use in the major maintenance activities; however, PPE Corp is not entitled to retain the capital spares at the expiration of the contract. As such, there is a presumption that expense should be recognized on a level rate based on usage over the term of the contract, as the services provided (and related effort level) do not change over time. The payment for the capital spares represents an additional service payment and should be amortized over the term of the contract.

1.4.2.2 Accounting for variable price long-term service agreements

Variable price LTSAs typically share the cost risk associated with the service contract between the service provider and the reporting entity. A reporting entity should evaluate the LTSA and determine whether the contract meets the risk transfer criteria summarized in Figure PPE 1-3. Paragraph 4.124 of the Airline Guide addresses PBTH contracts that do not meet the risk transfer criteria.

AICPA Audit and Accounting Guide for Airlines

Paragraph 4.124

If a contract does not meet the risk transfer criteria, FinREC believes the payments made under the contract should be recorded as a deposit or prepaid expense to the extent recoverable through future maintenance activities. When the underlying maintenance event occurs, it would be accounted for as maintenance expense or capitalized in accordance with the airline's maintenance accounting policy. Any nonrefundable amounts that are not probable of being used to fund future maintenance activities would be recognized as expense. If the cost per event is not specifically determined from the contract, the airline would record maintenance expense based on the best estimate of the cost of the underlying maintenance services. The amount of maintenance expense recorded would need to be supported by evidential matter. Such support could include prior costs for similar maintenance activities, documentation from a maintenance provider or other third parties, or both. Nonroutine maintenance, including payments under contracts for FOD or other out of scope work, would also be expensed as it is incurred.

An LTSA often includes multiple price components, such as a fixed monthly fee, variable monthly fees, and milestone payments based on service hours of the asset being maintained. These components typically cover major service events and monthly routine services to monitor and manage the performance of the covered equipment. The service provider may itemize the costs into major

categories, such as capital parts, consumable parts, field services, component repair services, and other contractual services. In some circumstances, it may be difficult to determine the cost of the different services and the appropriate allocation between routine and major maintenance. To properly account for maintenance services, a reporting entity should implement policies to understand how the payments relate to the products and services provided under the LTSA. This information should be used to classify the costs between routine and major maintenance activities. Prior experience with similar agreements may also provide information to help allocate costs between routine and major maintenance services.

Amounts related to routine maintenance should be expensed as incurred. Amounts related to major maintenance should be recorded in accordance with the reporting entity's policy for major maintenance. Any differences between the amount expensed and paid should be reflected on the balance sheet either as an asset or liability as appropriate.

Example PPE 1-7 illustrates the accounting for a variable price long-term service agreement.

EXAMPLE PPE 1-7

Accounting for a variable price long-term service agreement

PPE Corp enters into a 15-year long-term service agreement (LTSA) with Service Provider Corp for planned maintenance services on their automated manufacturing lines within their production facility. The LTSA calls for the following:

- Fixed monthly fee of $50,000
- Variable monthly fee based on run hours (estimated as $100,000 per month)
- Payments of $5,000,000 at various milestones based on run hours

PPE Corp determines that the fixed monthly fee is entirely related to routine maintenance based on discussion with and review of documentation provided by Service Provider Corp. PPE Corp also determines that the variable monthly fee includes an expense component related to routine maintenance of $25,000 and capital components (including labor and parts not controlled by PPE Corp) of $75,000. PPE Corp has concluded that the milestone payments are capital in nature and relate solely to major maintenance activities.

How should PPE Corp account for the payments under the LTSA?

Analysis

PPE Corp should expense the monthly fee and the expense portion of the variable fee as incurred because they were determined to be related to routine maintenance. PPE Corp can choose one of three methods to account for the capital component of the variable monthly fee and the milestone payments:

- **Direct expense**

  PPE Corp would establish a prepaid asset as the capital portion of the variable monthly fee and milestone payments are made and would recognize the expense when the major maintenance is performed.

- **Deferral method**

  PPE Corp would record an asset as the capital portion of the variable monthly fee and milestone payments are made. PPE Corp would begin to amortize the amounts after the first major maintenance event occurs and over the expected period until the next major maintenance.

- **Built-in overhaul method**

  PPE Corp would separately depreciate the cost of the overhaul—which was separated from the initial purchase price of the asset—to the date of the initial overhaul. The accounting for the payments under the LTSA would then follow the deferral method.

Under all three scenarios, PPE Corp should consider whether it is receiving any maintenance services in advance of payments made or whether any amounts represent prepayments for future services. For example, this may arise if the milestone payments are not reflective of the underlying cost of the maintenance provided throughout the payment date (may be higher or lower). In such cases, PPE Corp should estimate the actual amount of expense and record a prepaid or an accrual for the difference from its actual payments.

1.4.3 Maintenance included in lease arrangements

Many agreements to obtain access to machinery or other equipment are accounted for as leases and implicitly include operations and maintenance services. Maintenance services are an executory cost of the lease or are considered "other services," which are generally nonlease components. In either case, the maintenance services are not part of the minimum lease payments and would not be part of the lease accounting, unless the reporting entity elects the practical expedient to combine lease and nonlease components (see LG 2.4.5.1 for further details). Instead, a lessee should follow the appropriate LTSA model in determining how to recognize expense for the maintenance services. In many cases, these agreements will meet the risk-transfer criteria and will be subject to the fixed-price recognition model discussed in PPE 1.4.2.1. This recognition pattern will frequently be similar to the pattern of lease expense recognition under an operating lease.

1.4.3.1 Maintenance deposits under lease arrangements

ASC 840-10-25-39B and ASC 842-20-55-8 specify that a maintenance deposit paid by a lessee under an arrangement accounted for as a lease should be accounted for as a deposit asset when the deposit will be refunded only if the lessee performs certain specified maintenance activities.

In some cases, these prepayments for maintenance may be termed in different ways, including "maintenance reserves" or "supplemental rent." This guidance applies to all types of deposits that are substantively and contractually related to the maintenance of the leased asset. Maintenance deposits should be accounted for as deposit assets. If the lessee determines that an amount on deposit is not probable of being returned, it should be recognized as additional expense.

1.5 Other costs to be considered for capitalization

As discussed in PPE 1.2, costs to be capitalized for long-lived assets include directly attributable costs that are incurred for the construction or acquisition of the long-lived asset. The treatment of certain types of costs may require judgment. See PPE 1.5.1 for a discussion of the accounting for customer

reimbursements, PPE 1.5.2 for pre-production costs, PPE 1.5.3 for spare parts, and PPE 1.5.4 for liquidated damages.

1.5.1 *Customer reimbursements (capital projects)*

A company may receive up-front cash payments to fund the construction of fixed assets that the company will use to provide products or services to a customer. An example is a reporting entity that enters into an arrangement with an auto manufacturer to design and develop tooling prior to the production of automotive parts in which the reporting entity receives an up-front cash payment for the pre-production costs. A question may arise as to how to account for the up-front cash payment received by the company.

Management should first evaluate whether the reimbursement is consideration received from a customer pursuant to a revenue contract. If so, the reimbursement would be included as part of the transaction price allocated to the distinct goods or services transferred to the customer under the contract. Management would assess whether control of the fixed assets transfers to the customer and if so, whether the fixed assets represent a separate performance obligation in the contract. Refer to the PwC's *Revenue from contracts with customers* guide for further discussion on the accounting for arrangements in the scope of the revenue standard.

If the payments are not in the scope of ASC 606, then they would not be recognized as revenue from contracts with customers. Instead, if the up-front payment is nonrefundable, the reporting entity should recognize the payments as a reduction to the cost of constructing the fixed assets. For payments received from a governmental entity, refer to PPE 1.6.

When the nature of a service contract explicitly or implicitly allows the use of an asset to be controlled by a customer, the arrangement should be evaluated for whether it contains an embedded lease. Refer to LG 2 for information on determining when a contract contains a lease.

1.5.2 *Pre-production costs*

In some industries, various pre-production costs are incurred related to the design and development for molds, dies, and other tools that will be used in producing parts under a long-term supply arrangement. This is common in manufacturing industries in which specific molds or tools are required to produce parts that are specific to a customer's needs. Specific guidance exists in ASC 340-10 regarding the accounting for pre-production costs related to long-term supply arrangements. Although this scope appears broad, judgment may be required to determine whether this guidance applies to each arrangement based on specific facts and circumstances. Refer to RR 11 for additional information on contract costs.

ASC 340-10-25-1

Design and development costs for products to be sold under long-term supply arrangements shall be expensed as incurred. Design and development costs for molds, dies, and other tools that a supplier will own and that will be used in producing the products under a long-term supply arrangement shall be capitalized as part of the molds, dies, and other tools (subject to an impairment assessment under the Impairment or Disposal of Long-Lived Assets Subsections of Subtopic 360-10) unless the design and development is for molds, dies, and other tools involving new technology, in which case, the costs shall be expensed as incurred in accordance with Subtopic 730-10.

This guidance indicates that design and development costs related to products to be sold should be expensed as incurred, whereas design and development costs related to molds, dies, or other tools that the supplier will own should generally be capitalized, unless they relate to new technology. Costs incurred for new technology that have uncertain future economic benefits should be expensed as incurred. For discussion regarding the accounting for the capitalization of research and development costs, see PPE 8.3.3.

Design and development costs related to tools, molds or dies that a supplier will not own may also be capitalized under certain circumstances.

ASC 340-10-25-2

Design and development costs for molds, dies, and other tools that a supplier will not own and that will be used in producing the products under the long-term supply arrangement shall be capitalized (subject to an impairment assessment under the Impairment or Disposal of Long-Lived Assets Subsections of Subtopic 360-10) if the supply arrangement provides the supplier the noncancelable right (as long as the supplier is performing under the terms of the supply arrangement) to use the molds, dies, and other tools during the supply arrangement. Otherwise, those design and development costs shall be expensed as incurred, including costs incurred prior to the supplier's receiving the noncancelable right to use the molds, dies, and other tools during the supply arrangement.

Excerpt from ASC 340-10-25-3

If a contractual guarantee for reimbursement exists for design and development costs that otherwise would be expensed based on the guidance in this Section, those costs shall be recognized as an asset as incurred.

In order to capitalize pre-production design and development costs, the reporting entity generally should consider whether a long-term supply agreement exists, whether a contractual guarantee of reimbursement for pre-production product design and development costs exists, and whether the amount of reimbursement can be objectively measured and verified.

When evaluating the existence of a contractual guarantee, there should be a legally enforceable agreement in which the amount of reimbursement can be objectively measured and verified. In other words, there is a legal obligation to provide reimbursement.

Objective measurement and verification of the amount of reimbursement can be difficult to assess and requires judgment in many cases, particularly when reimbursement is built into the price paid for each part purchased. Generally, the amount of reimbursement should be clearly defined in the contract, indicating a dollar threshold to which the company will be reimbursed for pre-production design and development costs. Alternatively, contract terms may specify that the company will be reimbursed at a fixed rate per unit of production. In this case, to record an asset, the contract must specify the number of parts to be produced, the dollar reimbursement per part, and the consequence if production is less than the specified number of parts to be produced. Lack of specificity may call into question whether the company can record an asset for such costs. Instances when the amount of reimbursement is not clearly defined or the company has a practice of negotiating a settlement of the reimbursement amount may indicate a lack of a definitive arrangement and as a result, may mean that pre-production design and development costs should be expensed as incurred.

These types of arrangements are very common in some manufacturing industries, including the automotive industry, in which the supplier is responsible for acquiring or building the mold, die, or tool, but will be reimbursed by the customer. In these cases, the design and development costs are generally capitalized by the supplier in accordance with ASC 340-10-25-3, even in circumstances when the customer has the ability to take possession of the tool at the end of the contract term.

1.5.3 Spare parts

Companies often maintain spare parts for machinery to prevent shutdowns on the manufacturing line in the event of equipment failure, which could be time consuming and costly. Spare parts are also held on hand if the lead time to acquire new parts is long or contractual maintenance agreements require that the reporting entity maintain such parts on hand.

Limited US GAAP guidance exists regarding the accounting for spare parts. However, the Airline Guide provides guidance on the accounting for spare parts that is often used by analogy in other industries.

AICPA Audit and Accounting Guide for Airlines

Paragraph 4.131

Spare parts are typically grouped into several broad categories: rotables, repairables, expendables, and materials and supplies. The following table provides brief descriptions of the categories and accounting treatment for each category.

Spare Parts Category	Accounting Treatment
Rotable parts typically are significant in value and can be repaired and reused such that they typically have an expected useful life approximately equal to the aircraft they support.	Rotable parts are capitalized and classified along with flight equipment as fixed assets. Rotable parts are normally depreciated over their useful lives or the remaining service lives of the related equipment. The cost of repairing rotables is charged to expense as it is incurred.
Repairable parts are repairable and reusable but with economic useful lives generally less than the aircraft they support and values less than most rotable parts.	The Accounting Standards Executive Committee believes that repairable parts, along with certain life-limited rotable parts, can be classified as either expendables in current assets or as rotables in fixed assets. Repairable parts are normally depreciated over the lesser of their useful lives or the remaining service lives of the related equipment. The cost of repairing repairable parts is charged to expense as it is incurred.
Expendable parts cannot be economically repaired, reconditioned, or reused after removal from the aircraft.	Expendable parts are recorded as a current asset and are charged to expense as they are used or consumed in operations (that is, placed on an aircraft). Expendable parts are valued at cost, less an allowance for obsolescence.
Miscellaneous materials and supplies support flight or ground equipment.	Miscellaneous materials and supplies are either classified with expendable parts in current assets

	or are expensed upon purchase. Classification of specific parts ordinarily depends on the carrier's maintenance program.

Excerpt from AICPA Audit and Accounting Guide for Airlines

Paragraph 4.134

Operationally, when a rotable part is installed on an aircraft, the old part is taken off and replaced with a similar part from the pool of rotable parts. The removed unserviceable rotable part is repaired and then placed back in the spare parts pool for use on another aircraft after being made serviceable. The cost to repair the part is expensed as incurred. The aircraft and the related rotable parts continue to be depreciated over their estimated useful life. Until a rotable part is scrapped, it retains its functionality and just moves among various locations and aircrafts.

According to the Airline Guide, spare parts that have significant value, such as spare engines, should generally be capitalized and depreciated over their useful lives or the remaining service lives of the related equipment. Alternatively, some companies consider spare parts as a current asset (e.g., inventory) that are not depreciated, but instead expensed when they are placed in service (similar to maintenance expense). Companies should carefully consider the relevant facts and circumstances associated with their spare parts to determine whether they should be classified as long-lived assets or inventory. The policy should be consistently applied. Refer to FSP 8.6 for additional information related to classification of spare parts.

1.5.4 Liquidated damages (capital projects)

In the event that construction is not completed by an agreed upon date, or if the asset does not meet certain performance or other requirements outlined in the contract, certain construction agreements provide for the payment of liquidated damages by the contractor to the owner of the asset under construction. Liquidated damages are negotiated to represent compensation for a reasonable estimate of the buyer's (owner's) costs associated with a delay or less than expected performance and are usually specified in advance to eliminate the need for subsequent negotiation of actual costs incurred.

Any payments received by the buyer (owner) from the contractor should be presumed to be a reduction of the cost of the asset being constructed. It is generally not appropriate for the buyer of an asset to immediately recognize income for liquidated damages received from the contractor. To the extent liquidated damages are reimbursements of direct and incremental costs incurred by a buyer as a result of the contractor’s breach, and provided that the costs incurred were not capitalized by the buyer, it may in certain circumstances be acceptable to reflect such amounts in the income statement.

1.6 Government and non-customer incentives (capital projects)

Many government agencies have established programs that encourage capital investment through financial assistance programs, and these incentives can take a variety of forms. For example, a local government may offer cash grants as an incentive for a company to build a new manufacturing facility

within its municipality. Alternatively, tax incentives may be provided by the municipality to achieve the same goal.

Navigating the proper accounting treatment for government incentives can be challenging. For example, tax credits and other program incentives, including grants in lieu of tax credits, may have unique accounting issues. Reporting entities should understand the nature and conditions attached to program benefits to ensure appropriate accounting and compliance.

While government incentives can exist in many different forms and incentivize various activities, this section only discusses grants associated with projects when costs are incurred for the construction of long-lived assets that are not accounted for as income tax credits. Refer to TX 1.2.4 for tax considerations regarding government and non-customer incentives. Additionally, refer to FSP 3.10 for presentation and disclosure requirements relating to government assistance.

1.6.1 Accounting for government incentives (capital projects)

A number of foreign and domestic governmental agencies provide investment grants based on certain types of capital expenditures. Realization of these types of grants is not usually dependent on taxable income, but the grants may contain provisions requiring the fulfillment of certain operating requirements over a specified period. For example, the government may require that the recipient employ a minimum number of employees and utilize the assets to which the grant relates for a minimum period of time.

There is no specific authoritative US GAAP accounting guidance for government grants applicable to for-profit enterprises. In practice, many for-profit entities refer to IAS 20, *Accounting for Government Grants and Disclosure of Government Assistance*, for guidance in determining the appropriate accounting for government grants relating to capital projects.

1.6.1.1 Initial recognition of government incentives (capital projects)

IAS 20 provides guidance regarding the initial recognition of government grants that considers conditions attached to the grants.

IAS 20, paragraph 8

A government grant is not recognised until there is reasonable assurance that the entity will comply with the conditions attaching to it, and that the grant will be received. Receipt of a grant does not in and of itself provide conclusive evidence that conditions attaching to the grant have been or will be fulfilled.

IFRS does not define reasonable assurance. Under US GAAP, it would be difficult to justify recognition of a government grant unless the reporting entity believes it is probable that it will comply with the conditions attached to the grant and that the grant will be received. The use of "probable" is generally interpreted to be consistent with the definition of probable within ASC 450, *Contingencies*.

Specific facts and circumstances of each grant arrangement should be considered when determining whether it is probable that the reporting entity will comply with the conditions of the grant and that the grant will be received. Some questions to consider in determining when a grant should be recognized include:

- ☐ Conditions of the grant

  Have all grant conditions been met? Is there a process in place to comply with ongoing requirements and is continued compliance probable?

- ☐ Compliance audit

  If applicable, has an external audit been completed that supports the amount of the grant and compliance with grant conditions?

- ☐ Government oversight

  Are amounts received subject to audit? Are amounts received subject to adjustment after funds have been disbursed?

Depending on the type of grant, reporting entities may be subject to audit and other types of review and scrutiny by the disbursing agent at various points in the process. Timing of recognition of these awards will be based on individual facts and circumstances and will depend on the reporting entity's individual assessment of compliance with the requirements of the government grant.

1.6.1.2 Subsequent recognition - government incentives (capital projects)

Government grants should be recognized in income over the period for which the grants are intended to compensate the grantee. For capital projects, grants are generally recognized in income by the lower depreciation expense resulting from recording the grant as a reduction to the cost of an asset or amortizing it as deferred credit.

IAS 20, paragraph 12

Government grants shall be recognised in profit or loss on a systematic basis over the periods in which the entity recognises as expenses the related costs for which the grants are intended to compensate.

IAS 20, paragraph 17

In most cases the periods over which an entity recognises the costs or expenses related to a government grant are readily ascertainable. Thus grants in recognition of specific expenses are recognised in profit or loss in the same period as the relevant expenses. Similarly, grants related to depreciable assets are usually recognised in profit or loss over the periods and in the proportions in which depreciation expense on those assets is recognised.

It may be difficult to match the grant and related expense when the grant's terms do not specify the expenditure to which it relates. Project grants may be related, for example, to the project's capital expenditure costs and the number of jobs created or safeguarded. In some circumstances, the expenditures that makes the reporting entity eligible for a grant may be all of the costs incurred that are directly attributable to the project (i.e., all of the capital expenditures associated with the long-lived asset). The terms of the grant should be carefully examined to establish whether the intent is to defray costs or to establish performance conditions (e.g., local job retention). If performance conditions exist, the reporting entity should assess when those conditions have been satisfied before recognizing any income.

If grants are received based solely on a capital expenditure, they should be credited to income over the expected useful life of the asset for which the grant was received. This can be accomplished by either:

- reducing the cost of the asset by the amount of the grant, or
- treating the amount of the grant as a deferred credit.

Grants recorded as a reduction to the cost of the asset would be recognized over the useful life of a depreciable asset as reduced depreciation expense. Grants recorded as a deferred credit should be amortized over the useful life of the related asset on the same basis being used to depreciate the asset. Amortization of the deferred credit could be classified in the income statement as a component of operating expenses (e.g., depreciation) or other income.

Refer to Example PPE 1-8 for further details on recognition of a government grant for a capital project.

EXAMPLE PPE 1-8

Recognition of a government grant for a capital project

Manufacturing Corp receives a grant from a local municipality in exchange for constructing a manufacturing facility within the municipality. The grant is intended to help promote local production and create local jobs. There are no specific terms regarding employment of residents within the local municipality and the only term of the grant is that Manufacturing Corp completes construction of the manufacturing facility.

How should Manufacturing Corp account for the government grant?

Analysis

The grant obtained from the local municipality is linked to the construction of the manufacturing facility. Since there are no specific terms within the grant regarding employment, Manufacturing Corp should record the government grant as either a reduction of the fixed asset balance or a deferred credit, which would then be amortized over the useful life of the facility.

1.6.2 Conditions attached to government grants (capital projects)

When there are conditions attached to a grant, an evaluation of the conditions for retaining the grant without risk of repayment must be made to determine whether it is probable that the recipient will be able to retain the grant proceeds. This determination should initially be made at inception and continue to be evaluated throughout the operating performance period. If it is subsequently determined that the conditions for retaining the grant are no longer probable, the reporting entity should reverse the previously recorded impacts of the grant in the current period.

1.7 Real estate projects for sale or rental

In addition to the general considerations for capitalization discussed in PPE 1.2, reporting entities constructing assets for sale or rental should consider the additional guidance provided by ASC 970-360 and ASC 970-340. The guidance in ASC 970-360 and ASC 970-340 is specific to reporting entities in the real estate industry that are in the business of constructing assets for sale or rental. Factors to

consider in assessing whether a capital project was built for sale or rental are summarized in Figure PPE 1-4.

Not all of the factors in Figure PPE 1-4 are required to be present to conclude that a capital project was built for sale or rental; however, to reach such a conclusion, a long-term lease or sales agreement should generally be part of the initial design and expected use of the capital project. The existence of a short-term lease could also result in a conclusion that construction is for the purpose of sale or rental if the reporting entity has the intent and ability to renew the lease or subsequently enter into a similar agreement with another party.

Figure PPE 1-4

Evidence supporting construction for sale or rental versus entity's own use

Sale or rental	Reporting entity's own use
□ Capital project is subject to lease through a long-term purchase agreement	□ Capital project will be operated to serve retail customers
□ Capital project will be sold or leased again at the end of the lease term	□ Capital project is subject to only a short-term lease (typically less than five years) with no expectation to continue leasing
□ Capital project is constructed for purpose of immediate sale; signed sales agreement is in place	□ Capital project is designed for the owner's use

1.7.1 *Internal property acquisition costs (real estate)*

PPE 1.2.1.2 discusses the accounting treatment for costs incurred during the pre-acquisition stage. ASC 970-340 provides additional guidance regarding the accounting for internally generated pre-acquisition costs. ASC 310-20-55-9 and ASC 310-20-55-10 provide guidance on distinguishing between internal and external costs (i.e., costs related to independent third parties). Pre-acquisition costs can be incurred for the purpose of, but prior to, obtaining a real estate property. Examples of pre-acquisition costs include costs of surveying, zoning or traffic studies.

ASC 970-340-25-6 requires capitalization of internal pre-acquisition costs related to the acquisition of a property that will be classified as nonoperating at the date of acquisition (e.g., a property under construction that is not yet available for occupancy) if the costs are directly identifiable with the acquired property and if they were incurred subsequent to the time that acquisition of the property was considered probable. Internal pre-acquisition costs related to the acquisition of a property that will be classified as operating upon acquisition (e.g., a property on which significant construction activity will be completed and the property will be ready for occupancy, or a property that is already income producing) should be expensed as incurred. If portions of property are in different stages of completion, then substantially completed sections should be accounted for as a separate project and costs incurred allocated between projects (see ASC 970-340-25-17).

If a reporting entity determines that a property to be acquired that was originally expected to be classified as nonoperating will be classified as operating at the date of acquisition, previously capitalized internal pre-acquisition costs should be charged to expense and any additional costs expensed as incurred. However, if the reporting entity initially determined that a property would be

classified as operating and subsequently determines that the property will be classified as nonoperating at the date of acquisition, the internal pre-acquisition costs that were previously expensed should not be capitalized.

The guidance in ASC 970-340 related to internal acquisition costs does not address the accounting for internal acquisition costs associated with business combinations. Under ASC 805-10-25-23, acquisition costs related to a business combination should be expensed as incurred.

1.7.2 Capitalized interest, taxes, and insurance (real estate)

Property taxes and insurance costs are capitalized during the period activities are being performed to get the property ready for sale or rental and until the property is substantially complete. Per ASC 970-340-25-8, for purposes of capitalizing real estate taxes and insurance, the criteria for determining the period of capitalization should follow that used for capitalizing interest costs.

As discussed in ASC 835-20-25-3(b), capitalization should begin when (among other criteria) activities that are necessary to get the asset ready for its intended use are in progress. As indicated in ASC 835-20-20, the term “activities” is to be construed broadly and is not limited to actual construction activities. It includes all the steps required to prepare an asset for its intended use.

Under ASC 835-20-25-5, the interest capitalization period should cease no later than at the point the building is ready for its intended use, irrespective of whether the space has been leased. Capitalization of property taxes and insurance should cease at the same time as interest capitalization as stated in ASC 970-340-25-8.

Excerpt from ASC 970-340-25-8

The phrase *substantially complete and ready for its intended use* is used here with the same meaning as it has for interest capitalization in paragraph ASC 835-20-25-5.

See PPE 1.3 for further discussion regarding capitalized interest.

1.7.3 Indirect costs (real estate)

Indirect costs can be capitalized if an asset is constructed for sale or rental. If constructed for the reporting entity’s own use, indirect costs would not be capitalizable. Indirect costs are defined in ASC 970-360-20.

Definition from ASC 970-360-20

Indirect Projects Costs: Costs incurred after the acquisition of the property, such as construction administration (for example, the costs associated with a field office at a project site and the administrative personnel that staff the office), legal fees, and various office costs, that clearly relate to projects under development or construction. Examples of office costs that may be considered indirect project costs are cost accounting, design, and other departments providing services that are clearly related to real estate projects.

Reporting entities constructing property for sale or rental should have specific policies for the accumulation and capitalization of qualifying indirect costs. Indirect costs that do not clearly relate to projects under development or construction should be charged to expense as incurred. When defining and identifying the costs to be capitalized, the reporting entity should consider whether specific information is available (such as timecards) to support the allocation of overhead costs to specific projects. Furthermore, the costs incurred should be incremental costs. That is, in the absence of the project or projects under development or construction, these costs would not be incurred. It may be difficult to distinguish between indirect project costs and other costs (e.g., general and administrative expenses). When it is unclear, there is a general presumption they are not indirect project costs and would be expensed as incurred.

Indirect project costs that relate to a specific project, such as costs associated with a project field office, should be capitalized as a cost of that project. Other indirect project costs that relate to several projects, such as the costs associated with a construction administration department, should be capitalized and allocated to the projects to which the costs relate.

1.7.4 Amenities (real estate)

Amenities are common in many real estate projects. Examples of amenities include, golf courses, utility plants, clubhouses, swimming pools, tennis courts, indoor recreational facilities, and parking facilities. The accounting for the cost of amenities is based on management’s plans for the amenities, as described in ASC 970-340-25-9.

ASC 970-340-25-9

Accounting for costs of amenities shall be based on management's plans for the amenities in accordance with the following:

a. If an amenity is to be sold or transferred in connection with the sale of individual units, costs in excess of anticipated proceeds shall be allocated as common costs because the amenity is clearly associated with the development and sale of the project. The common costs include expected future operating costs to be borne by the developer until they are assumed by buyers of units in a project.

b. If an amenity is to be sold separately or retained by the developer, capitalizable costs of the amenity in excess of its estimated fair value as of the expected date of its substantial physical completion shall be allocated as common costs. For the purpose of determining the amount to be capitalized as common costs, the amount of cost previously allocated to the amenity shall not be revised after the amenity is substantially completed and available for use. A later sale of the amenity at more or less than its estimated fair value as of the date of substantial physical completion, less any accumulated depreciation, results in a gain or loss that shall be included in net income in the period in which the sale occurs.

Before an amenity is substantially completed and available for use, its operating income (or loss) should be included as a reduction of (or an addition to) common costs. When an amenity to be sold separately or retained by the developer is substantially completed and available for use, results of the amenity’s operations should be included in current operating results.

1.7.5 Ground lease expense (real estate)

ASC 842-10-55-21 provides specific guidance on the accounting for ground lease expense by a lessee during construction. This guidance prohibits a reporting entity from capitalizing such amounts in property constructed for a reporting entity's own use. However, this guidance is not applicable to real estate projects constructed for the purpose of sale or rental. Consistent with the guidance under ASC 970, we believe that ground lease expense during the construction period can be capitalized for projects built for sale or rental.

Excerpt from ASC 970-340-35-2

Topic 842 does not address whether a lessee that accounts for the sale or rental of real estate projects under Topic 970 should capitalize rental costs associated with ground and building leases.

1.7.6 Governmental and other agencies costs (real estate)

As discussed in PPE 1.2.1.3, certain direct costs to make improvements required by a governmental or other regulatory authority in order to complete a development project, whether in the form of providing the improvements to the county or paying the county to make the improvements themselves, are capitalizable as an element of the construction cost of the development. These costs would be considered incremental costs directly associated with development and should be capitalized as part of the cost of the facility; this is consistent with ASC 970-360-25-2.

Furthermore, the reporting entity may be required to donate real estate for uses that benefit the project; these costs should be allocated as common costs of the project as discussed in ASC 970-360-35-1.

ASC 970-360-35-1

Real estate donated to municipalities or other governmental agencies for uses that will benefit the project are not abandonments. The cost of the real estate donated shall be allocated as a common cost of the project.

1.7.7 Incidental operations (real estate)

Incidental operations are revenue producing activities incurred during the holding or development period, the purpose of these activities is to reduce the cost of developing the property for its intended use. This would not include activities related to the intended use of the property. The guidance related to incidental operations does not include activities related to amenities, the guidance for amenities is discussed in PPE 1.7.4.

Consistent with the guidance in ASC 970-340-25-12, incremental revenue from incidental operations in excess of incremental costs should be accounted for as a reduction of capitalized project costs. Any incremental costs exceeding incremental revenues should be charged to expense as incurred because the incidental operations did not achieve the objective of reducing the cost of developing the property for its intended use. It should be noted that incremental costs include only those costs incurred because of incidental operations. Interest, taxes, security, and similar costs that are incurred during the development of project and regardless of the incidental operations are not considered to be incremental costs.

1.7.8 Development and construction cost allocation (real estate)

Real estate project costs, such as pre-acquisition costs, indirect project costs, development and construction costs, amenities, property taxes, and insurance, are assigned to individual components of the project based on specific identification, when practical. If specific identification is not practical, capitalized costs should be allocated as described in ASC 970-360-30-1.

ASC 970-360-30-1

The capitalized costs of real estate projects shall be assigned to individual components of the project based on specific identification. If specific identification is not practicable, capitalized costs shall be allocated as follows:

a. Land cost and all other common costs, including the costs of amenities to be allocated as common costs per paragraphs 970-340-25-9 through 25-11 (before construction), shall be allocated to each land parcel benefited. Allocation shall be based on the relative fair value before construction.

b. Construction costs shall be allocated to individual units in the phase on the basis of relative sales value of each unit.

If allocation based on relative value also is impracticable, capitalized costs shall be allocated based on area methods (for example, square footage) or other value methods as appropriate under the circumstances.

Real estate projects are often developed and the units sold out over a period of years. In large projects, common costs that are allocated to all units, such as the cost of roads and sewer treatment plants, may not be incurred until several years after units begin to be sold. For accounting purposes, such costs should be allocated to individual units and are therefore costs of sales (assuming the developer can provide reasonable estimates of the costs to be incurred in the future).

The determination of the amount of costs to be capitalized (e.g., interest, property taxes) and the allocation of common costs (e.g., roads, infrastructure development) is in part dependent on how projects or phases within a development are defined. The guidance in ASC 970-360-20 should be considered when determining the distinguishable portions of a real estate project or phase. For example, a planned residential community may be geographically divided in half by a highway. The developer may plan to begin construction on the east side and move to the west side when the east has been substantially sold out. If the entire development is defined as a single project, both the east and west sides would be, assuming they met the requirements, qualifying assets for purposes of interest capitalization. If, however, each side was considered a separate project and "activities," as defined by ASC 835-20-20, were only underway on the east side, the west side would not be considered a

qualifying asset. This would require a relative fair value allocation to the east and west sides for purposes of determining the east side qualifying asset amount. As the scope of a project is expanded and the period of development extended, a reporting entity's ability to estimate future costs to complete becomes more critical. Estimates and cost allocations should be reviewed at the end of each financial reporting period as discussed in ASC 970-340-35-1.

ASC 970-340-35-1

Estimates and cost allocations shall be reviewed at the end of each financial reporting period until a project is substantially completed and available for sale. Costs shall be revised and reallocated as necessary for material changes on the basis of current estimates. Changes in estimates shall be reported in accordance with paragraphs 250-10-45-17 through 45-20 and 250-10-50-4.

1.7.9 Costs incurred to sell or rent real estate

Following the adoption of ASC 606, costs incurred to sell real estate projects (e.g., model units and their furnishings, sales facilities, advertising, sales salaries) should be evaluated for capitalization following the guidance in ASC 340-40-25-1 though ASC 340-40-25-8. For further details on contract costs, see RR 11.

Costs incurred to rent real estate projects (e.g., model units and their furnishings, rental facilities, advertising, rental salaries) should be evaluated for capitalization following the guidance in ASC 970-340-25-16.

ASC 970-340-25-16

If costs incurred to rent real estate projects, other than initial direct costs, under operating leases or direct financing leases are related to and their recovery is reasonably expected from future rental operations, they shall be capitalized. Examples are costs of model units and their furnishings, rental facilities, semipermanent signs, grand openings, and unused rental brochures. Costs that do not meet the criteria for capitalization shall be expensed as incurred, for example, rental overhead. Initial direct costs are defined in Topic 842 and the accounting for initial direct costs is prescribed in that Topic.

The guidance in ASC 970-340 does not apply to the accounting for initial direct costs, which is included in ASC 842. Prior to adoption of ASC 842, the guidance related to initial direct costs is included in ASC 310 and ASC 840-20. Under ASC 842, initial direct costs are defined as incremental costs of a lease that would not have been incurred if the lease had not been obtained. See LG 4 for details regarding the accounting for initial direct costs under ASC 842.

As discussed in ASC 970-340-35-2, capitalized rental costs directly related to a lease should be amortized over the term of the lease. Capitalized rental costs not directly related to a lease should be amortized over the period of expected benefit. The amortization period should begin when the project is substantially complete and held available for occupancy.

1.7.10 Changes in use and demolition considerations (real estate)

ASC 970-360-35-2 provides additional guidance related to capitalization of costs related to the change in use of real estate acquired for development. This guidance only applies to properties that are acquired with the intention to redevelop within a reasonable period of time. It would not be appropriate to apply this guidance for redevelopment of properties that were previously in use by the reporting entity as operating properties. For additional guidance related to demolition costs, see PPE 1.2.1.3.

If a reporting entity plans to demolish all or a portion of a building previously in use, the guidance on long-lived asset abandonments should be followed (see PPE 6.4.1 for further information). The property should be assessed for impairment and the remaining useful life and salvage value should be evaluated and updated if appropriate. See PPE 5 for information on impairments.

Chapter 2:
Asset acquisitions

2.1 Asset acquisitions: chapter overview and scope – updated November 2021

Entities may choose to acquire assets, rather than construct or develop them through capital projects. This chapter discusses the accounting for acquisitions of an asset or group of assets in accordance with ASC 805-50.

Determining whether a transaction represents an asset acquisition or a business combination is a critical step as there are significant differences in the accounting. Most significantly, asset acquisitions are accounted for using a cost accumulation model, with the cost of the acquisition allocated to the acquired assets based on their relative fair values. In contrast, business combinations are accounted for using a fair value model, with any excess consideration transferred recognized as goodwill. See PPE 2.7 for a summary of significant accounting differences between asset acquisitions and business combinations.

Before applying the asset acquisition guidance of ASC 805-50, a reporting entity must first determine whether an acquired set represents (1) a business or (2) an asset or group of assets. See BCG 1 for the accounting for transactions that are within the scope of ASC 805 and a discussion of the difference between an acquisition of a business and an acquisition of an asset or group of assets.

A change in interest of a subsidiary that is not a business or a nonprofit that does not result in loss of control should be accounted for as an equity transaction. Therefore, no gain or loss should be recognized in the income statement. The difference between the fair value of the consideration paid (received) and the related carrying value of the NCI acquired (sold) should be recognized in the controlling entity's equity/APIC. The carrying value of the NCI obtained should be reclassified to the controlling entity's equity. The carrying value of the controlling interest sold should be reclassified from the controlling entity's equity to NCI. See PPE 6.2.4.1 for additional information.

2.1.1 Asset acquisitions scope exception–variable interest entities

Pursuant to ASC 805-50-15-4, the guidance for asset acquisitions in ASC 805-50 does not apply to a reporting entity that is the primary beneficiary of a variable interest entity (VIE) when the VIE does not meet the definition of a business. Instead, the primary beneficiary should follow the guidance in ASC 810-10-30-3 through ASC 810-10-30-4 to initially consolidate a VIE that is not a business. See CG 2.5 for additional information.

2.2 Initial recognition (asset acquisitions)

If an acquisition of an asset or group of assets does not meet the definition of a business under ASC 805-10, the transaction is accounted for as an asset acquisition in accordance with ASC 805-50, unless other GAAP applies (e.g., ASC 845 or ASC 610-20).

An asset acquisition triggers the initial recognition of assets acquired and may include liabilities assumed. An asset acquisition may or may not involve the acquisition of one or more legal entities. Assets are usually acquired through an exchange transaction, which can be a monetary or a nonmonetary exchange. Assets acquired and liabilities assumed are recognized at cost, which is the consideration the acquirer transfers to the seller, including direct transaction costs, on the acquisition date.

If consideration given is in the form of nonfinancial or in substance nonfinancial assets included in the scope of ASC 610-20, the assets acquired are measured on the contract inception date in accordance with the guidance in ASC 606-10-32-21 through ASC 606-10-32-24.

Goodwill is not recognized in an asset acquisition. The presence of excess consideration transferred may indicate that not all assets acquired have been recognized or that there are preexisting relationships being settled with the transaction that should be accounted for separately. See PPE 2.3.6 for additional information on evaluating transactions that should be accounted for separate from an asset acquisition.

2.2.1 Reverse acquisitions (asset acquisitions)

Reverse acquisitions require unique accounting and reporting considerations. Depending on the facts and circumstances, these transactions can be asset acquisitions, capital transactions, or business combinations. A reverse asset acquisition is an asset acquisition transaction in which the legal acquiree is determined to be the accounting acquirer and vice versa.

Like other asset acquisitions, reverse asset acquisitions should be accounted for following ASC 805-50. However, if the accounting acquiree meets the definition of a business, it would be appropriate to evaluate the transaction as a business combination. See BCG 2.10 for further information on accounting for reverse acquisitions accounted for as a business combination. If the accounting acquiree does not meet the definition of a business, the reporting entity must consider whether reverse asset acquisition accounting is appropriate, or if the legal form of the transaction should be followed.

2.3 Initial measurement (asset acquisitions) – updated November 2021

Once an acquirer determines that a transaction is an asset acquisition, the acquirer should measure the assets acquired and liabilities assumed based on their cost to the acquiring entity, which includes consideration the acquirer transfers to the seller and direct transaction costs. The cost of the acquisition is then allocated to the assets acquired based on their relative fair values (see PPE 2.4 for information on allocation). An asset's acquisition cost or the consideration transferred by the acquiring entity is assumed to be equal to the fair value of the net assets acquired, unless contrary evidence exists.

Most asset acquisitions involve exchanges of cash or other monetary assets for the assets acquired and thus determining the cost of the acquisition is straightforward. The amount of monetary assets or liabilities exchanged in an asset acquisition generally provides an objective basis for measuring the fair value of the assets acquired. Accordingly, if the consideration transferred is in the form of cash or other monetary assets, recognition and measurement of the acquired assets is based on the amount of cash or other monetary assets paid to the seller, in addition to direct transaction costs incurred. If the consideration transferred is in the form of liabilities incurred or equity interests issued to the seller, these amounts should generally be recognized on the acquisition date.

If the consideration transferred is in the form of nonfinancial or in substance nonfinancial assets within the scope of ASC 610-20, the assets transferred should be derecognized in accordance with that guidance and the assets acquired should be treated as noncash consideration. For recognition and measurement of asset acquisitions in which consideration transferred consists of nonfinancial assets or in substance nonfinancial assets, see PPE 2.3.1 and PPE 2.3.1.1.

2.3.1 Noncash consideration (asset acquisitions)

ASC 805-50-30-1 through ASC 805-50-30-2 provide the principles for recognition and measurement of noncash consideration transferred in an asset acquisition.

Excerpt from ASC 805-50-30-1

For transactions involving nonmonetary consideration within the scope of Topic 845, an acquirer must first determine if any of the conditions in paragraph 845-10-30-3 apply. If the consideration given is nonfinancial assets or in substance nonfinancial assets within the scope of Subtopic 610-20 on gains and losses from the derecognition of nonfinancial assets, the assets acquired shall be treated as noncash consideration and any gain or loss shall be recognized in accordance with Subtopic 610-20.

ASC 805-50-30-2

Asset acquisitions in which the consideration given is cash are measured by the amount of cash paid, which generally includes the transaction costs of the asset acquisition. However, if the consideration given is not in the form of cash (that is, in the form of noncash assets, liabilities incurred, or equity interests issued) and no other generally accepted accounting principles (GAAP) apply (for example, Topic 845 on nonmonetary transactions or Subtopic 610-20), measurement is based on either the cost which shall be measured based on the fair value of the consideration given or the fair value of the assets (or net assets) acquired, whichever is more clearly evident and, thus, more reliably measurable. For transactions involving nonmonetary consideration within the scope of Topic 845, an acquirer must first determine if any of the conditions in paragraph 845-10-30-3 apply. If the consideration given is nonfinancial assets or in substance nonfinancial assets within the scope of Subtopic 610-20, the assets acquired shall be treated as noncash consideration and any gain or loss shall be recognized in accordance with Subtopic 610-20.

For asset acquisitions in which some or all of the consideration transferred consists of noncash assets, liabilities incurred to the seller, or equity interests issued to the seller, reporting entities should first determine whether the transaction is within the scope of other US GAAP. ASC 805-50-30-2 specifically provides ASC 845 and ASC 610-20 as examples of other US GAAP that may apply to these transactions (see PPE 2.3.1.1). Additionally, when a reporting entity acquires assets by issuing equity interests to the seller, the reporting entity can elect to apply the measurement guidance in ASC 805-50 or the guidance in ASC 718. See SC 7.2 for information on the application of ASC 718.

2.3.1.1 Nonmonetary consideration transferred (asset acquisitions)

When an asset acquisition involves nonmonetary consideration, ASC 805-50-30-1 indicates that the acquirer must first determine if any of the conditions in ASC 845-10-30-3 through ASC 845-10-30-4 apply to the transaction.

ASC 845-10-30-3

A nonmonetary exchange shall be measured based on the recorded amount (after reduction, if appropriate, for an indicated impairment of value as discussed in paragraph 360-10-40-4) of the nonmonetary asset(s) relinquished, and not on the fair values of the exchanged assets, if any of the following conditions apply:

a. The fair value of neither the asset(s) received nor the asset(s) relinquished is determinable within reasonable limits.

b. The transaction is an exchange of a product or property held for sale in the ordinary course of business for a product or property to be sold in the same line of business to facilitate sales to customers other than the parties to the exchange.

c. The transaction lacks commercial substance (see the following paragraph).

ASC 845-10-30-4

A nonmonetary exchange has commercial substance if the entity's future cash flows are expected to significantly change as a result of the exchange. The entity's future cash flows are expected to significantly change if either of the following criteria is met:

a. The configuration (risk, timing, and amount) of the future cash flows of the asset(s) received differs significantly from the configuration of the future cash flows of the asset(s) transferred. The configuration of future cash flows is composed of the risk, timing, and amount of the cash flows. A change in any one of those elements would be a change in configuration.

b. The entity-specific value of the asset(s) received differs from the entity-specific value of the asset(s) transferred, and the difference is significant in relation to the fair values of the assets exchanged. An entity-specific value (referred to as an entity-specific measurement in FASB Concepts Statement No. 7, Using Cash Flow Information and Present Value in Accounting Measurements) is different from a fair value measurement. As described in paragraph 24(b) of Concepts Statement No. 7, an entity-specific value attempts to capture the value of an asset or liability in the context of a particular entity. For example, an entity computing an entity-specific value of an asset would use its expectations about its use of that asset rather than the use assumed by marketplace participants. If it is determined that the transaction has commercial substance, the exchange would be measured at fair value, rather than at the entity-specific value.

A qualitative assessment will, in some cases, be conclusive in determining that the estimated cash flows of the entity are expected to significantly change as a result of the exchange.

Transactions included in the scope of ASC 845 are limited and primarily include (1) exchanges of products or property held for sale in the ordinary course of business (i.e., inventory) for other inventory in the same line of business, and (2) exchanges of long-lived assets that are not substantive (i.e., the transaction lacks commercial substance). If any of the conditions described in ASC 845-10-30-3 are met, the acquirer would measure the cost of the acquired assets based on the carrying amount of the nonmonetary assets transferred, rather than fair value. Accordingly, no gain or loss (aside from impairment, as applicable) would be recognized on the transaction.

If the transaction does not meet any of the conditions in ASC 845-10-30-3, and the consideration transferred is in the form of nonfinancial assets or in substance nonfinancial assets (see PPE 6.2.2.5), the acquirer should recognize the transaction in accordance with ASC 610-20. Under this guidance, the assets acquired by the acquirer are treated as noncash consideration and a gain or loss, if any, is recognized by the acquirer in accordance with ASC 610-20. See PPE 6.2 for information on recognizing and measuring transactions in accordance with ASC 610-20.

If the transaction is not within the scope of ASC 845, ASC 610-20, or other relevant US GAAP, the measurement principles of ASC 805-50-30-2 should be applied. Under this guidance, the cost of the acquired assets would be measured based on either (1) the fair value of the consideration transferred,

or (2) the fair value of the assets acquired, whichever is more clearly evident and thus more reliably measurable.

2.3.2 Transaction costs (asset acquisitions)

Direct transaction costs incurred by the acquirer in an asset acquisition are generally a component of the consideration transferred and are therefore capitalized as part of the cost of the assets acquired in accordance with ASC 805-50-30-1. Direct transaction costs include those third-party costs that can be directly attributable to the asset acquisition and would not have been incurred absent the acquisition transaction. Examples of direct transaction costs may include third-party finders' fees, advisory, legal, accounting, valuation, and other professional service fees. Internal acquisition-related costs should be expensed as incurred.

Debt and equity issuance costs incurred relating to an asset acquisition within the scope of other GAAP should not be capitalized as a component of the cost of the assets acquired. Instead, financing costs relating to the issuance of debt should be recognized as a reduction of the debt balance in accordance with ASC 835-30-45-1A, and financing costs relating to the issuance of equity securities should reduce the proceeds received from the issuance.

2.3.3 Contingent consideration arrangements (asset acquisitions)

Asset acquisitions may include contingent consideration, which represents an obligation of the acquirer to transfer additional assets or equity interests to the seller if future events occur or conditions are met. Obligations of the acquirer to transfer additional assets or equity interests based only upon the passage of time do not represent contingent consideration and instead may represent seller financing.

There is no specific guidance within ASC 805-50 for the recognition and measurement of contingent consideration obligations in an asset acquisition. We believe that contingent consideration in an asset acquisition that is not accounted for under other US GAAP (e.g., as a derivative under ASC 815) should be recognized when probable and reasonably estimable, by analogy to ASC 450-20.

Contingent consideration recognized should be included in the initial cost of the assets acquired. Subsequent changes in the recorded amount of contingent consideration should generally be recognized as an adjustment to the cost basis of the acquired assets, by analogy to ASC 323-10-35-14A and ASC 360-10-30-1. These subsequent changes should be allocated to the acquired assets based on their relative fair value.

A change in contingent consideration impacts the cost basis of acquired assets, which may also impact the income statement through subsequent accounting for the acquired asset. We are aware of diversity in practice regarding the subsequent treatment of the income statement effect of changes to the cost basis of the acquired assets. We generally believe the depreciation or amortization of these assets should be recognized as a cumulative "catch up" adjustment, as if the additional amount of consideration that is no longer contingent had been accrued from the outset of the arrangement.

2.3.4 Noncontrolling interest (asset acquisitions)

A noncontrolling interest (NCI) is the equity interest in a subsidiary that is not attributable, directly or indirectly, to the parent. NCIs may arise in an asset acquisition when the acquirer obtains a controlling financial interest, but less than 100%, of an entity that does not meet the definition of a business.

There is no specific guidance within ASC 805-50 for the recognition and measurement of NCI in an asset acquisition. We believe the acquirer can make an accounting policy election on the acquisition date to either:

- follow the guidance for business combinations and measure NCI at fair value on the date of acquisition in accordance with ASC 805-30-30-1; or
- follow the asset acquisition cost accumulation and allocation model and record the NCI at its carrying amount.

Example PPE 2-1 illustrates the recognition and measurement of an asset acquisition with a noncontrolling interest.

EXAMPLE PPE 2-1

Asset acquisition with a noncontrolling interest

Company A acquires a 90% controlling interest in a legal entity whose only asset is a patent. Company A pays $9 million in cash and $100,000 in direct transaction costs. Company B, the seller, retains a 10% noncontrolling interest in the legal entity. Company A determines that the transaction should be accounted for as an asset acquisition, as the legal entity acquired does not constitute a business. Company A has previously made an accounting policy election to analogize to the business combinations guidance and measure noncontrolling interests at fair value on the date of acquisition. Company A has determined that the fair value of the noncontrolling interest is $1 million.

How should Company A account for the asset acquisition, including the noncontrolling interest?

Analysis

Company A should recognize and measure the acquired patent at a total cost of $10.1 million, consisting of (1) $9 million of cash consideration transferred, (2) $100,000 of direct transaction costs, and (3) $1 million fair value of noncontrolling interest. Company A would also recognize the noncontrolling interest at its acquisition date fair value of $1 million.

2.3.5 *Previously held equity interests (asset acquisitions)*

An acquirer may obtain control of an asset or group of assets through acquisition of a controlling interest in a legal entity in which it previously held a noncontrolling equity interest immediately prior to the acquisition. There is no specific guidance within ASC 805-50 on the accounting for previously held equity interests (PHEI) in this fact pattern, and as a result there is diversity in practice regarding the treatment of PHEI when the acquisition is determined to be an asset acquisition rather than a business combination.

We believe the acquirer in an asset acquisition should choose one of the following accounting policy elections on the acquisition date:

- Follow the guidance for business combinations (ASC 805-30-30-1) and remeasure the PHEI to fair value immediately prior to the asset acquisition, with a corresponding gain or loss recognized in the income statement. The fair value of the PHEI, along with the fair value of any consideration paid and direct transaction costs incurred, would be included in determining the cost to be allocated to the assets acquired.

- Follow the asset acquisition cost accumulation model and include the acquirer's carrying amount of the PHEI, along with the fair value of any consideration paid and direct transaction costs incurred, in determining the cost to be allocated to the assets acquired.

In the absence of guidance for previously held equity interests in an asset acquisition, other measurement considerations may be acceptable (e.g., iterative equation). Example PPE 2-2 illustrates the recognition and measurement of an asset acquisition when the acquirer previously held a noncontrolling equity interest.

EXAMPLE PPE 2-2

Asset acquisition with previously held equity interest

Company A holds a 25% noncontrolling interest in a legal entity whose only asset is a patent. The carrying value of Company A's investment is $100,000 and its fair value is $500,000. Company A acquires the remaining 75% interest in the legal entity for $1.5 million in cash; there were no direct transaction costs incurred. Company A determines that the transaction should be accounted for as an asset acquisition, as the legal entity acquired does not constitute a business. Company A has previously made an accounting policy election to analogize to the business combinations guidance in remeasuring previously held equity interests in an asset acquisition.

How should Company A account for the asset acquisition, including the previously held equity interest (PHEI)?

Analysis

Immediately prior to the acquisition, Company A would remeasure the PHEI to fair value, recognizing a gain on remeasurement of $400,000 ($500,000 acquisition date fair value less carrying value of $100,000). Company A would then recognize and measure the acquired patent at a total cost of $2 million, consisting of (1) $1.5 million of cash consideration transferred and (2) the $500,000 fair value of PHEI on the acquisition date.

2.3.6 Separate transactions (asset acquisitions)

The acquirer and the seller in an asset acquisition may enter into separate arrangements at or near the time of the asset acquisition. Such arrangements should be accounted for separate from the asset acquisition. That is, the consideration attributed to the acquired assets and assumed liabilities should only include the amounts related to those acquired assets and assumed liabilities in the exchange transaction. Any consideration relating to separate transactions (e.g., preexisting relationships) would be attributed to those transactions and accounted for separately. Consideration transferred should be allocated between the asset acquisition transaction and any separate transactions on a relative fair value basis.

Judgment is required to determine the elements of an arrangement that should be accounted for as part of the exchange transaction and elements that should be accounted for separately. In making this determination, we believe the acquirer in an asset acquisition should consider (1) the reasons for the transaction, (2) who initiated the transaction, and (3) the timing of the transaction, by analogy to the guidance for business combinations in ASC 805-10-55-18.

Example PPE 2-3 illustrates the allocation of consideration transferred on a relative fair value basis between an asset acquisition and a transition service arrangement entered into on the acquisition date.

EXAMPLE PPE 2-3

Asset acquisition and transition service agreement

Company A acquires a group of assets that does not constitute a business for $100 million from Company B. The fair value of the group of assets is $95 million. Concurrent with the asset acquisition, Company A and Company B enter into a transition service agreement (TSA), under which Company B agrees to provide certain services to Company A for a period of one year after the asset acquisition at no cost to Company A. Company A estimates the fair value of the services to be provided under the TSA to be $5 million.

How should Company A account for the services to be received under the TSA?

Analysis

On the date of the acquisition, Company A should allocate the transaction price of $100 million between the acquired group of assets and the TSA with Company B on a relative fair value basis. Although the TSA stipulates that the services will be performed by Company B at no cost to Company A, the substance of the transaction is that a portion of the consideration for the purchase of the assets relates to the transition services that will be provided in the future.

Accordingly, $95 million of the consideration transferred would be allocated to the group of assets acquired and $5 million would be allocated to the TSA, based on their relative fair values. The $5 million allocated to the TSA would be recognized as an asset for the prepayment of the services and would be expensed as the services are provided over a one-year period.

2.3.6.1 Preexisting relationships (asset acquisitions)

The acquirer and seller in an asset acquisition may have a preexisting relationship before negotiations for the exchange transaction begin that is effectively settled as a result of the asset acquisition. There is no guidance outside of a business combination for the settlement of preexisting relationships. However, we believe settlement gains and losses relating to preexisting relationships should generally be recognized in the income statement consistent with the guidance for business combinations in ASC 805-10-55-21.

For example, assume Company A is a defendant in litigation relating to a patent infringement claim brought by Company B. If Company A subsequently buys the intellectual property that is subject to the patent infringement from Company B, Company A would need to assess whether some of the consideration transferred should be accounted for separate from the asset acquisition transaction for the settlement of a preexisting relationship (i.e., ascribe some of the value to the effective settlement of the lawsuit). If a portion of the consideration transferred is for the settlement of a preexisting relationship, the consideration transferred would be allocated to the asset acquisition and settlement of the litigation on a relative fair value basis, since the preexisting relationship is noncontractual. See BCG 2.7.2 for additional information on the guidance for recognizing gains or losses on the settlement of noncontractual and contractual preexisting relationships.

2.4 Allocating cost in an asset acquisition

After the cost of a group of assets in an asset acquisition is determined, it is allocated to the assets acquired based on their relative fair values as described in ASC 805-50-30-3. This may result in (1) the

cost of the asset acquisition exceeding the fair value of the acquired assets or (2) the cost of the asset acquisition being less than the fair value of acquired assets. Significant differences between the cost of an asset acquisition and the fair value of the assets acquired and liabilities assumed may indicate that not all assets acquired and liabilities assumed have been recognized or that there are transactions that should be recognized separate from the asset acquisition.

2.4.1 Cost of asset acquisition exceeds fair value

When the acquirer believes that the cost of an asset acquisition exceeds the fair value of the assets acquired and liabilities assumed, the acquirer should (1) confirm that all acquired assets (including intangible assets) have been identified and recognized, (2) confirm that the fair values of the assets acquired and liabilities assumed have been appropriately measured, and (3) reassess whether there are any transactions (e.g., settlement of preexisting relationships) that should be recognized separate from the asset acquisition. See PPE 2.3.6 for additional information on recognizing separate transactions.

Once these steps are performed, the cost of the asset acquisition may still exceed the fair value of the individual assets acquired and liabilities assumed. This may be due to synergies existing among the acquired assets. Unlike in a business combination, goodwill is not recognized in an asset acquisition. Instead, any excess cost over fair value should generally be allocated to the acquired assets on a relative fair value basis. This may result in certain assets being recognized in excess of their fair values, as measured in accordance with ASC 820.

However, not all of the assets acquired should be allocated a portion of the fair value of consideration transferred, as this could result in an immediate impairment. Specifically, financial assets (excluding equity-method investments) and other assets subject to recurring fair value impairment testing (e.g., indefinite-lived intangible assets, assets held-for-sale) should not be allocated a portion of the excess consideration above their fair values. Additionally, any deferred tax assets arising from the asset acquisition should not be allocated a portion of the excess consideration above fair value.

Example PPE 2-4 illustrates the allocation of consideration in an asset acquisition when the cost of the acquisition exceeds the fair value of the acquired assets.

EXAMPLE PPE 2-4

Measurement and allocation of cost in an asset acquisition – cost exceeds fair value

Company X acquires machinery, a building, land, and an indefinite-lived tradename in exchange for cash consideration of $30 million. Company X also incurs direct transaction costs of $500,000. The fair value of each of the acquired assets is as follows:

- Machinery - $3 million
- Building - $20 million
- Land - $5 million
- Indefinite-lived tradename - $1 million

Company X concludes that the acquired assets do not constitute a business and instead represent an asset acquisition. How should the asset acquisition be recognized and measured?

Analysis

Company X would allocate total consideration transferred, inclusive of $30 million in cash paid to the seller and $500,000 of direct transaction costs, to the acquired assets based on their relative fair value. However, the indefinite-lived tradename would not be allocated cost above its acquisition date fair value of $1 million, since it will be subject to recurring fair value impairment testing. Accordingly, the cost of the acquisition would be allocated as follows:

Acquired asset	Fair value	Percent of fair value* (A)	Acquisition cost, excl. tradename (B)	Allocated cost (A * B)
Machinery	$3,000,000	11%	$29,500,000	$3,160,714
Building	20,000,000	71%	$29,500,000	21,071,429
Land	5,000,000	18%	$29,500,000	5,267,857
Indefinite-lived tradename	1,000,000	N/A	N/A	1,000,000
	$29,000,000			$30,500,000

*Because the indefinite-lived tradename is not recognized at an amount in excess of its fair value, percentages are calculated based on eligible assets (i.e., machinery, building, and land).

2.4.2 *Cost of asset acquisition is less than fair value*

In certain scenarios, the cost of an asset acquisition may be less than the fair value of the individual assets acquired and liabilities assumed. When this occurs, the acquirer should (1) confirm that all liabilities assumed have been identified and recognized, (2) confirm that the fair values of the assets acquired and liabilities assumed have been appropriately measured, and (3) reassess whether there are any transactions (e.g., settlement of preexisting relationships) that should be recognized separate from the asset acquisition. See PPE 2.3.6 for additional information on recognizing separate transactions.

Once these steps are performed, the cost of the asset acquisition may still be less than the fair value of the individual assets acquired and liabilities assumed. However, because the measurement principle for asset acquisitions is based on a cost accumulation model, a bargain purchase gain should generally not be recognized in an asset acquisition. Instead, we believe the benefit should reduce the basis of the nonmonetary long lived assets acquired. The benefit would be allocated using the relative fair value. However, any assets for which the subsequent application of GAAP would result in an immediate gain (e.g., financial assets, assets held for sale) should not be allocated a portion of the cost below fair value.

Example PPE 2-5 illustrates the allocation of consideration in an asset acquisition when the cost of the acquisition is less than the fair value of the acquired assets.

EXAMPLE PPE 2-5

Measurement and allocation of cost in an asset acquisition – cost is less than fair value

Company X acquires machinery, a building, land, and common stock (in a separate, publicly traded company) in exchange for cash consideration of $20 million. Company X incurs direct transaction costs of $2 million. The fair value of each of the acquired assets are:

- Machinery - $3 million
- Building - $20 million
- Land - $5 million
- Common stock - $1 million

Company X concludes that the acquired assets do not constitute a business and instead represent an asset acquisition. The common stock will be accounted for under ASC 321 subsequent to the asset acquisition. How should the asset acquisition be recognized and measured?

Analysis

Company X would allocate total consideration transferred, inclusive of $20 million in cash paid to the seller and $2 million of direct transaction costs, to the acquired assets based on their relative fair value. Although the cost of the acquisition is less than the fair value of the individual assets acquired, a bargain purchase gain should not be recognized in an asset acquisition. Instead, Company X would recognize the benefit as a reduction to the relative fair values of the nonmonetary long-lived assets acquired. The common stock would not be allocated a portion of the benefit since common stock is a financial asset subject to recurring fair value measurement under ASC 321. Accordingly, the cost of the acquisition would be allocated as follows:

Acquired asset	Fair value	Percent of fair value* (A)	Acquisition cost, excl. common stock (B)	Allocated cost (A * B)
Machinery	$3,000,000	11%	$21,000,000	$2,250,000
Building	20,000,000	71%	$21,000,000	15,000,000
Land	5,000,000	18%	$21,000,000	3,750,000
Common stock	1,000,000	N/A	N/A	1,000,000
	$29,000,000			$22,000,000

*Because the common stock is a financial asset subject to recurring fair value measurement, and should not be recognized below fair value, percentages are calculated based on eligible assets (i.e., machinery, building, and land).

2.4.3 Contingent consideration arrangements with IPR&D (asset acquisitions)

As described in PPE 2.3.3, contingent consideration generally represents an obligation of the acquirer to transfer additional consideration to the seller if future events occur or conditions are met. It is often used to enable the buyer and seller to agree on the terms of an exchange when there are differing views on the value of the assets. Some acquisitions involve the purchase of in process research and development (IPR&D). Sometimes, the seller in an IPR&D exchange transaction continues to provide R&D services for a specified period following the transaction. In this scenario, the acquirer in the asset acquisition should determine which elements relate to the exchange transaction and which should be accounted for as a service transaction separate from the asset acquisition. See PPE 2.3.6 for additional information on transactions that are accounted for separate from an asset acquisition.

IPR&D acquisitions typically include an upfront payment and future contingent milestone payments based on the future success of the output of the IPR&D. As required by ASC 730, the portion of the purchase price allocated to IPR&D should be expensed immediately if it has no alternative future use. The acquirer would recognize the contingent milestone payments when probable and reasonably estimable, assuming the contingent consideration is not a derivative. Depending on the status of the IPR&D at the time of the contingent milestone payment, the acquirer may determine it appropriate to capitalize the payment as an intangible asset if the IPR&D meets the definition of an asset.

Example PPE 2-6 illustrates the accounting for contingent consideration related to IPR&D in an asset acquisition.

EXAMPLE PPE 2-6

Contingent consideration related to IPR&D in an asset acquisition

Company A, a pharmaceutical company, acquires IPR&D assets (that do not meet the definition of a business) related to an early stage drug candidate for $10 million. The IPR&D assets are acquired for a specific treatment and do not have an alternative future use. Company A agrees to pay a $2 million milestone payment to the seller if the drug candidate completes phase 2 trials within one year from the date of acquisition. Company A also agrees to pay a $5 million milestone payment to the seller if the drug receives FDA approval within three years from the date of acquisition. Nine months after the transfer of the assets to Company A, the drug candidate is successful in its phase 2 trials. Two years after the transfer of assets to Company A, the FDA approves the drug for commercial sales. For illustrative purposes, assume the contingent payments do not meet the definition of a derivative.

How should Company A account for the asset acquisition of IPR&D assets?

Analysis

Company A should expense the $10 million upfront payment made to acquire the IPR&D assets. The transaction is an asset acquisition and the IPR&D assets have no alternative future use; thus, the amount paid for the IPR&D assets should be expensed in accordance with ASC 730. The entry to record the transaction would be (in millions):

Dr. Expense	$10	
Cr. Cash		$10

When it is probable that the early stage drug candidate will successfully complete its phase 2 trials, Company A would recognize a liability and corresponding expense of $2 million. At the time of the contingent payment, the drug candidate still has no alternative future use, and thus it does not yet meet the definition of an asset. The entry to record the transaction would be (in millions):

Dr. Expense	$2	
Cr. Contingent consideration liability		$2

When the drug candidate receives FDA approval, Company A would recognize a liability of $5 million for the milestone payment owed to the seller. However, at this point the drug is commercially viable and Company A would likely determine the drug meets the definition of an asset. Accordingly, Company A would capitalize the costs associated with this milestone payment. The entry to record the transaction would be (in millions):

Dr. Intangible asset – IPR&D	$5	
Cr. Contingent consideration liability		$5

2.5 Subsequent accounting after an asset acquisition

The subsequent accounting for an asset or liability is based on the nature of the asset or liability, not the manner of its acquisition. The basis for measuring the asset or liability, whether cost or fair value, has no impact on the accounting of the asset or liability after acquisition, as described in ASC 805-50-35-1.

2.6 Disclosures related to asset acquisitions

There are no specific disclosures required by ASC 805-50 for acquisitions of assets that do not meet the definition of a business. However, reporting entities should follow the disclosure requirements in accordance with other US GAAP based on the nature of the assets acquired or liabilities assumed (e.g., ASC 350 for intangible assets, ASC 845 for nonmonetary transactions, ASC 450 for contingencies). See PwC's *Financial Statement Presentation* guide for further information.

2.7 Accounting for asset acquisitions versus business combinations

Figure PPE 2-1 compares asset acquisitions and business combinations. This figure is not intended to address all accounting similarities or differences. Since ASC 805-50 provides limited guidance on the accounting for acquisitions of assets that do not meet the definition of a business, we believe asset acquisitions should follow other sources of guidance, including other US GAAP. Other US GAAP includes guidance in ASC 805 for business combinations (to the extent it does not contradict the cost accumulation model) and other areas (e.g., ASC 350 for intangible assets). In the absence of guidance included in the FASB's Accounting Standards Codification, we believe it may also be appropriate to consider the concepts in superseded guidance, including FAS 141 and APB 16.

Figure PPE 2-1
Comparison of asset acquisitions and business combinations

Topic	Business combinations	Asset acquisitions
Assembled workforce	An assembled workforce does not qualify as an identifiable intangible asset to be recognized separately from goodwill (see ASC 805-20-55-6).	An assembled workforce intangible asset may be recognized and measured at fair value at the acquisition date if it is part of the asset or group of assets acquired that do not constitute a business (see CON 5). We believe the intellectual capital (e.g., specialized skills, knowledge, experience) of the employees that make up the assembled workforce would be included in the fair value of the assembled workforce intangible asset. However, if a workforce is present, the group of acquired assets may qualify as a business, in which case, the provisions of ASC 805 should be applied. See BCG 1 for additional information.
Bargain purchases	If the fair value of the assets acquired and liabilities assumed exceeds the fair value of the consideration transferred (taking into effect the fair value of any noncontrolling interest to be recorded and the fair value of the acquirer's previously held equity interests in the acquiree), a gain is recognized by the acquirer (see ASC 805-30-25-2).	Assets acquired are measured at the fair value of consideration transferred, unless the fair value of the assets acquired and liabilities assumed is more reliably measurable. Because the measurement principle for asset acquisitions is based on a cost accumulation model, a gain is generally not recognized for a bargain purchase. As such, we believe the bargain purchase element should be reflected as a reduction of the relative fair value of the nonmonetary long-lived assets acquired. See PPE 2.4.2 for additional information.
Common control transactions	Transfers of a business between entities under common control that result in a change in reporting entity are accounted for at carrying value retrospectively for all periods presented as if the combination had been in effect since the inception of common control. See BCG 7.2 for additional information.	Transfers of assets between entities under common control are accounted for at carrying value prospectively, unless the transaction involves the transfer of inventory or financial assets. See BCG 7.2 for additional information.

Topic	Business combinations	Asset acquisitions
Contingencies	Acquired contingencies should be recognized and measured at fair value if determinable at the acquisition date or during the measurement period using facts and circumstances that existed at the acquisition date. Otherwise, companies should generally account for the acquired contingencies in accordance with ASC 450. Subsequent changes in the value of acquired contingencies are recognized through earnings until settled.	Loss contingencies recognized in an asset acquisition are accounted for in accordance with ASC 450-20. Gain contingencies should not be recognized in an asset acquisition; instead, gain contingencies should only be recognized once the contingency is resolved. Asset acquisitions are not subject to the requirement to initially assess whether the acquisition date fair value of acquired contingencies is determinable. Subsequent changes in the amount recorded under ASC 450 are recognized through earnings.
Contingent consideration	Contingent consideration is recorded at fair value on the date of acquisition. Subsequent changes in the fair value of the contingent consideration not classified as equity are recognized through earnings until settled (see ASC 805-30-25-5).	Contingent consideration that is not accounted for under other US GAAP (e.g., a derivative under ASC 815) is generally recorded when probable and reasonably estimable. Any initial amount of contingent consideration recorded on the acquisition date is included in the initial cost of the assets acquired, and subsequent changes in the recorded amount of contingent consideration are generally recognized as an adjustment to the cost basis (see ASC 323-10-35-14A, ASC 360-10-30-1, and ASC 450-20-25-2). See PPE 2.3.3 for additional information. Once the contingent consideration is capitalized as part of the cost basis, we are aware of diversity in practice regarding the treatment of the income statement effect of this additional cost basis. We generally believe the depreciation should be recognized as a cumulative “catch up” adjustment (as if the additional amount that is no longer contingent had been accrued from the outset of the arrangement).

Topic	Business combinations	Asset acquisitions
Defensive intangible assets	A defensive intangible asset is recognized as a separate unit of accounting and is not included as part of a reporting entity's existing intangible assets. An acquirer should use market-participant assumptions in determining the fair value of the defensive intangible asset. The intended use of an asset by the acquirer does not affect its fair value (see ASC 350-30-25-5).	A defensive intangible asset is recognized in an asset acquisition based on its relative fair value. The allocated cost of an asset that a reporting entity does not intend to use (or does not intend to use in a way that is the asset's highest and best use) should be measured based on market-participant assumptions (see ASC 805-50-30-3).
Deferred taxes	Deferred taxes are recorded on most temporary book/tax differences for assets acquired and liabilities assumed, and tax attributes acquired in a business combination in accordance with ASC 740.	Deferred taxes are generally recorded on temporary book/tax differences in an asset acquisition using the simultaneous equations method in accordance with ASC 740-10-25-49 through ASC 740-10-25-55. A reduction in the valuation allowance of the acquirer that is directly related to the asset acquisition will impact income tax expense. Further, any "negative goodwill" arising from the application of ASC 740-10-25-51(c) should first reduce the values assigned to the noncurrent assets, and any remaining deferred credit should be amortized to income tax expense in proportion to the realization of the tax benefits that gave rise to the negative goodwill (see ASC 740-10-35-5). See TX 10.12.1 for additional information. The tax law may provide for the acquirer's tax on certain nonmonetary exchanges to be deferred and for the acquirer's tax basis in the asset that was given up to carry over to the asset received. In those instances, a deferred tax liability may be recorded. See TX 10.12.2 for additional information.

Topic	Business combinations	Asset acquisitions
Deferred taxes on in-process research and development (IPR&D)	In a non-taxable business combination, deferred taxes are measured and recorded on the acquired IPR&D at the acquisition date.	IPR&D acquired in an asset acquisition is expensed if it has no alternative future use. Such write-off occurs on the acquisition date prior to the measurement of deferred taxes. Accordingly, deferred taxes are not provided on the initial differences between the amounts assigned for financial reporting and tax purposes, and IPR&D is charged to expense on a gross basis.
Employee benefits (e.g., share-based compensation and pension plans)	Employee benefits may be included in a business combination. Compensation arrangements should be analyzed to determine whether they represent consideration transferred, compensation cost, or a combination thereof. If an acquired set includes employees with share-based compensation awards that are replaced with awards of the acquirer and the set is determined to be a business, the replacement awards issued may represent consideration for precombination vesting, postcombination vesting, or both. Therefore, a portion of the expense may need to be attributed to the precombination period. See BCG 3.4 for additional information.	Employee benefits may be included in asset acquisitions, particularly when an acquired set is considered an asset as a result of the screen test (see BCG 1.2.1 for additional information on the screen test). In this case, any specific relief provisions in ASC 805 do not apply as an asset acquisition is not within its scope. If an asset acquisition includes employees with share-based compensation awards that are replaced with awards of the acquirer, the full amount of the replacement awards would be considered new awards and be accounted for prospectively, and recognized in the postcombination period. This may result in an increase in the postcombination expense in an asset acquisition as compared to a business combination.
Financial statement disclosure	There are extensive disclosures required by ASC 805-10-50 to enable users of the financial statements to evaluate the nature and financial effects of business combinations. See FSP 17 for additional information.	There are no specific disclosures required by ASC 805-50 for acquisitions of assets that do not meet the definition of a business. Reporting entities should follow the disclosure requirements in accordance with other US GAAP based on the nature of the assets acquired or liabilities assumed.

Topic	Business combinations	Asset acquisitions
Goodwill	Goodwill is recognized as a separate asset as the aggregate of (1) the consideration transferred (in accordance with ASC 805, generally at acquisition-date fair value), (2) the fair value of any NCI, and (3) the fair value of the acquirer's previously-held equity interest, less the fair value of the net identifiable assets (see ASC 805-30-30-1).	Goodwill is not recognized in an asset acquisition. Any excess consideration transferred over the fair value of the net assets acquired is allocated to the identifiable assets based on their relative fair values (see ASC 805-50-30-3). See PPE 2.4.1 for additional information.
Indemnifications	Indemnification assets are recognized and measured based on the related indemnified item (see ASC 805-20-30-18).	Indemnifications provided outside of a business combination are generally recognized and measured by analogy to the business combination standard.
Initial measurement	Assets acquired and liabilities assumed are measured at their acquisition date fair values, with limited exceptions (see BCG 2.5)	Assets acquired are measured under a cost accumulation model, with cost allocated to acquired assets on a relative fair value basis.
Intangible assets, excluding goodwill	Intangible assets are recognized at fair value if they meet the identifiable criteria (see ASC 805-20-25-4).	Intangible assets acquired in an asset acquisition are recognized in accordance with ASC 350. Accordingly, an intangible asset in an asset acquisition should be recognized if it meets the asset recognition criteria in CON 5, even if it does not meet the identifiable criteria in ASC 805.
IPR&D	Research and development acquired in a business combination is measured at fair value using market-participant assumptions and is recognized as an indefinite-lived intangible asset. IPR&D intangible assets should be considered indefinite-lived until the abandonment or completion of the associated research and development efforts (see ASC 350-30-35-17A). See BCG 8.2.4 for additional information.	IPR&D is expensed for asset acquisitions at the acquisition date if it has no alternative future use. However, the costs of intangible assets that are purchased from others and have alternative future uses (in other research and development projects or otherwise) are accounted for as an intangible asset. Amortization of those intangible assets used in research and development activities is a research and development cost (see ASC 730-10-25-2(c)). Circumstances when there is an alternative future use are expected to be limited (see PPE 4.2.1.3 for additional information).

Topic	Business combinations	Asset acquisitions
Lease classification of an acquired lease (ASC 840)	The previous lease classification for the lease of the acquired entity is retained. Lease classification should not be changed unless the provisions of the lease are modified (see ASC 805-20-25-8(a) and ASC 840-10-25-27).	We generally believe classification of a lease contract should be reassessed by the acquirer upon acquisition, similar to the assessment when a reporting entity subleases an asset (see ASC 840-10-25-32).
Lease classification of an acquired lease (ASC 842)	The previous lease classification for the lease of the acquired entity is retained unless the lease is modified (see ASC 842-10-55-11).	We generally believe classification of a lease contract should be reassessed by the acquirer upon acquisition.
Lease measurement: acquiree is a lessee in an operating lease or a finance lease (ASC 842)	Leases are an exception to the recognition and measurement principles under ASC 805. The lease liability should be measured as if it were a new lease under ASC 842. The right-of-use asset is equal to the lease liability and is adjusted to reflect favorable or unfavorable terms of the lease compared to market terms (see ASC 805-20-30-24). Refer to BCG 4.3.3.7 for further details.	The lease liability and the right-of-use asset should be measured as if it were a new lease under ASC 842. Intangible assets or liabilities should be recorded at fair value for favorable or unfavorable terms of the lease compared to market terms and generally classified separate from the right-of-use asset. For further considerations when measuring the favorable or unfavorable terms of the lease, see BCG 4.3.3.7. The cost of the acquisition to the buyer should be allocated to the identifiable assets, including the right-of-use asset and any intangibles (i.e., the right-of-use asset may not be equal to the lease liability, even when the lease is at market).
Lease measurement: acquiree is a lessor in an operating lease (ASC 842)	An asset subject to a lease is recognized and measured at fair value unencumbered by the related lease. An intangible asset or liability may also be recognized if the lease contract terms are favorable or unfavorable as compared to market terms (see ASC 805-20-25-12). An intangible asset may be recognized at the acquisition date under ASC 805-20-30-5 for the value associated with the existing lease (i.e., in-place lease intangible).	An asset subject to a lease is recognized and measured at fair value unencumbered by the related lease. An intangible asset or liability may also be recognized if the lease contract terms are favorable or unfavorable as compared to market terms. An intangible asset may be recognized at the acquisition date for the value associated with the existing lease (i.e., in-place lease intangible). For further considerations when measuring lease related intangibles, see BCG 4.3.3.7.

Topic	Business combinations	Asset acquisitions
	Refer to BCG 4.3.3.7 for further details.	The cost of the acquisition to the buyer should be allocated to the identifiable assets, including the asset subject to lease and any intangibles.
Leases: acquiree is a lessor in a sales-type, direct financing, or leveraged lease (ASC 842)	Leases are an exception to the recognition and measurement principles under ASC 805. Net investment in the lease will be equal to the sum of the lease receivable and the unguaranteed residual, measured following ASC 805-20-30-25. Refer to BCG 4.3.3.7 for further details.	Net investment in lease is recorded at fair value, including the lease receivable and any unguaranteed residual value. For further considerations when measuring lease related intangibles, see BCG 4.3.3.7. The cost of the acquisition to the buyer should be allocated to the identifiable assets, including any intangibles.
Measurement date	The assets acquired and liabilities assumed are measured at fair value on the date control is obtained (see ASC 805-10-25-6).	The assets acquired and liabilities assumed are recognized at cost (which is the consideration the acquirer transfers to the seller, including transaction costs) on the acquisition date, unless other GAAP requires otherwise.
Measurement period adjustments	The acquirer has a period of time, referred to as the measurement period, to finalize the identification and measurement of assets acquired, liabilities assumed, and consideration transferred. Measurement period adjustments are recognized in the reporting period in which the adjustment amount is determined (see ASC 805-10-25-13).	The concept of measurement period adjustments does not exist for asset acquisitions. Assets acquired are recorded at cost on the acquisition date.
Noncontrolling interest (NCI)	NCI is recognized and measured at fair value on the acquisition date (see ASC 805-20-30-1).	There is no guidance outside of a business combination for NCI. We believe the acquirer can make an accounting policy election on the acquisition date to either (1) follow the guidance for business combinations and measure NCI at fair value, or (2) follow the asset acquisition cost accumulation and allocation model and record the NCI at its carrying amount. See PPE 2.3.4 for additional information.

Topic	Business combinations	Asset acquisitions
Preexisting relationships	A preexisting relationship can be contractual or noncontractual. The settlement of a contractual relationship is measured as the lesser of the amount the contract terms are favorable/ unfavorable and the amount of any stated settlement provisions in the contract. The settlement of a noncontractual relationship is measured at fair value on the acquisition date. Any gain or loss on settlement is recognized in the income statement (see ASC 805-10-55-21).	There is no guidance outside of a business combination on the settlement of a preexisting relationship. Settlement gains and losses are generally recognized in the income statement consistent with the guidance for business combinations. See LG 5.5.2 for additional considerations when a lessee terminates a lease in conjunction with the purchase of the underlying leased asset.
Previously held equity interest	On the date the controlling interest is acquired, the previously held equity interest in the acquiree is remeasured to fair value. Any difference in the previously held equity interest is recognized as a gain or loss in the income statement (see ASC 805-10-25-10).	There is no guidance outside of a business combination requiring the remeasurement of a previously held equity interest. We are aware of diversity in practice regarding the treatment of previously held equity interest in an asset acquisition. We believe the acquirer can make an accounting policy election on the acquisition date to (1) follow the guidance for business combinations and remeasure the previously held equity interest to fair value and recognize a gain or loss, if any, in the income statement, or (2) follow the asset acquisition cost accumulation and allocation model, record the previously held equity interest at its carrying amount, and record the fair value of the consideration paid to acquire the remaining equity interest. In the absence of guidance for previously held equity interests in an asset acquisition, other measurement considerations may be acceptable (e.g., iterative equation). See PPE 2.3.5 for additional information.

Topic	Business combinations	Asset acquisitions
Pushdown accounting	An election can be made to "push down" an acquirer's stepped-up basis in the separate financial statements of the acquiree, creating a new basis of accounting and new reporting entity (ASC 805-50-25-4).	Pushdown accounting cannot be elected in an asset acquisition.
Reacquired rights	A reacquired right is generally an identifiable intangible asset that the acquirer recognizes separate from goodwill. Reacquired rights are measured based on the estimated cash flows over the remaining contractual life and not based on market participant assumptions (an exception to the fair value principle). Any settlement gain or loss should be measured consistent with the guidance for preexisting relationships (see ASC 805-20-25-15).	There is no guidance outside of a business combination on reacquired rights. An asset may be recognized at fair value if there is probable future economic benefit (CON 6). However, the acquirer in an asset acquisition must first evaluate whether the transaction is the cancellation of a contract (and therefore does not constitute an asset acquisition), which should be accounted for in accordance with ASC 606.
Transaction costs	In a business combination, transaction costs are expensed as incurred and not included as part of the consideration transferred (see ASC 805-10-25-23).	Direct transaction costs are generally a component of the consideration transferred to acquire the group of assets in an asset acquisition, and are capitalized as a component of the cost of the assets acquired in accordance with the applicable standards (e.g., CON 5 for property, plant, and equipment) (see ASC 805-50-30-1).

Chapter 3: Asset retirement obligations—updated October 2020

3.1 Asset retirement obligations—chapter overview

An asset retirement obligation (ARO) is a legal obligation associated with the retirement of a tangible long-lived asset that results from the acquisition, construction, development, and/or normal operation of that asset. Capital-intensive companies may have significant AROs due to their ownership of major productive assets that ultimately will be removed from service. AROs are common across various industries including those where companies utilize landfills, nuclear and other power plants, oil and gas operations, asbestos-containing materials, and mining operations. AROs may also arise in connection with operating leases and leasehold improvements that may require the removal of certain assets at the end of the lease. ASC 410-20, *Asset Retirement and Environmental Obligations – Asset Retirement Obligations*, contains the guidance for the recognition, measurement, and disclosure of AROs. This chapter addresses common issues in accounting for AROs.

The provisions of ASC 410-20 do not apply to obligations that result from improper operation of an asset, including environmental remediation liabilities, which are subject to ASC 410-30, *Asset Retirement and Environmental Obligations – Environmental Obligations*. The scope of ASC 410-20 differs from ASC 410-30 in that ASC 410-20 addresses an obligation that arises due to the normal operation of an asset, whereas ASC 410-30 addresses an obligation that results from the improper operation of an asset. See PPE 9 for more information on accounting for environmental obligations under ASC 410-30. Additionally, see PwC's *Utilities and Power Companies* guide for specific accounting considerations relating to rate-regulated utilities.

3.2 Scope of the ARO guidance

ASC 410-20 details the types of transactions subject to the asset retirement obligation guidance.

ASC 410-20-15-2

The guidance in this Subtopic applies to the following transactions and activities:

a. Legal obligations associated with the retirement of a tangible long-lived asset that result from the acquisition, construction, or development and (or) the normal operation of a long-lived asset, including any legal obligations that require disposal of a replaced part that is a component of a tangible long-lived asset.

b. An environmental remediation liability that results from the normal operation of a long-lived asset and that is associated with the retirement of that asset. The fact that partial settlement of an obligation is required or performed before full retirement of an asset does not remove that obligation from the scope of this Subtopic. If environmental contamination is incurred in the normal operation of a long-lived asset and is associated with the retirement of that asset, then this Subtopic will apply (and Subtopic 410-30 will not apply) if the entity is legally obligated to treat the contamination.

c. A conditional obligation to perform a retirement activity. Uncertainty about the timing of settlement of the asset retirement obligation does not remove that obligation from the scope of this Subtopic but will affect the measurement of a liability for that obligation (see paragraph 410-20-25-10).

d. Obligations of a lessor in connection with an underlying asset that meet the provisions in (a).

e. The costs associated with the retirement of a specified asset that qualifies as historical waste equipment as defined by EU Directive 2002/96/EC. (See paragraphs 410-20-55-23 through 55-30 and Example 4 [paragraph 410-20-55-63] for illustration of this guidance.) Paragraph 410-20-55-24 explains how the Directive distinguishes between new and historical waste and provides related implementation guidance.

An ARO is a legal obligation. It can be established by agreement between two or more parties, imposed by a governmental authority, or arise due to promissory estoppel (i.e., through third-party reliance on a promise, even in the absence of consideration in exchange for that promise). Considerable judgment and the assistance from legal counsel may be required to determine whether an ARO should be recorded due to promissory estoppel.

An example of an obligation established by an agreement would be when a municipality grants a reporting entity access to land on which the entity will be allowed to build and operate a facility, under the condition that after the entity ceases to use the facility, it must convert the land to a public park.

AROs can also be recognized in a business combination or asset acquisition. See BCG 2.5.7.2 for guidance on AROs recognized in a business combination.

The following activities often result in the need to recognize an ARO due to the associated legal obligation:

- Decommissioning nuclear facilities
- Dismantling, restoring, and reclaiming oil and gas properties
- Reclamation, closure, and post-closure obligations associated with mining activities
- Removal of asbestos around pipes or in a building wall at the time the related asset is retired
- Removal of transmission assets (including transformers and wires)
- Clean up of contamination from landfills, plugged and abandoned injection wells, water wells, and wastewater treatment facilities
- Removal of leasehold improvements installed by lessees

The above list is not all-inclusive, and reporting entities should assess all agreements related to tangible long-lived assets for provisions that may indicate the existence of an ARO.

For an obligation to fall within the scope of ASC 410-20, the obligation must be legally unavoidable, it must be associated with the retirement of a tangible long-lived asset, and it must result from the acquisition, construction, or development and/or normal operation of that asset. Since the liability is associated with the acquisition, construction, or development and/or normal operation of the asset, it is not relevant whether the entity intends to dispose of or transfer the asset prior to actual payment of the remediation costs. If the asset is disposed of, the asset retirement obligation would be transferred along with the related asset and the buyer's assumption of the liability would be considered in the asset's sales price.

AROs also must arise from the normal operation of the asset, and not from improper use or accidents, to be within the scope of ASC 410-20. For example, a certain amount of spillage may be inherent in the normal operation of a fuel storage facility and obligations arising from such normal operation would be within the scope of ASC 410-20. However, a catastrophic accident caused by noncompliance with an entity's safety procedures is not within the scope of the ARO guidance. See PPE 3.3.2 for additional details on the scope exclusion for environmental remediation liabilities.

Only legal obligations associated with the other-than-temporary retirement of tangible long-lived assets are in the scope of the ARO guidance. Therefore, the costs to voluntarily remove or retire an asset are not an ARO. For example, if an entity plans to remove a machine at the end of its useful life and replace it with a new model, and there is no legal obligation to remove the asset, the removal costs do not constitute an ARO because there is no legal obligation to remove the old model.

ASC 410-20 defines retirement as the other-than-temporary removal of a long-lived asset from service, including through sale, abandonment, recycling, or disposal in some other manner. Removing an asset from an existing location in connection with a legal obligation with the intent to re-deploy the asset to another location would not be within the scope of ASC 410-20 because it is a temporary removal from service. For example, if a reporting entity is obligated to transfer a plant and the associated fixed assets prior to the end of the useful lives, those transfer costs would not be within the scope of ASC 410-20 because those costs are not associated with the retirement of the plant and the fixed assets.

In many circumstances when an entity-owned asset operates in a leased plant, the asset life may differ from the term of the lease. There may be uncertainty as to whether the asset will be re-deployed to another owned or leased site, retired before the end of its useful life (e.g., because it is cost prohibitive to move) or maintained in its current state (i.e., the lease will be renewed). This uncertainty must be evaluated to determine whether there is a conditional ARO. See PPE 3.4.3.2 for further information on evaluating conditional AROs.

3.2.1 AROs related to component parts (scope of the ARO guidance)

As discussed in PPE 3.3, ASC 410-20 does not apply to ongoing maintenance activities to maintain the operation of a long-lived asset. However, in addition to applying to the retirement of an entire long-lived asset, ASC 410-20-55-9 indicates that a reporting entity may have retirement obligations for component parts of a larger system that are legally required to be retired and remediated in advance of the larger system. If the recognition criteria are met, the reporting entity should record an asset retirement obligation associated with interim component retirements. Examples of these types of obligations include:

- Aluminum smelter

  ASC 410-20-55-10 provides an example of an aluminum smelter that is lined with a special type of brick. The bricks have a shorter life than the kiln and must be replaced periodically to maintain optimum efficiency of the kilns. When the bricks are removed, the bricks must be disposed of at a special hazardous waste site under state law due to contamination that occurs during their use. If the legal obligation to dispose of the bricks at the end of their useful life presently exists, then the ARO related to those bricks should be recognized when they are contaminated (because the contamination is the obligating event, which occurs when the kiln is first used) and an estimate of the fair value of the liability for the required disposal procedures should be made. The cost of the replacement bricks and their installation are not part of the ARO.

- Natural gas pipelines

  A pipeline or natural gas distribution system owner has a legal obligation to remove the pipelines at the end of their useful life when it is abandoned. The owner may conclude that it will not abandon a pipeline system (which has an ARO associated with the retirement of the system) but would replace segments of the pipe on a rotating basis when the segments have reached the end of their useful life. Although the overall pipeline is not abandoned, the owner would still be required, due to a legal obligation, to remove and dispose the segments of the pipeline.

It does not matter that an ARO will be settled prior to the ultimate retirement of the long-lived asset. For example, consider the obligation to cover a landfill with topsoil and plant vegetation, known as capping. Often, capping activities are performed as sections of the landfill become full and are effectively retired. The fact that some of the capping activities are performed while the landfill is still accepting waste does not remove the obligation to perform those intermediate capping activities from the scope of ASC 410-20.

The level of detail maintained in a reporting entity's records has no impact on the requirement to record AROs for component units. For example, a reporting entity may record an asset as an oil field, even though it is comprised of several oil wells. The disposal obligation should be recorded even if the individual assets are not identified in the accounting records. Aggregation techniques may be used to derive a collective ARO.

3.2.2 Conditional AROs (scope of the ARO guidance)

Conditional asset retirement obligations require recognition when there is a legal obligation to perform an asset retirement activity, but the timing and/or method of settlement may be conditioned on a future event. In other words, a legal obligation exists but the timing and/or method of extinguishing the obligation is dependent upon a future event that may or may not be within the control of the entity.

Definition from ASC 410-20-20

Conditional Asset Retirement Obligation: A legal obligation to perform an asset retirement activity in which the timing and (or) method of settlement are conditional on a future event that may or may not be within the control of the entity.

ASC 410-20-25-7 states that the legal obligation to perform an asset retirement activity is unconditional even when uncertainty exists about the timing or method of settlement. For example, the settlement date and method of settlement for an obligation may have been specified by others through law, regulation, or contract that gives rise to the legal obligation but provides various methods of settlement, each of which would be acceptable. Therefore, even if the timing or method of settlement is uncertain and may be conditional on a future event, an unconditional obligation exists and should be accounted for in accordance with ASC 410-20. See PPE 3.4.3.2 for guidance on the recognition and measurement of conditional AROs.

3.3 ARO scope exclusions

ASC 410-20 specifically excludes from its scope certain lease obligations, environmental remediation liabilities, costs to repurpose an asset for an alternative use, obligations arising solely from a plan to dispose of an asset, and certain other transactions and activities.

ASC 410-20-15-3

The guidance in this Subtopic does not apply to the following transactions and activities:

a. Obligations that arise solely from a plan to sell or otherwise dispose of a long- lived asset covered by Subtopic 360-10.

b. An environmental remediation liability that results from the improper operation of a long-lived asset (see Subtopic 410-30). Obligations resulting from improper operations do not represent costs that are an integral part of the tangible long- lived asset and therefore should not be accounted for as part of the cost basis of the asset. For example, a certain amount of spillage may be inherent in the normal operations of a fuel storage facility, but a catastrophic accident caused by noncompliance with an entity's safety procedures is not. The obligation to clean up the spillage resulting from the normal operation of the fuel storage facility is within the scope of this Subtopic. The obligation to clean up after the catastrophic accident results from the improper use of the facility and is not within the scope of this Subtopic.

c. Activities necessary to prepare an asset for an alternative use as they are not associated with the retirement of the asset.

d. Historical waste held by private households. (The guidance in this paragraph does not pertain to an asset retirement obligation in the scope of this Subtopic.) For guidance on accounting for historical electronic equipment waste held by private households for obligations associated with Directive 2002/96/EC on Waste Electrical and Electronic Equipment adopted by the European Union, see Subtopic 720-40.

e. Obligations of a lessee in connection with an underlying asset, whether imposed by a lease or by a party other than the lessor, that meet the definition of either lease payments or variable lease payments in Subtopic 842-10. Those obligations shall be accounted for by the lessee in accordance with the requirements of Subtopic 842-10. However, if obligations of a lessee in connection with an underlying asset, whether imposed by a lease or by a party other than the lessor, meet the provisions in paragraph 410-20-15-2 but do not meet the definition of either lease payments or variable lease payments in Subtopic 842-10, those obligations shall be accounted for by the lessee in accordance with the requirements of this Subtopic.

f. An obligation for asbestos removal that results from the other-than-normal operation of an asset. Such an obligation may be subject to the provisions of Subtopic 410-30.

g. Costs associated with complying with funding or assurance provisions. Paragraph 410-20-35-9 otherwise addresses the measurement effects of funding and assurance provisions.

h. Obligations associated with maintenance, rather than retirement, of a long-lived asset.

i. The cost of a replacement part that is a component of a long-lived asset.

3.3.1 *Obligations from asset disposal plans (ARO scope exclusions)*

The asset retirement obligation guidance does not apply to obligations that arise solely from a plan to dispose of a long-lived asset. For example, if a reporting entity decides to dismantle and dispose of a manufacturing facility within two years rather than continuing to maintain it, there is no legal obligation for the disposal. As a result, the plan to incur the costs of dismantling the facility and removing the scrap materials is not an obligation within the scope of the ARO guidance.

In contrast, if a reporting entity decides to dismantle and dispose of a manufacturing facility and commits to creating a city park in its place, the reporting entity may have created a legal obligation under the doctrine of promissory estoppel. Although no law, statute, ordinance, or written contract requires construction of the city park, the promise may have created a legal obligation, and thus could be within the scope of ASC 410-20.

Question PPE 3-1 addresses if a reporting entity should record an asset retirement obligation if it has no legal obligation to remove the asset or dispose of the asset in a specified manner upon retirement.

Question PPE 3-1

Should a reporting entity record an ARO if there is no legal obligation to remove the asset and no legal requirement to dispose of the asset in a specified manner upon retirement?

PwC response

No. ASC 410-20 is clear that an ARO is a legal obligation associated with the retirement of a tangible long-lived asset that results from the acquisition, construction, development, and/or normal operation of that asset. Further, ASC 410-20 indicates that a legal obligation must be the result of "an existing or enacted law, statute, ordinance, or written or oral contract or by legal construction of a contract under the doctrine of promissory estoppel."

When a reporting entity has no legal obligation to remove an asset and there is no legal requirement to dispose of the asset in a specified manner upon retirement, an ARO should not be recognized. For example, consider an electrical power plant that has been closed, ringfenced, and will be left abandoned. If there is no legal obligation to demolish the power plant or dispose of any component of the power plant in a specified manner (whether due to contract, law, or promissory estoppel), the reporting entity should not record an asset retirement obligation.

However, when a reporting entity has no legal obligation to remove an asset or to dispose of that asset in a special manner, the reporting entity should still consider whether there is a legal obligation (whether due to contract, law, or promissory estoppel) to monitor the asset upon disposal. In such instances, any legal obligations associated with monitoring the asset would be recognized following the guidance in ASC 410-20.

3.3.2 *Environmental remediation liabilities (ARO scope exclusions)*

The provisions of ASC 410-20 do not apply to obligations that result from improper operation of an asset, including environmental remediation liabilities, which are subject to ASC 410-30. ASC 410-20-15-3(b) provides guidance to help distinguish between asset retirement obligations and obligations that should be accounted for as environmental remediation liabilities.

The determination of whether an obligation should be accounted for in accordance with ASC 410-20 or under other guidance is a matter of judgment based on individual facts and circumstances. One factor that may be helpful in distinguishing AROs from environmental remediation liabilities or other contingencies is the timing of the required remediation efforts.

- Immediate remediation required

  Environmental damage extensive enough to require immediate remediation generally arises from improper operation of an asset (e.g., an oil spill or a pipeline leak). This type of environmental liability should be accounted for under ASC 410‑30. See PPE 9 for more information on accounting for environmental costs under ASC 410-30.

- Clean-up performed in connection with an asset's retirement

  The ability to delay remediation until asset retirement generally suggests that the damage arose from normal operations and was inherent in operating the asset. Environmental damage arising from normal operations is subject to ASC 410-20; therefore, the cost of such remediation is accounted for under the ARO guidance.

3.3.3 AROs relating to lease agreements (ARO scope exclusions)

The requirement to record an asset retirement obligation does not apply to obligations of a lessee in connection with an underlying asset that meet the definition of either lease payments or variable lease payments under ASC 842, whether imposed by a lease or by a party other than the lessor. In these circumstances, the legal obligation associated with the ARO is that of the lessor who owns the leased asset and who is legally responsible for the associated ARO activities. While a portion of the lessee's lease payments may indirectly compensate the lessor for the AROs, the legal obligation at retirement would be that of the lessor, and not the lessee. For lessee obligations meeting the definition of either lease payments or variable lease payments under ASC 842, such amounts should be included in the determination of the lease liability and the right-of-use asset recognized at lease commencement, and would not be separately accounted for under ASC 410-20.

Alternatively, obligations imposed by a lease agreement that meet the definition of an ARO and do not meet the definition of either lease payments or variable lease payments under ASC 842 are within the scope of ASC 410-20 for the lessee. ASC 842-10-55-37 includes guidance on such obligations.

ASC 842-10-55-37

Obligations imposed by a lease agreement to return an underlying asset to its original condition if it has been modified by the lessee (for example, a requirement to remove a lessee-installed leasehold improvement) generally would not meet the definition of lease payments or variable lease payments and would be accounted for in accordance with Subtopic 410-20 on asset retirement and environmental obligations. In contrast, costs to dismantle and remove an underlying asset at the end of the lease term that are imposed by the lease agreement generally would be considered lease payments or variable lease payments.

The determination of whether an obligation associated with leased property falls within the definition of lease payments or variable lease payments often involves judgment and the conclusion will be based on the specific facts and circumstances. An important factor to consider in making this determination

is whether the obligation existed at the inception of the lease or was created through the actions of the lessee following the inception of the lease. For example, a lease agreement might require the lessee to return the leased property to the lessor in its original condition beyond normal wear and tear, such as requiring the removal of leasehold improvements installed by the lessee, at the lessee's cost. Any costs that the lessee expects to incur to bring the leased property to that specified condition may fall within the scope of ASC 410-20 and could result in the recognition of an ARO.

Conversely, if the lessee were to lease both the property and leasehold improvements (i.e., the leasehold improvements were already in place at inception of the lease), and the lease required the lessee to remove the existing leasehold improvements at lease termination, this obligation would generally be viewed as a lease payment under ASC 842. In this case, the cost is a specified payment in the lease agreement and does not result from the lessee's actions after lease inception. As this obligation would meet the definition of a lease payment or a variable lease payment, it should be accounted for under ASC 842.

In certain circumstances, the leasehold improvements put into place by the lessee have a useful life shorter than the lease term. As a result, the lessee may expect to retire the old leasehold improvements and install new leasehold improvements during the lease term. If the lessee is required to remove the leasehold improvements at the end of the lease term, the lessee should account for an asset retirement obligation when the leasehold improvements are constructed, and the expected settlement date should be when the specific asset will be retired (i.e., at the end of the useful life of the leasehold improvement). When a new leasehold improvement is put into place, a new asset retirement obligation is incurred and would be measured with a new expected settlement date. Determining the settlement date requires an assessment of whether the lease will be renewed.

See Example PPE 3-1 and Question PPE 3-8 for a discussion regarding the measurement of an ARO when considering lease improvements and renewals.

EXAMPLE PPE 3-1

Determining whether leasehold improvements generate an ARO

Lessee Corp leases an office building that includes pre-existing leasehold improvements from a previous lessee, including interior walls and carpeting. Lessee Corp's lease agreement states that the company is contractually obligated to remove the pre-existing improvements and any additional leasehold improvements at the end of the lease term.

Does the requirement to remove the pre-existing leasehold improvements create an ARO?

Analysis

No. The requirement to remove the pre-existing leasehold improvements does not create an ARO for Lessee Corp. While a legal obligation exists to remove the pre-existing leasehold improvements, the obligation was not created by the actions of Lessee Corp. Instead, the estimated cost of the required removal of the leasehold improvements that existed at lease inception should be included in lease payments when recognizing and measuring the lease liability and right-of-use asset under ASC 842.

Alternatively, if Lessee Corp constructs additional leasehold improvements, it should account for the removal cost obligations associated with these additional leasehold improvements as an ARO.

If costs are incurred that relate to both the removal of pre-existing and new improvements (e.g., if one contractor is hired to remove both pre-existing and new internal walls), Lessee Corp should allocate such costs between lease payments used when measuring and recording the lease liability and right-of-use asset under ASC 842 and the ARO.

3.3.4 *Asbestos clean-up from improper use (ARO scope exclusions)*

If asbestos cleanup must be performed before the asset retirement date due to improper use, then the costs would be accounted for in accordance with ASC 410-30. For example, if a forklift inadvertently causes exposure of asbestos in a wall of an owned building, the costs for clean-up would not be part of the normal use of the building, and thus would be accounted for in accordance with ASC 410-30. Conversely, asbestos to be removed in conjunction with the normal operation and retirement of an asset is an asset retirement obligation subject to the requirements of ASC 410-20.

3.4 Recognition and measurement (AROs)

Asset retirement obligations are initially recognized as a liability at fair value, with a corresponding asset retirement cost (ARC) recognized as part of the related long-lived asset. Figure PPE 3-1 highlights accounting considerations over the life of an ARO; each phase is discussed in more detail in the sections that follow.

Figure PPE 3-1
Impact of AROs on the financial statements

Phase	Balance sheet	Income statement	Statement of cash flows
Initial recognition and measurement (PPE 3.4.1 and PPE 3.4.2)	Record the ARO at the fair value of the legal obligation Record the ARC as an increase to the carrying value of the related long-lived asset	No immediate impact	No immediate impact
Passage of time (PPE 3.4.3)	Increase the ARO through periodic accretion expense Allocate the ARC to expense using a systematic and rational method over the related long-lived asset's useful life	Record accretion expense as a component of operating expense Record ARC expense as depreciation	Classify accretion and depreciation as noncash adjustments to net income within operating cash flows
Changes in expected cash flows (PPE 3.4.4.2)	Adjust the ARO for the impact of the change Record a corresponding change to the carrying amount of the ARC	No immediate impact Reflect change in accretion and depreciation prospectively	No immediate impact Classify accretion and depreciation as noncash adjustments to operating cash flows

Phase	Balance sheet	Income statement	Statement of cash flows
Retirement (PPE 3.5)	Derecognize ARO as remediation costs are incurred Derecognize any unamortized ARC	Record a gain or loss for the difference between the actual cost of settling the ARO and the recorded liability Record a loss for any unamortized ARC	Classify cash outflows for settlement of the ARO in operating cash flows Any settlement difference is a noncash adjustment to net income within operating cash flows

3.4.1 *Initial recognition (AROs)*

Asset retirement obligations are initially recognized at fair value in the period in which they are incurred and the amount of the liability can be reasonably estimated. Determining the appropriate timing of recognition may be complex if the ARO arises over a period of time or due to a change in laws. For those AROs arising from changes in laws or regulations, the ARO should be initially recognized in the period the law or regulation is enacted.

Once a reporting entity has determined whether a duty or responsibility exists upon retirement, it will then need to assess whether an obligating event has occurred that leaves it little or no discretion to avoid the future transfer or use of assets. Once that obligating event has occurred, an ARO meets the definition of a liability and qualifies for recognition.

ASC 410-20-55-4 illustrates the timing of the obligating event and recognition of an ARO:

Excerpt from ASC 410-20-55-4

…in the case of a nuclear power facility, an entity assumes responsibility for decontamination of that facility upon receipt of the license to operate it. However, no obligation to decontaminate exists until the facility is operated and contamination occurs. Therefore, the contamination, not the receipt of the license, constitutes the obligating event.

Question PPE 3-2 addresses when a reporting entity should record an ARO related to an asset under construction.

Question PPE 3-2

When should a reporting entity record an ARO related to an asset under construction?

PwC response

Construction projects often extend beyond a single reporting period. Although construction may take time to complete, the reporting entity will usually know prior to the start of construction whether it will have a related ARO.

The method used to account for AROs during construction should be based on the individual facts and circumstances. Two methods that may be appropriate are:

- Proportionate method

  The ARO is recorded proportionately as the underlying construction is completed (i.e., if 50% of the cost of the constructed asset has been incurred, 50% of the ARO would be recorded). This method may be appropriate for an ARO related to an entire facility when the reporting entity is required to remove the facility upon retirement. In that case, the cost of removing the facility would be recorded in proportion to the amount constructed.

- Specific method

  An ARO is recorded when the specific costs leading to the obligation are capitalized. For example, absent other obligations, if the cost of an ARO related to a nuclear power plant arises as a result of the fuel rods being installed, the ARO would be recorded at the time the fuel rods are installed.

Reporting entities involved in asset construction should develop policies for the recognition of AROs during the construction phase. Although there are different approaches, we generally expect the same method to be applied consistently to similar assets. While reporting entities should begin accreting an ARO immediately upon initial recognition, depreciation of the related asset retirement cost should not begin until the related asset (or component of the asset) is placed in service.

Obligations incurred, either ratably or non-ratably, throughout the operating life of a long-lived asset should be recognized concurrent with the events that create the obligations. For example, if ongoing operation of a power plant results in steady contamination that will require various levels of remediation depending on the level of contamination, the reporting entity should recognize and measure the portion of the incremental liability created in each reporting period, creating additional layers of liability. The reporting entity should allocate the asset retirement cost to expense using a systematic and rational method over its useful life.

When an ARO is incurred throughout the operating life of the asset, ASC 410-20 allows a reporting entity to capitalize an amount of asset retirement cost and allocate an equal amount to expense in the same accounting period. For example, if a reporting entity acquires a long-lived asset with an estimated life of ten years, and the reporting entity incurs one-tenth of the liability for the ARO each year, the guidance does not preclude the reporting entity from capitalizing and then expensing one-tenth of the asset retirement costs each year.

3.4.2 Initial measurement (AROs)

Asset retirement obligations are recognized at fair value in the period in which they are incurred if a reasonable estimate of fair value can be made. Fair value should be determined under ASC 820, *Fair Value Measurements*.

In the rare circumstances that a reasonable estimate of fair value cannot be determined, the liability should be recognized when a reasonable estimate can be made. A reporting entity asserting that a reasonable estimate of fair value cannot be determined should have sufficient evidence to support this conclusion. It would not be appropriate to delay the recognition of an ARO on the basis that management will not perform the related asset retirement activities in the foreseeable future. If a reporting entity concludes that no obligation should be recognized because the fair value or timing of

the obligation is indeterminate, the reporting entity should disclose the existence of the asset retirement obligation and the basis for not recognizing it. See FSP 11.6 for additional information relating to the presentation and disclosure of AROs.

ASC 410-20-25-6 discusses factors to consider in determining if a reasonable estimate can be made:

Excerpt from ASC 410-20-25-6

An entity has sufficient information to reasonably estimate the fair value of an asset retirement obligation if any of the following conditions exist:

a. It is evident that the fair value of the obligation is embodied in the acquisition price of the asset.

b. An active market exists for the transfer of the obligation.

c. Sufficient information exists to apply an expected present value technique.

ASC 410-20-30-1 provides further guidance on how the fair value of an ARO is usually measured.

Excerpt from ASC 410-20-30-1

An expected present value technique will usually be the only appropriate technique with which to estimate the fair value of a liability for an asset retirement obligation.

Applying the expected present value technique requires a reporting entity to incorporate assumptions about the amount and timing of costs under different future scenarios and the relative probabilities of those scenarios. ASC 410-20-25-7 indicates that uncertainty in the timing of cash flows should be incorporated in the measurement through the assignment of probabilities to those cash flows. Figure PPE 3-2 illustrates the application of the concepts of ASC 820 to asset retirement obligations:

Figure PPE 3-2

Application of ASC 820 to asset retirement obligations

Determine unit of account	The unit of account is the legal obligation, in whole or in part, to retire a long-lived asset. ASC 410 requires an ARO to be recorded at fair value when a legal obligation is incurred. When a new ARO layer is established due to a change in the timing or amount of expected cash flows, the new layer is treated as a separate unit of account.
Evaluate valuation premise	Since AROs are not commonly held as assets by other parties, a reporting entity should consider the valuation of its AROs assuming they are transferred to a market participant.
Assess principal market	It is unlikely that there is a principal market for asset retirement obligations as they are not actively traded and there is little or no observable data about the price to transfer an ARO.

Determine the most advantageous market	The most advantageous market is the market that would minimize the amount that would be paid to transfer the ARO. We expect that reporting entities will generally develop a hypothetical market to determine the fair value of AROs.
Determine valuation approach and technique	ASC 820 requires that a reporting entity consider the use of all valuation approaches and techniques appropriate in the circumstances. However, ASC 410-20-30-1 states that an expected present value technique will usually be the only appropriate technique. ASC 410 does not preclude the use of other approaches or techniques. Consideration of market participant assumptions and the applicability of other potential approaches or techniques are consistent with the ASC 820 framework.
Determine significant inputs	The example in ASC 820-10-55-77 through ASC 820-10-55-81 details inputs commonly used in valuing AROs, including labor costs, overhead costs, compensation to a market participant for assuming the ARO, the effect of inflation on related costs, the time value of money, and nonperformance risk.

Additionally, the key factors that impact the expected present value calculation include the timing and amount of cash flows and the discount rate, as summarized in Figure PPE 3-3.

Figure PPE 3-3
Factors impacting the initial ARO measurement

Factors	Key considerations
Timing	□ Assumptions and probabilities about when the ARO may settle should be incorporated into the measurement of the ARO □ Uncertainty about the timing of settlement does not change the fact that an ARO exists; any uncertainty should be incorporated into the analysis □ There may be differences between the expected settlement date and the asset's useful life (e.g., due to license dates, lease periods, history of retirement of similar AROs, etc.)
Amount	□ Fair value measurement under ASC 820 requires the use of market participant assumptions □ The cost of third-party resources should be used in the measurement even if the reporting entity plans to settle the ARO using internal resources (i.e., include the third-party service provider's profit margin and, if appropriate, a risk premium in the estimate of cash flows) □ Assumptions and probability analysis about the amount at which the ARO may settle should be incorporated into the measurement

Discount rate	▫ Cash flows should be discounted using a credit-adjusted risk-free rate (see PPE 3.4.3.4) ▫ Funding and assurance arrangements should be considered in determining the appropriate discount rate

See Example PPE 3-5 in PPE 3.4.3.6 for an illustrative example of the expected present value technique when estimating the fair value of an asset retirement obligation.

Example PPE 3-2 includes an evaluation of whether an ARO should include the total costs of the removal and disposal.

EXAMPLE PPE 3-2

Evaluating whether an ARO should include the total costs of the removal and disposal

PPE Corp has a building with asbestos embedded within its insulation and is required to remove and dispose of the asbestos in a special manner if the building undergoes major renovations or is demolished. The costs to remove and dispose of insulation not containing asbestos is $1 per square foot and the costs to remove and dispose of insulation containing asbestos is $5 per square foot.

How should PPE Corp determine the settlement obligation?

Analysis

Consistent with ASC 410-20-25, we believe the ARO should be measured using the total cost of $5 per square foot (and not the incremental costs of $4 to remove and dispose of the asbestos) because the applicable asbestos regulations create a legal obligation to comply with certain removal and disposal procedures that should be measured at its fair value.

3.4.3 *Timing of AROs*

An important factor in measuring an asset retirement obligation is the length of time until its settlement. The asset's useful life provides one data point about the potential timing of the asset retirement. However, there may be a distinction between the useful life of the asset and the date the ARO will be settled. All factors should be considered in developing retirement scenarios, including license expiration dates, the reporting entity's retirement history, management's plans for improvements that could extend the life of the asset, and lease terms (as applicable). ASC 410-20-25-11 provides indicators to consider in assessing the timing.

Excerpt from ASC 410-20-25-11

The estimated economic life of the asset might indicate a potential settlement date for the asset retirement obligation. However, the original estimated economic life of the asset may not, in and of itself, establish that date because the entity may intend to make improvements to the asset that could extend the life of the asset or the entity could defer settlement of the obligation beyond the economic life of the asset. In those situations, the entity would look beyond the economic life of the asset in

determining the settlement date or range of potential settlement dates to use when estimating the fair value of the asset retirement obligation.

Reporting entities should ensure that differences in depreciable lives, estimated asset retirement dates, and lease and license expiration dates are supportable. Additionally, although the amount of the liability, and the corresponding asset retirement cost, may be influenced by the expected timing of when the expense will be incurred, the asset retirement cost capitalized as part of the asset will be depreciated over the depreciable life of the asset, not the period through the planned asset retirement date. Example PPE 3-3 provides details on evaluating the timing of settlement of an ARO.

EXAMPLE PPE 3-3

Evaluating the timing of settlement of an ARO

Rosemary Electric & Gas (REG) Company operates a nuclear generating plant that it operates under a license from the Nuclear Regulatory Commission. REG originally recorded an ARO based on the original license expiration date; however, management now intends to apply for a license renewal.

What should REG consider in evaluating the timing of settlement of the ARO?

Analysis

The timing of cash flows in REG's expected present value analysis should include a scenario in which the license is renewed and decommissioning of the plant is delayed. The weight assigned to this probability should consider all relevant facts and circumstances, including:

- Management's past success in obtaining similar licenses
- The political climate that could impact license renewal
- The regulatory environment, including licensing requirements
- Plant economics (e.g., whether is it profitable to continue operating the plant or if there are prohibitive costs associated with repowering the plant)

The outcome of this assessment may also impact the depreciable life or expected salvage value of the plant. However, the life of the plant and the timing of the asset retirement may differ. Depreciation is an accounting allocation methodology based on management's current best estimate of the useful life and expected salvage value at the end of the life of the facility.

3.4.3.1 Uncertain timing of ARO settlement

As discussed in PPE 3.2.2, ASC 410-20-25-7 states that the obligation to perform an asset retirement activity is unconditional even though uncertainty may exist about the timing or method of settlement. Therefore, even if the timing or method of settlement is uncertain and may be conditional on a future event, if an obligation exists, it should be recognized and measured if the fair value can be reasonably estimated. ASC 410-20-25-8 states that a reporting entity would have sufficient information to apply an expected present value technique if either of the following conditions exists:

- The settlement date and method of settlement have been specified by others
- The information is available to reasonably estimate all of the following: (1) the settlement date or range of settlement dates; (2) the method, or potential methods, of settlement; and (3) the probabilities associated with the potential settlement dates and methods.

ASC 410-20-55 provides an example of recognition when fair value can be reasonably estimated.

ASC 410-20-55-49

Assume a telecommunications entity owns and operates a communication network that uses wood poles that are treated with certain chemicals. There is no legal requirement to remove the poles from the ground. However, the owner may replace the poles periodically for a number of operational reasons. Once the poles are removed from the ground, they may be disposed of, sold, or reused as part of other activities. There is existing legislation that requires special disposal procedures for the poles in the particular state in which the entity operates.

ASC 410-20-55-50

At the date of purchase of the treated poles, the entity has the information to estimate a range of potential settlement dates, the potential methods of settlement, and the probabilities associated with the potential settlement dates and methods based on established industry practice. Therefore, at the date of purchase, the entity is able to estimate the fair value of the liability for the required disposal procedures using an expected present value technique.

ASC 410-20-55-51

Although the timing of the performance of the asset retirement activity is conditional on removing the poles from the ground and disposing of them, existing legislation creates a duty or responsibility for the entity to dispose of the poles in accordance with special procedures, and the obligating event occurs when the entity purchases the treated poles. Although the entity may decide not to remove the poles from the ground or may decide to reuse the poles and thereby defer settlement of the obligation, the ability to defer settlement does not relieve the entity of the obligation. The poles will eventually need to be disposed of using special procedures, because the poles will not last forever. Additionally, the ability of the entity to sell the poles prior to disposal does not relieve the entity of its present duty or responsibility to settle the obligation. The sale of the poles transfers the obligation to another entity. The assumption of the obligation by the buyer affects the exchange price. The bargaining of the exchange price reflects the buyer's and seller's individual estimates of the timing and (or) amount of the cost to extinguish the obligation.

ASC 410-20-55-52

The asset retirement obligation should be recognized when the entity purchases the poles because the entity has sufficient information to estimate the fair value of the asset retirement obligation. Because the legal requirement relates only to the disposal of the treated poles, the cost to remove the poles is not included in the asset retirement obligation. However, if there was a legal requirement to remove the treated poles, the cost of removal would be included.

As discussed in Question PPE 3-3, in some cases, the settlement timing may be indeterminate and thus no obligation would be recorded. If a range of possible settlement dates exists, then the period is not indeterminate, and accrual of a liability would be required. The reporting entity should develop an estimate based on the possible scenarios related to the potential timing of removal. This is consistent with the expected present value approach, which requires consideration of a variety of possible settlement dates.

Question PPE 3-3 addresses recording an asset retirement obligation with an indeterminate useful life.

Question PPE 3-3

How is the recognition of an ARO affected if the asset has an indeterminate useful life?

PwC response

There may be instances when there is no available information regarding the timing of settlement of an ARO. ASC 410-20-25-10 provides this as an example of when insufficient information exists to estimate fair value. In this case, an ARO would not be recognized until there is sufficient information to estimate fair value.

If management has the intent and ability to operate an asset indefinitely, it may be appropriate to conclude that the asset has an indeterminate life (see PPE 3.2.1 for a discussion of AROs associated with the retirement of component units). Before concluding that an asset has an indeterminate life, a reporting entity should consider, at a minimum:

- Regulatory and license requirements
- Results of historical operations, capital, and maintenance programs
- Engineering analysis
- Plans of joint owners, if applicable
- Cash flow and earnings forecasts
- Consideration of prior retirements of similar assets
- Lease terms, if a lease is involved
- Public expectations of the assets

Finally, the reporting entity should periodically reassess its obligations and should record the ARO at the time it becomes reasonably estimable. Additionally, the reporting entity should disclose a description of the obligation, the fact that a liability has not been determined because the fair value cannot be reasonably estimated, and the reasons why fair value cannot be reasonably estimated.

ASC 410-20-55-57 and ASC 410-20-55-58 provides an example of recognition when an entity has insufficient information to reasonably estimate present value.

3.4.3.2 Conditional AROs

A conditional asset retirement obligation is a legal obligation to perform an asset retirement activity where the timing and/or method of settlement are conditional on a future event that may or may not be within the control of the reporting entity. Although uncertainty may exist about the timing and/or method of settlement for a conditional ARO, the obligation to perform the asset retirement activities are unconditional and cannot be legally avoided. A reporting entity is still required to recognize a liability for the value of a conditional ARO if the fair value of the liability can be reasonably estimated as a legal obligation to perform asset retirement activities exists. Any uncertainty in the timing and/or method of settlement would be incorporated into the measurement of the ARO at fair value.

There are two general categories of conditional AROs addressed in ASC 410-20: stand-ready obligations (ASC 410-20-55-12) and unambiguous obligations with a low likelihood of performance (ASC 410-20-25-15).

Conditional AROs–stand-ready obligations

Stand-ready obligations are legal obligations where a counterparty (e.g., government regulator or lessor) has the right to decide whether a retirement activity is required to be performed.

ASC 410-20-25-14

This Subtopic requires recognition of a conditional asset retirement obligation before the event that either requires or waives performance occurs. Uncertainty surrounding conditional performance of the retirement obligation is factored into its measurement by assessing the likelihood that performance will be required. In situations in which the conditional aspect has only 2 outcomes and there is no information about which outcome is more probable, a 50 percent likelihood for each outcome shall be used until additional information is available.

For example, a stand-ready obligation related to an option held by a lessor is common in the restaurant industry. To illustrate, a local restaurant may enter into a lease to use space for the next 10 years. The restaurant customizes the space by installing seating, a kitchen, and floors. The lease gives the lessor the option to have the customizations removed by the lessee at the end of the lease or to retain the customization if the subsequent tenant wants to retain the set up as a restaurant. This is a stand-ready obligation because the lessee needs to be prepared to comply if the lessor decides that all customizations should be removed. In contrast, a lease with an unambiguous obligation to return the space to its original condition is a clear requirement for the lessee remove all customizations. Uncertainty about whether the lessor will enforce the unambiguous obligation would cause it to be conditional.

Regardless of the uncertainty attributable to the option held by a counterparty, a legal obligation to stand ready to perform retirement activities still exists, and the counterparty may require the retirement activities to be performed. The reporting entity should consider the uncertainty about the timing and method of settlement in the measurement of the liability at fair value.

When a stand-ready obligation exists and there is limited information to assess whether the counterparty will exercise their option and require performance of the retirement obligation, it may be acceptable to start with an assumption of a 50% probability of exercise. However, all available evidence should be considered. The assignment of 50% to each of two options may not always be appropriate. Evidence may indicate that the probability that the counterparty will exercise the option

should be more or less than 50% and such percentages should be factored into the determination of fair value.

If a reasonable assessment would indicate that the counterparty will require performance of the retirement obligation, for example if the asset is a nuclear power plant, the retirement obligation should be considered unambiguous regardless of whether the agreement is structured with the obligation in the form of an option.

Unambiguous obligations with a low likelihood of performance

In some cases, the likelihood of performance of the retirement activities may be low. This low likelihood of performance impacts the measurement of fair value of the ARO, but not the need to recognize an ARO.

ASC 410-20-25-15

An unambiguous requirement that gives rise to an asset retirement obligation coupled with a low likelihood of required performance still requires recognition of a liability. Uncertainty about the conditional outcome of the obligation is incorporated into the measurement of the fair value of that liability, not the recognition decision. Uncertainty about performance of conditional obligations shall not prevent the determination of a reasonable estimate of fair value. A past history of nonenforcement of an unambiguous obligation does not defer recognition of a liability, but its measurement is affected by the uncertainty over the requirement to perform retirement activities.

This guidance addresses unambiguous obligations that are "conditional" only because there is some level of uncertainty about whether a counterparty will enforce the obligation. The distinction between this category of conditional obligations and those addressed by stand-ready obligations is that the contract itself includes no optionality. The contract requires the retirement activities to be performed, and there is simply uncertainty as to whether that legal obligation will be enforced. This category of conditional obligation is closer to an unconditional obligation. Based on this view, the starting point should be an assumption of 100% probability of enforcement. The starting probability may be reduced based on available evidence.

Example PPE 3-4 further explores an unambiguous obligation.

EXAMPLE PPE 3-4

Evaluating an unambiguous obligation that may not be enforced

PPE Corp owns land that is used for industrial purposes. PPE Corp is legally obligated by the local government to return it to its original condition when the land is sold. PPE Corp estimates the present value of the legal obligation to be $1,000,000. Based on past practice, PPE Corp is aware that the local government may not enforce their obligation to return the land to its original condition. PPE Corp believes there is a 90% probability that this obligation will not be enforced.

Should an ARO be recognized and, if so, when?

Analysis

PPE Corp would need persuasive evidence to record the obligation based on unlikely enforcement. It should be able to support that an independent third party (i.e., a market participant) would similarly assume 10% probability of enforcement. If such evidence exists (e.g., past history with that governmental agency and data from other available sources) PPE Corp could assign a probability-weighted cash flow of $100,000 ((90% × $0) + (10% × $1,000,000)) to the fair value of the ARO.

See PPE 3.3.3 and LG 3.3.4 for additional accounting considerations related to AROs in the context of a lease.

Question PPE 3-4 explores if an ARO exists if there is a legal obligation to dispose of an asset in a special manner upon removal, but there are no current plans to dispose of the asset.

Question PPE 3-4

Does an ARO exist if there is a legal obligation to dispose of an asset in a special manner upon removal, but there are no current plans to dispose of the asset?

PwC response

Yes. In some cases, a reporting entity may not be required to remove an asset that has a finite life; however, when the asset is removed, it will trigger a legal obligation upon disposal of the asset. This creates uncertainty about *when* the reporting entity will settle the ARO, not *whether* the reporting entity has an ARO. That is, an ARO still exists even if the timing of such liability is not expected to be settled in the foreseeable future. The fact that there is no obligation to remove the asset does not relieve the entity of the legal obligation associated with disposal of the asset at the time of the asset's retirement.

For example, assume a reporting entity owns a factory that contains asbestos and there are regulations in place that require the reporting entity to appropriately handle and dispose of the asbestos in a special manner if the factory undergoes major renovations or is demolished. The reporting entity is not currently required to remove the asbestos from the factory. In this scenario, the obligation cannot be avoided through sale of the building, as the prospective buyer will either require the seller to remove the asbestos prior to sale or will factor the cost of asbestos management and abatement into the building's purchase price. Additionally, even if there are no current plans to undergo major renovations or demolish the building, the asbestos will eventually need to be removed and disposed of in a special manner, because no building will last forever. In this example, existing laws and regulations create a duty to remove and dispose of the asbestos in a special manner; only the timing of the performance of the asset retirement activity is conditional. If the uncertainty of the timing means that a reasonable estimate of fair value cannot be made (as discussed in PPE 3.4.2), the reporting entity may be precluded from recognizing the obligation.

3.4.3.3 Estimates of future cash flows (AROs)

As discussed in ASC 410-20-55-13, a reporting entity should incorporate market participant assumptions about the expected amount of future cash flows into the fair value analysis, including evaluation of the following amounts:

- The costs that a third party would incur to retire the asset
- Other factors that a third party would consider in determining the cost of the settlement, such as inflation, overhead, required profit margin, and advances in technology
- The price that a third party would require and could expect to receive for assuming the risk related to uncertainties and unforeseeable circumstances inherent in the obligation (i.e., the market risk premium)
- The extent to which the amount of a third party's costs or the timing of its costs would vary under different future scenarios and the relative probabilities of those scenarios

If there is a demonstrated history of technological improvements that have impacted the cost of performing the required retirement activities, and there is a reasonable basis to expect that third parties would include future cost savings due to expected technological improvements in their estimates, then we believe that these advances in technology should be incorporated into the estimated cash flows.

Due to the nature of asset retirement obligations, reporting entities may not always have directly observable or comparable information about the assumptions that market participants would use in assessing the fair value of a liability. In those cases, the reporting entity may be able to rely on information and assumptions based on its own expectations, provided there is no contrary data indicating that market participants would rely on different assumptions (e.g., if a reporting entity knows its labor costs are higher than market, the lower market rates should be used). In addition, the reporting entity should include a profit margin consistent with market participant assumptions.

Question PPE 3-5 and Question PPE 3-6 explore if the estimate of an ARO can be based on the reporting entity's own cost to settle the obligation and if the salvage value should be included as an offset to future cash flows when measuring an ARO.

Question PPE 3-5

Can the estimate of an ARO be based on the reporting entity's own costs to settle the obligation?

PwC response

It depends. ASC 820 requires the use of market participant assumptions in measuring the ARO's fair value, notwithstanding the reporting entity's specific plans for retiring the asset. If market participant information and assumptions are not available, a reporting entity may rely on information and assumptions based on its own expectations, provided there is not contrary data indicating that market participants would rely on different assumptions. Excluding certain costs, assuming no profit margin, or assigning a low or zero probability to a third-party retirement scenario would be inconsistent with the requirements of ASC 410-20 and ASC 820.

Question PPE 3-6

Should salvage value be included as an offset to future cash flows in measuring the ARO?

PwC response

No. Salvage value and other related cash inflows are included in determining the depreciable base of the asset. As a result, the estimated salvage value is excluded from the cash flows used to estimate the ARO.

3.4.3.4 Discount rate for AROs

In accordance with ASC 410-20-55-15, the expected present value technique requires that the estimated cash flows be discounted using a credit-adjusted risk-free rate. The risk-free rate is the interest rate on monetary assets that are essentially risk-free (e.g., in the United States, zero coupon US Treasury instruments) and that have maturity dates that coincide with the expected timing of the estimated cash flows required to satisfy the asset retirement obligation. The risk-free rate is then adjusted to reflect the reporting entity's risk profile, which is their credit-adjusted risk-free rate. Reporting entities should use the appropriate discount rate based on the timing of individual scenarios. For example, if there is an equal chance that retirement will occur in 2030 or 2040, the reporting entity should apply one discount rate to the 2030 retirement and another to the 2040 retirement at the date the obligation is calculated. The credit-adjusted risk-free rate in 2030 could be different from the rate in 2040 for the same reporting entity as the credit spread between the risk-free rate and the credit-adjusted rate tends to widen over time.

For subsidiaries within a consolidated group, the credit adjustment to the risk-free rate should be specific to the reporting entity that is legally obligated to perform the remediation activities. Where there are intercompany funding or assurance provisions in place (e.g., the parent company guarantees the performance of the asset retirement activities), the effect of such provisions should be reflected in the credit adjustment to the risk-free rate. See PPE 3.4.3.5 for additional information on ARO funding and assurance provisions. Additionally, see FV 8 for guidance on considering the effect of a reporting entity's credit standing when determining the credit-adjusted risk-free rate.

3.4.3.5 ARO funding and assurance provisions

Reporting entities may be required to provide assurance of their ability to fund an asset retirement obligation. Methods of providing assurance include surety bonds, insurance policies, letters of credit, guarantees by other entities, and establishment of trust funds or other assets dedicated to satisfying the ARO. These funding and assurance provisions should not be used to reduce an ARO liability. However, the existence of such provisions may affect the determination of the credit-adjusted risk-free rate used in the measurement of the ARO.

Question PPE 3-7 discusses how the initial measurement of an ARO is impacted by funding and assurance provisions. Additionally, see PPE 8.2 for information relating to the recognition of insurance receivables.

Question PPE 3-7

Is the initial measurement of an ARO impacted by funding and assurance provisions?

PwC response

Yes. These arrangements should be considered in determining the credit-adjusted risk-free rate used to discount the cash flows associated with the liability, therefore affecting the measurement of an ARO. However, in accordance with ASC 410-20-35-9, a reporting entity may not reduce the reported amount of an ARO as a result of any assurance arrangement it may have been provided, such as a surety bond, letter of credit, or trust fund. For example, the impact of establishing a nuclear decommissioning trust fund or a sinking fund arrangement should be reflected in the reporting entity's credit adjusted risk-free rate, but not in the amount of expected cash flows to settle the ARO.

If changes occur to the funding and assurance provisions after initial measurement, there will be no effect on the initial measurement of the liability. However, the changes in these provisions should be considered if there is an upward revision or change in timing of cash flows in which the current credit-adjusted risk-free rate will be utilized (i.e., in the creation of new ARO layers).

Additionally, unless all of the conditions in ASC 210-20-45-1 are met, potential recoveries under indemnification agreements relating to AROs should not be used to offset the reported amount of the liability recorded. This is because the indemnification arrangement is considered a separate unit of account from the ARO.

3.4.3.6 Calculating an ARO using an expected present value technique

As discussed in PPE 3.4.2, ASC 410-20-30-1 indicates that given the nature of an asset retirement obligation, an expected present value technique will usually be the only appropriate technique with which to estimate the fair value of the liability for an ARO. When estimating the fair value of an ARO using this technique, a reporting entity should assign probabilities to a range of cash flow estimates, which are then discounted using a credit-adjusted risk-free rate.

Example PPE 3-5 illustrates the application of the expected present value technique to the dismantling of a nuclear power plant.

EXAMPLE PPE 3-5

Applying the expected present value technique

Rosemary Electric & Gas Company owns a nuclear power plant that it plans to decommission in 2030 and is determining the initial fair value of its asset retirement obligation.

Which scenarios might REG consider in its expected present value calculation?

Analysis

Management determines that there are three potential scenarios for retirement of the asset (amounts in millions):

	Probability	Timing	Estimated third-party cost	Credit adjusted risk-free rate	Present value	Probability -weighted present value
Dismantle in 2030; use U.S. Department of Energy (DOE) disposal facilities	65%	2030; one-time cost	$1,775	10%	$161	$ 105
Entomb plant in 2030; ongoing monitoring for 50 years	30%	2030; Annual	1,500 10	10% 10%(1)	137	41
Dismantle in 2030; DOE facilities are not available, third party paid to assume disposal liability	5%	2030; one-time cost	5,000	10%	455	23
Expected value						**$ 169**

[1] As these costs are incurred each year, they should be discounted based on the applicable rate for each year; however, for illustrative purposes the same rate is used for all cash flows in this example.

Based upon the above analysis, Rosemary Electric & Gas Company would initially recognize an ARO liability of $169 million, with a corresponding ARC of $169 million.

3.4.4 Subsequent measurement (AROs)

Subsequent to initial measurement, a reporting entity should recognize changes in the asset retirement obligation that result from (a) the passage of time and (b) revisions made to the timing or amount of future cash flows. A change that is due to the passage of time should be incorporated into the liability prior to reflecting revisions as a result of changes in the timing or amount of estimated cash flows. Reporting entities should evaluate their estimates of cash flows relating to AROs each reporting period and consider whether such estimates remain appropriate or require adjustment.

3.4.4.1 Changes due to passage of time (AROs)

The asset retirement obligation liability should be adjusted for the passage of time by accreting the balance using the interest method over the period from initial measurement to the expected timing of settlement. In applying this method, the reporting entity should use the credit-adjusted risk-free rate applied when the liability was initially measured.

Changes resulting from the passage of time should be recognized as an increase in the carrying amount of the liability (i.e., accretion of the ARO), with a corresponding expense recognized as a period cost classified in the operating section of the income statement. ASC 410-20-45-1 allows this amount to be combined with other amounts as long as the description "conveys the underlying nature of the expense." However, in accordance with ASC 835-20-15-7, accretion expense cannot be included in capitalized interest costs.

3.4.4.2 Revisions to the timing and amount of cash flows (AROs)

Changes in the estimate of timing and cost to settle the obligation as a result of continued use of the asset, changes in available technology, or other factors should be recognized in the period of change as an increase or decrease in the carrying amount of the asset retirement obligation and the related asset retirement cost. This adjustment will not have any immediate income statement impact in the period of change; however, it will impact the prospective amortization and accretion expense.

The discount rate used to calculate the new ARO and asset retirement cost "layer" will depend on whether there is an upward or downward revision in estimated cash flows, as discussed in ASC 410-20-35-8.

Excerpt from ASC 410-20-35-8

Upward revisions in the amount of undiscounted estimated cash flows shall be discounted using the current credit-adjusted risk-free rate. Downward revisions in the amount of undiscounted estimated cash flows shall be discounted using the credit- adjusted risk-free rate that existed when the original liability was recognized. If an entity cannot identify the prior period to which the downward revision relates, it may use a weighted-average credit-adjusted risk-free rate to discount the downward revision to estimated future cash flows.

As the recording of the revision for an upward adjustment to the undiscounted future cash flows represents a new liability, the upward revision follows the initial measurement guidance of ASC 410-20. The concepts of ASC 820 apply in determining this new "layer" associated with the existing ARO. The unit of account for measurement of an upward revision is specified in ASC 410-20-55-39 through ASC 410-20-55-41 as being only the incremental cash flows.

A reporting entity should be careful to evaluate revisions to the amount of cash flows and determine whether they are a change in estimate based on new information received during the current reporting period or the correction of an error in the initial estimate. Reporting entities should establish a process for evaluating their AROs on a consistent basis to capture cash flow revisions timely.

When a revision to the timing but not the amount of cash flows occurs, ASC 410-20 is not clear on how to account for the change, including which credit-adjusted risk-free rate to use when remeasuring the ARO (i.e., the current rate or the rate that was in place at the time of the original estimate). Similar to an upward revision due to an increase in estimated cash flows, we believe that changes in the timing of expected cash flows should be discounted using the current credit-adjusted risk-free when the revision is made, regardless of whether the expected timing of settlement has increased or decreased. This rate should be applied to all cash flows associated with the ARO as it is only a change in timing of cash flows. However, using the credit-adjusted risk-free rate that was in place at the time the original estimate was made may also be acceptable. Whichever method is used should be applied consistently.

If a revision is due to changes in both the timing and estimate of cash flows, reporting entities should follow the specific guidance provided in ASC 410-20 for an upward or downward revision. For example, if there is a downward revision in estimated cash flows and an increase in the timing of when the ARO is expected to be settled (i.e., the retirement will occur further into the future), the reporting entity should use the credit-adjusted risk-free rate in place at the time when the original estimate was made.

Example PPE 3-6, Question PPE 3-8, and Question PPE 3-9 explore revisions of AROs and its impact to cash flows.

EXAMPLE PPE 3-6

Evaluating an upward revision in estimated cash flows

Oil Co completes construction of an offshore oil platform and places it into service on January 1, 20X1. Oil Co is legally required to dismantle and remove the platform at the end of its useful life, which is estimated to be 10 years. The expected cash flows on January 1, 20X1 are $800,000. The credit-adjusted risk-free rate is 8.5% on January 1, 20X1. On December 31, 20X1, Oil Co determines that the ARO will require $100,000 more than the original estimate of $800,000. At the time of the revision, Oil Co's credit standing has improved, causing the credit-adjusted risk-free rate to decrease by 0.5% to 8%.

How should Oil Co record the impact of the revised cash flow estimate?

Analysis

As the revision is an upward revision in expected cash flows, the incremental cash flows of $100,000 would be present valued using the new 8% discount rate. The ARO liability would be increased, with a corresponding increase to the asset retirement cost. The amount recorded related to the original $800,000 estimate would remain unchanged on December 31, 20X1 (i.e., the discount rate for that portion of the expected cash flow would not be updated).

Question PPE 3-8

What is the impact of a downward revision of an ARO that exceeds the carrying value of the related asset retirement cost (ARC)?

PwC response

Subsequent to establishing an ARO, if a reporting entity experiences a downward revision in the liability due to a change in the expected timing or amount of cash flows, a corresponding decrease should be recorded to the asset retirement costs. Due to the differences in the pattern of accretion of the ARO and the amortization of the ARC, the reporting entity may experience a decrease in the carrying amount of the ARO that exceeds the undepreciated ARC. In such cases, the ARO liability should be reduced to reflect the change. Generally, we believe the offsetting credit should first reduce the ARC, and the additional credit should be recorded against the underlying asset to which the ARC relates, but only until the asset balance is reduced to zero. After reducing the ARC and related underlying asset balance to zero, any additional credit should be recorded to income. This is based on

the premise that the ARC and related asset to which it relates are viewed as a single unit of account, which was described in paragraph B42 of the Basis for Conclusions of ASC 410-20 (FAS 143).

However, we are aware of industry practice for regulated power and utility whereby the carrying amount of the underlying asset to which the ARC relates is not reduced in this scenario (i.e., the ARC and underlying asset are not viewed as a single unit of account). In such cases, for regulated entities, the ARO is reduced to reflect the change and the remaining undepreciated ARC is derecognized with a gain recognized in the income statement for any difference.

Question PPE 3-9

Should a reporting entity remeasure an ARO that is accounted for based on a license agreement's original term when it considers extending the term prior to extending the license agreement?

PwC response

Yes. A change to the expectation of when an ARO will be settled would be a trigger for remeasurement. A reporting entity should include in the remeasurement of its ARO a scenario in which the license agreement is renewed and retirement of the asset is delayed. The weight assigned to this probability should consider all relevant facts and circumstances, such as management's past success in obtaining similar licenses and the economics of the asset. A change in the expectation of renewal may impact the depreciable life or expected salvage value of the asset.

3.5 Retirement (AROs)

ASC 410-20-40-1 discusses the accounting for the derecognition of asset retirement obligations.

ASC 410-20-40-1

Typically, settlement of an asset retirement obligation is not required until the associated asset is retired. However, certain circumstances may exist in which partial settlement of an asset retirement obligation is required or performed before the asset is fully retired. The nature of asset retirement obligations in various industries is such that the obligations are not necessarily satisfied when the current operation or use of the asset ceases. These obligations can be settled during operation of the asset or after the operations cease. The timing of the ultimate settlement of a liability is unrelated to and should not affect its initial recognition in the financial statements provided the obligation is associated with the retirement of a tangible long-lived asset.

Once an asset associated with an ARO is retired or as the remediation of the ARO occurs, a reporting entity should derecognize the ARO. If settlement occurs over time, derecognition of the ARO should occur over time. For example, if a nuclear plant is retired in January, but will take five months to remove all contaminated materials, the ARO would be derecognized over the five months using a systematic method consistent with the remaining liability.

When AROs are settled using internal resources, it is not uncommon for a gain to be recognized upon settlement of the retirement obligation. This is because AROs are required to be recognized and measured at fair value, incorporating market participant assumptions such as third-party service providers' profit margins. As a result, when an ARO is settled internally, the gain recognized upon

settlement will generally approximate (1) the normal third-party profit margin and (2) the market risk premium assumed when estimating the fair value of the ARO. Question PPE 3-10 and Question PPE 3-11 outline considerations relating to operating leases for equipment to be utilized in the settlement of AROs.

Question PPE 3-10

After adopting ASC 842, Leases, if a reporting entity enters into an operating lease for equipment needed to perform asset retirement activities for an existing ARO, should the reporting entity adjust the existing ARO liability as part of the initial recognition of the operating lease?

PwC response

No. The reporting entity has two separate obligations:

1. the legal obligation associated with the retirement of the long-lived asset under ASC 410-20, and

2. the lease liability representing its obligation to make future payments for the right to use the leased equipment.

The obligation associated with the retirement of the long-lived asset is not settled until the asset retirement activities occur. Leasing the equipment that will be used to satisfy the ARO does not reduce the ARO since it is not an asset retirement activity.

This treatment is consistent with the accounting when equipment is purchased for the purpose of performing asset retirement activities. When equipment is purchased, a reporting entity records an asset for the equipment. The ARO liability would be reduced as the purchased equipment is used as part of asset retirement activities (i.e., through depreciation of the equipment), not simply through the ownership of the equipment.

Question PPE 3-11

After adopting ASC 842, *Leases*, if a reporting entity enters into an operating lease for equipment that is used to perform asset retirement activities for an existing ARO, can the reporting entity reduce the existing ARO liability by the related lease costs (i.e., operating lease expense)?

PwC response

Yes. If a leased asset is used as part of the reporting entity's asset retirement activities, the periodic lease costs (i.e., operating lease expense) may be recorded as a reduction to the ARO liability.

This treatment is consistent with the illustrative example in ASC 410-20-55-37 through ASC 410-20-55-38, in which the payroll costs incurred for employees conducting asset retirement activities are recorded as a reduction of the ARO.

This treatment is also consistent with a scenario in which equipment used in asset retirement activities is purchased by the reporting entity. The ARO liability would be reduced each period through the depreciation of the purchased equipment as part of its use in asset retirement activities.

3.6 Presentation and disclosure (AROs)

See FSP 11.6 for the presentation and disclosure requirements relating to asset retirement obligations.

Chapter 4: Depreciation and amortization

4.1 Depreciation and amortization overview

ASC 360-10-35-4 defines depreciation accounting as “a system of accounting which aims to distribute the cost or other basic value of tangible capital assets, less salvage (if any), over the estimated useful life of the unit (which may be a group of assets) in a systematic and rational manner.” Depreciation accounting is “a process of allocation, not of valuation.” It is intended to allocate an asset’s cost as equitably as possible to the periods during which the reporting entity benefits from the use of the asset.

Similarly, ASC 350-30-35-6 states that “a recognized intangible asset shall be amortized over its useful life to the reporting entity unless that life is determined to be indefinite.” If the precise length of the finite useful life is not known, the intangible asset should be amortized over the best estimate of its useful life. See BCG 8 for information regarding the accounting for the indefinite-lived intangible assets.

This chapter discusses various aspects of accounting for depreciation of tangible assets and amortization of finite-lived intangible assets, including determining the useful life and salvage value (see PPE 4.2), selecting the depreciation or amortization method (see PPE 4.3), and component depreciation (see PPE 4.4).

See FSP 3.6.3 for information on the classification and presentation of depreciation and amortization expense.

4.2 Determining the useful life and salvage value of an asset

Determining the useful life and salvage value (or residual value) of an asset requires judgment and an understanding of the reporting entity’s planned use of that asset, amongst other factors, which are discussed in PPE 4.2.1 through PPE 4.2.4A.

4.2.1 Determining the useful life of an asset

The ASC Master Glossary defines the useful life of an asset.

Definition from ASC Master Glossary

Useful Life: The period over which the asset is expected to contribute directly or indirectly to future cash flows.

The useful life of an asset is dependent on a number of entity-specific factors, the assessment of which may require judgment. When determining the useful life of an intangible asset, a reporting entity should consider the factors listed in ASC 350-30-35-3, which may also be useful to consider when determining the useful life of a tangible asset. None of the factors in ASC 350-30-35-3 should be considered more presumptive than the others, and the list is not all inclusive.

Excerpt from ASC 350-30-35-3

a. The expected use of the asset by the entity.

b. The expected useful life of another asset or a group of assets to which the useful life of the intangible asset may relate.

c. Any legal, regulatory, or contractual provisions that may limit the useful life. The cash flows and useful lives of intangible assets that are based on legal rights are constrained by the duration of those legal rights. Thus, the useful lives of such intangible assets cannot extend beyond the length of their legal rights and may be shorter.

d. The entity's own historical experience in renewing or extending similar arrangements, consistent with the intended use of the asset by the entity, regardless of whether those arrangements have explicit renewal or extension provisions. In the absence of that experience, the entity shall consider the assumptions that market participants would use about renewal or extension consistent with the highest and best use of the asset by market participants, adjusted for entity-specific factors in this paragraph.

e. The effects of obsolescence, demand, competition, and other economic factors (such as the stability of the industry, known technological advances, legislative action that results in an uncertain or changing regulatory environment, and expected changes in distribution channels).

f. The level of maintenance expenditures required to obtain the expected future cash flows from the asset (for example, a material level of required maintenance in relation to the carrying amount of the asset may suggest a very limited useful life). As in determining the useful life of depreciable tangible assets, regular maintenance may be assumed but enhancements may not.

A reporting entity may also use other relevant factors in determining an asset's useful life. For example, when considering the useful life of a customer-related intangible asset, the uncertainty of revenues dependent upon retention of key employees, the "churn" rate of customers, and the mobility of customer and employee bases should be taken into account. Reporting entities should consider all of the relevant facts and circumstances when estimating an asset's useful life. However, ASC 350-30-35-2 is clear that the useful life of an intangible asset is not the period that it would take the reporting entity to internally develop an intangible asset providing similar benefits.

Although not defined, we believe the use of the term "useful economic life" in ASC 360-10-35-4 is intended to have the same meaning as "useful life," as defined in the ASC Master Glossary. The useful life assessment of a long-lived asset is based on entity-specific assumptions about how the entity intends to use the asset, which may be different from market-participant assumptions. Accordingly, the useful life could be different than the economic life or actual physical life of the asset.

For example, if a reporting entity purchases a machine that is designed to be used for ten years but, unlike market participants, the entity's practice is to use the machine for only five years and sell it for salvage value, the useful life would be five years whereas the economic life may be ten years. When the life cycle of an entity's product is shorter than the equipment used to manufacture the product, and new equipment is required to manufacture the next generation product, the useful life of the equipment would be over the product's shorter life cycle. See PPE 4.2.2 for the determination of salvage value.

For an intangible asset, a reporting entity should first determine whether the useful life of the asset is finite or indefinite, considering the factors outlined in ASC 350-30-35-3. Further, ASC 350-30-35-4 states that the useful life of an intangible asset should be considered indefinite if no legal, regulatory,

contractual, competitive, economic, or other factors limit its useful life to the entity. ASC 350-30-35-4 also explains, "The useful life of an intangible asset is indefinite if that life extends beyond the foreseeable horizon—that is, there is no foreseeable limit on the period of time over which it is expected to contribute to the cash flows of the reporting entity." The term indefinite, however, does not mean infinite or indeterminate.

See BCG 8 for further information on indefinite-lived intangible assets. If an intangible asset is deemed to have a finite life, the entity should determine its useful life considering the factors discussed in ASC 350-30-35-3. In addition, ASC 350-30-55-2 through ASC 350-30-55-28F include several illustrative examples for determining the useful life of an intangible asset. See BCG 4.6 for a summary of intangible assets and typical useful life characteristics found in major industries.

4.2.1.1 Intangible asset renewals when determining useful lives

A reporting entity should consider any contract renewals or extensions in determining the useful life of an intangible asset, except for determining the useful lives of reacquired rights (see PPE 4.2.1.2). However, ASC 350 does not distinguish between renewals or extensions that are at the entity's option and those that are at the option of other parties or how to consider the terms of renewals or extensions. Careful consideration should be given to a reporting entity's assumption of renewals or extensions that are at the option of the counterparty (e.g., a customer or a governmental body) as it can be difficult to support an assertion regarding another party's intentions.

One of the considerations in ASC 350-30-35-3 for determining useful life refers to the consideration of the entity's own historical experience in renewing or extending similar arrangements. This guidance also directs a reporting entity to consider the assumptions that market participants would use about renewals or extensions (consistent with the highest and best use of the asset by market participants) if it lacks entity-specific experience. If this is the case, it is important that the market-participant assumptions be adjusted to consider entity-specific factors. This is because there may be a difference between the useful life of the asset used for amortization and the period of expected cash flows used to measure the fair value of the asset from a market participant perspective. As discussed in ASC 350-30-55-1C, these instances will likely be limited to situations in which the reporting entity's own assumptions regarding the period over which the asset is expected to contribute to future cash flows differ from those that would be assumed by market participants in valuing the asset. Because a recognized intangible asset should be amortized over the period during which the asset will contribute both directly and indirectly to the expected future cash flows of the reporting entity, it is appropriate for the reporting entity to consider its own assumptions.

4.2.1.2 Useful lives of reacquired rights

An acquirer may reacquire a right it had previously granted to an acquiree to use the acquirer's recognized or unrecognized intangible assets. If acquired as part of a business combination, the reacquired right should be recognized as an intangible asset and measured based on its remaining contractual terms, excluding the effects of expected contractual renewals. After initial recognition, ASC 805-20-35-2 requires that the right be amortized over its remaining contractual period, excluding any subsequent renewals and extensions. A reacquired right may have an indefinite useful life if the contractual term is perpetual (i.e., no stated term) and the remaining contractual life is not otherwise limited. A stated term subject to automatic renewal is not considered perpetual.

The accounting for rights reacquired in business combinations and asset acquisitions may differ (e.g., considerations relating to expected contractual renewals). See BCG 2.5.6.1 and PPE 2.7 for further

information on the determination of the value and useful life of reacquired rights in a business combination and asset acquisitions, respectively.

4.2.1.3 *Intangible assets used in research and development (IPR&D)*

ASC 805 requires the recognition of in-process intangible research and development (IPR&D) assets acquired in a business combination. After initial recognition, IPR&D assets should be considered indefinite-lived until the abandonment or completion of the associated R&D efforts. Acquired IPR&D assets should not be amortized; instead, they are subject to an impairment assessment, at least annually. If the acquired IPR&D project is abandoned, the related intangible would be written off or impaired. Once the IPR&D activities are completed, management of the acquiring entity should determine the useful lives and methods of amortization of the related intangible assets. See BCG 8.2.4 for further information on IPR&D assets.

In accordance with ASC 730-10-25-2(c), intangible assets used in research and developmental activities acquired in an asset acquisition should be expensed at the acquisition date if there is no alternative future use in other R&D projects or otherwise (i.e., if they have no economic value). If there is an alternative future use, the assets should be accounted for as an intangible asset. Amortization of such intangible assets is an R&D expense. Circumstances when there is an alternative future use are expected to be limited. Examples of alternative future use are included in Chapter 3 of the AICPA's IPR&D guide. While the IPR&D Guide is non-authoritative, it serves as an accounting and reporting resource for entities that acquire IPR&D.

4.2.1.4 *Useful lives of defensive intangible assets*

The ASC Master Glossary defines a defensive intangible asset.

Definition from ASC Master Glossary

Defensive intangible asset: An acquired intangible asset in a situation in which an entity does not intend to actively use the asset but intends to hold (lock up) the asset to prevent others from obtaining access to the asset.

Generally, the period over which a defensive intangible asset diminishes in fair value is a reasonable approximation of the period over which the reporting entity expects a defensive intangible asset to contribute directly or indirectly to the future cash flows of the reporting entity. ASC 350-30-35-5B provides guidance indicating that the useful life of a defensive intangible asset is typically finite.

Excerpt from ASC 350-30-35-5B

It would be rare for a defensive intangible asset to have an indefinite life because the fair value of the defensive intangible asset will generally diminish over time as a result of a lack of market exposure or as a result of competitive or other factors.

As a result, the amortization method used should reflect the pattern in which the fair value of a defensive intangible asset diminishes over time. For more information on the initial recognition, measurement, and subsequent accounting for defensive intangible assets see BCG 8.4.

4.2.2 *Salvage value and residual value*

A tangible long-lived asset should be depreciated over its estimated useful life to its salvage value, if any. Salvage value is the estimated value of a tangible asset to the reporting entity at the end of its useful life. A tangible asset used for its entire economic life will generally have insignificant, if any, salvage value (i.e., scrap value). However, if the economic or physical life of a long-lived asset exceeds its useful life, the salvage value will reflect the remaining economic life at the end of the useful life and may be more significant.

When considering salvage value in calculating depreciation, reporting entities should take into account all of the costs that would be necessary to realize the salvage value of the asset (e.g., disposal costs); however, a tangible asset's salvage value cannot be less than zero. If applicable, the salvage value of a tangible asset should reflect the value of the asset after any separately-recognized asset retirement obligation under ASC 410-20 has been satisfied (i.e., the salvage value of a tangible asset should be estimated unencumbered by any separately-recognized asset retirement obligation). See PPE 3 for further discussion of asset retirement obligations.

Similar to a tangible asset, a long-lived intangible asset should be amortized over its estimated useful life to its residual value, if any. The residual value of an intangible asset is assumed to be zero, unless certain criteria are met. When these criteria are met, the residual value is the estimated fair value of the intangible asset at the end of the asset's useful life. The definition of residual value of an intangible asset is discussed in ASC 350-30-35-8.

Excerpt from ASC 350-30-35-8

The residual value of an intangible asset shall be assumed to be zero unless at the end of its useful life to the entity the asset is expected to continue to have a useful life to another entity and either of the following conditions is met:

a. The reporting entity has a commitment from a third party to purchase the asset at the end of its useful life.

b. The residual value can be determined by reference to an exchange transaction in an existing market for that asset and that market is expected to exist at the end of the asset's useful life.

4.2.3 *Changes in useful lives or salvage values*

In accordance with ASC 350-30-35-9 and ASC 350-30-35-16, a reporting entity should evaluate the remaining useful life of an intangible asset each reporting period to determine whether events or circumstances may indicate that a revision to the useful life (presumably shorter) is warranted to reflect the remaining expected use of the asset.

Unlike the guidance that exists for intangible assets, there is no explicit requirement to evaluate the useful lives of long-lived tangible assets each reporting period. However, we believe the useful lives of long-lived tangible assets should be reassessed whenever events or circumstances indicate that a revision to the useful life is warranted. It may be necessary to reassess the useful life of a long-lived tangible asset even if no impairment indicators exist or if the asset group passes step one of the impairment test.

In accordance with ASC 360-10-35-22, when a long-lived asset (asset group) is tested for recoverability, it also may be necessary to review the estimated useful life. A change in the estimated useful life or salvage value of a long-lived asset is a change in accounting estimate and should be accounted for prospectively in the period of change and future periods in accordance with ASC 250-10. ASC 360-10-35-47 also emphasizes that if a reporting entity commits to a plan to abandon a long-lived asset before the end of its previously estimated useful life, depreciation expense should be accelerated to reflect the use of the asset over its shortened useful life. The need to shorten the useful life of an asset may also be a triggering event to test for impairment under ASC 360. See PPE 6.3.1 for further information on accounting for long-lived assets to be abandoned.

A reporting entity should not cease depreciating an asset that is to be held and used even if it expects to sell the asset at a gain. Although fair value may be higher than book value, depreciation should continue until the asset either is disposed of (or meets the held for sale criteria) or is depreciated to its salvage value. Long-lived assets should not be written up to reflect appraisal, market, or current values above the book value. As noted in ASC 360-10-35-4, depreciation is “a process of allocation, not of valuation.” Unless an asset is disposed of (or meets the held for sale criteria), ceasing depreciation would distort the allocation of the initial cost of the asset over its useful life.

Example PPE 4-1 illustrates the accounting for changes in useful life and salvage value.

EXAMPLE PPE 4-1

Change in useful life and salvage value

PPE Corp has equipment with an original cost of $32,000 and expected salvage value of $2,000. The equipment is being depreciated on a straight-line basis over its expected useful life of 10 years, which is the same as the equipment’s expected economic life. At the end of the fourth year, the equipment has a carrying value of $20,000 ($32,000 - (($32,000 - $2,000) / 10 × 4)). Due to a change in product offering, the entity expects to use the equipment in its operations for only 12 more months and expects to receive $5,000 of proceeds from the sale of the equipment. The equipment’s remaining economic life is 6 years.

Should PPE Corp revise its depreciation of the equipment?

Analysis

In determining depreciation expense, PPE Corp should consider the remaining useful life of the equipment.

If PPE Corp expects to use the equipment in its operations for only the next 12 months, PPE Corp should depreciate the equipment over that period such that the remaining balance equals the expected salvage value (proceeds from the sale of the equipment). Since the equipment has a book value of $20,000 and PPE Corp expects to receive $5,000 in proceeds from the equipment's sale, PPE Corp must record depreciation expense of $15,000 ($20,000 carrying value less $5,000 salvage value) over the next 12 months (the remaining useful life).

If PPE Corp expected the proceeds to be $21,000 instead of $5,000, it may not stop depreciating the asset even though its fair value exceeds its carrying amount. One year of the economic life of the asset will be utilized over the next 12 months. Accordingly, it is appropriate for PPE Corp to record depreciation commensurate with one year of economic life, or $3,000 ($32,000 original cost less

$2,000 original estimated salvage divided by the economic life of 10 years) over the remaining year of useful life.

In the assessment of useful life, a reporting entity may change its assessment of the life of an intangible asset between finite and indefinite. See BCG 8.2.1 for information about the accounting for the reclassification of intangible assets between indefinite-lived and finite-lived categories.

4.2.4 Amortization of leased assets (after adoption of ASC 842)—updated November 2021

Under ASC 842, *Leases*, a lessee records a right-of-use asset and a corresponding lease liability for both operating leases and finance leases. A right-of-use asset represents the lessee's right to use an asset legally owned by another party for a period of time. A right-of-use asset is recognized as an asset because a lessee has control over an economic resource and is benefiting from its use. The lease liability represents the obligation to make payments for that right of use.

The subsequent measurement of a right-of-use asset is subject to guidance under ASC 842 and ASC 360. Right-of-use assets are generally amortized over the term of the lease. However, there can be situations when the useful life of the right-of-use asset is different from the lease term. For example, the right-of-use asset would be amortized over the useful life of the underlying asset in a finance lease with a purchase option that is reasonably certain of exercise. This is because the lessee will obtain the underlying asset at the end of the lease term.

The expected useful life of the right-of-use asset may also change over the term of the lease. As discussed in PPE 4.2.3, reporting entities are required to periodically reassess the remaining useful lives of their long-lived assets, including right-of-use assets. In particular, it may be necessary to assess the useful life of a right-of-use asset when there are impairment triggers related to the asset group, or when the reporting entity considers abandonment of a right-of-use asset. For further details related to right-of-use asset impairment considerations, refer to PPE 5.2.6 through PPE 5.2.6.3. For further details related to right-of-use asset abandonment, refer to PPE 6.3.1.1.

A reporting entity that plans to sublease the underlying leased asset should consider the guidance related to long-lived asset impairment, particularly when the right-of-use asset is significant to the asset group (see PPE 5.2.6). When a lessee subleases an asset in a transaction in which the sublease is classified as an operating lease, the asset will continue to be held and used by the lessee, since the lessee is still economically benefitting from the asset, albeit in a different manner. Because a decision to sublease the underlying leased asset changes how the lessee is using the right-of-use asset, it may change the period over which the asset is expected to contribute directly or indirectly to future cash flows and therefore may change the remaining useful life of the right-of-use asset (e.g., if the sublease term is shorter than the head lease term and the lessee plans to abandon the asset at the conclusion of the sublease).

4.2.4A Amortization of leased assets (prior to adoption of ASC 842)

Prior to the adoption of ASC 842, no right-of-use asset and corresponding lease liability are recognized on balance sheet for lessees in an operating lease. However, under ASC 840, *Leases*, a lessee records a capital lease as an asset and an obligation at the beginning of the lease term and usually depreciates the leased asset on a straight-line basis. The useful life of such an asset is determined based on which criteria caused the lease to be treated as a capital lease. If the lease term or the minimum lease payments criteria were met, the asset should be amortized over the shorter of its useful life or the lease

term. This is similar to the amortization period used for leasehold improvements under an operating lease. If the lease is determined to be a capital lease because it meets the transfer of ownership or bargain purchase criteria, the asset should be depreciated over its useful life in accordance with the reporting entity's normal depreciation policy for owned assets.

4.3 Attribution of depreciation and amortization

Determining the appropriate period and method to depreciate or amortize assets requires judgment and an understanding of the assets and their useful lives.

4.3.1 Commencement and cessation of depreciation or amortization

Depreciation or amortization of a long-lived asset begins when the asset is available for its intended use. That is, depreciation or amortization begins when the asset is in the location and condition necessary for it to operate in the manner intended by management.

As noted in ASC 835-20-25-5 and ASC 350-40-25-14, interest capitalization should cease and depreciation should begin when the long-lived asset is substantially complete and ready for its intended use. The proposed PPE SOP (see PPE 1.1) describes "ready for its intended use" as follows.

Excerpt from paragraph 28(b) of the proposed PPE SOP

PP&E is considered ready for its intended use when it is first capable of producing a unit of product that is either saleable or usable internally by the entity.

The date on which a long-lived asset is considered ready for its intended use should not be delayed by activities undertaken by the entity in pursuit of efficiency, productivity, or quality enhancements. Similarly, depreciation or amortization of an asset that is available for its intended use should not be delayed simply because the entity has not started operating the asset (e.g., sufficient capacity exists with current production assets).

Certain conditions may prevent a long-lived asset from being considered available for its intended use. For example, if FDA approval is required before a pharmaceutical company can start to manufacture a new drug for sale, depreciation of the manufacturing equipment will generally not commence until the relevant FDA approval is obtained.

Reporting entities often purchase additional spare parts for key pieces of equipment to ensure downtime is minimized in the event of equipment failure. As discussed in PPE 1.5.3 and FSP 8.6, depending on the facts and circumstances associated with the spare parts, companies classify spare parts either as long-lived assets or as inventory. When treated as inventory, the spare parts are not depreciated and are expensed when placed in service, similar to maintenance expense. When considered to be long-lived assets, the spare parts are depreciated over their useful lives or the remaining service lives of the related equipment. Determining when to start depreciating a spare part that meets the definition of long-lived asset will depend on its expected use. If the spare part is expected to be used only if there is an unexpected breakdown or equipment failure, it may be appropriate to start depreciation at the point when the spare part is available for installation. On the other hand, if that spare part is expected to be routinely used as a replacement part, it may be appropriate to start depreciation when the spare part is installed.

Example PPE 4-2 illustrates when to begin depreciation of a newly installed asset.

EXAMPLE PPE 4-2

When to begin depreciation of a newly installed asset

PPE Corp installs a new production line to produce plastic containers. Commercial production cannot begin until PPE Corp receives routine quality approval from its key customer.

Does PPE Corp need to defer the commencement of depreciation until the quality approval is obtained?

Analysis

Depreciation should commence when the production line is substantially complete and ready for its intended use. Because the quality approval is considered to be routine in nature, PPE Corp should not defer recognition of depreciation until approval is received from the customer. If, however, the plastic containers are highly customized (e.g., requiring specialized technology or engineering) and the customer delays granting approval pending a significant modification to the asset or related process, the asset may not be ready for its intended use until customer approval is obtained.

Depreciation ceases when an asset is derecognized or when the asset is classified as held for sale in accordance with ASC 360-10-35-43. Therefore, depreciation generally does not stop when an asset is temporarily idled. However, if an asset or component of an asset remains idle for more than a short period of time, it may indicate a potential impairment or demonstrate the need to reassess the asset's useful life. See PPE 4.4 for further discussion of component depreciation.

Judgment is required to determine whether a productive asset is temporarily idled or permanently abandoned. See ASC 360-10-35-47 for information on determining when an asset is considered abandoned and PPE 6.3.1 for further information regarding assets abandoned or to be abandoned.

Depreciation would also cease when an asset's accumulated depreciation equals its cost minus salvage value, if any. A reporting entity will often continue to record a fully depreciated asset on the balance sheet and disclose the asset in the footnotes to the financial statements at its cost along with its accumulated depreciation (i.e., at a net carrying amount of zero) until such time that the asset is physically disposed of or sold.

When a reporting entity expects to sell an asset significantly before the end of its previously estimated useful life and the asset does not meet the held for sale criteria, the reporting entity should continue to depreciate the asset, even if it expects to sell it at a gain (see PPE 4.2.3 for further information). Depreciation would stop when the asset is included within a disposal group that qualifies as held for sale. For further details regarding held for sale accounting, see to PPE 5.3.

4.3.2 Depreciation of tangible assets

Depreciation accounting is a system of accounting that aims to distribute the cost of a tangible asset, less salvage (if any), over its estimated useful life in a systematic and rational manner. Several methods of depreciation exist that achieve this objective, including the straight-line method, accelerated methods (such as sum-of-the-years'-digits and declining-balance methods), and the units-of-production method. In selecting a method of depreciation for a given asset, the factors to consider

include whether (1) the asset is subject to rapid obsolescence, (2) deterioration is a function of time or usage, (3) productivity declines with time, and (4) the cost of repairs and maintenance increases with time.

The Accelerated Cost Recovery System (ACRS) and Modified Accelerated Cost Recovery System (MACRS) are methods of depreciating property for tax purposes that allows individuals and businesses to write off capitalized assets in an accelerated manner. Assets are assigned to various classes, which are used as the basis for depreciation. There are similar systems in other tax jurisdictions. In accordance with ASC 360-10-35-9, the use of the ACRS for book depreciation purposes is allowed only when the number of years specified by the ACRS for recovery deductions for an asset falls within a reasonable range of the asset's useful life.

ASC 360-10-35-10 prohibits the annuity method of depreciation, which is a method under which the amount spent acquiring an asset is assumed to be an investment that should earn interest based on a predetermined return rate and calculated based on annuity tables.

4.3.2.1 Straight-line method of depreciation

The straight-line method is the most common depreciation model used in practice and is appropriate when the pattern of consumption of an asset's economic benefit is expected to be delivered steadily over the estimated useful life and the production capacity will not decline over time. The straight-line method may also be appropriate if the pattern of consumption cannot be reliably determined. Under the straight-line method, the cost of the asset, less the estimated salvage value, is charged to the income statement ratably over the asset's estimated useful life.

4.3.2.2 Accelerated methods of depreciation

The economic benefits of an asset may decline more rapidly in the earlier years of the asset's life. An asset may become less reliable and more likely to break-down, less capable of producing a high-quality product, or less technologically advanced in later years of its life. ASC 360-10-35-7 describes when an accelerated method may be appropriate.

Excerpt from ASC 360-10-35-7

If the expected productivity of the asset or ability of the asset to generate revenue is relatively greater during the earlier years of its life, or maintenance charges tend to increase during later years, the declining-balance method may provide the most satisfactory allocation of cost. That conclusion also applies to other methods, including the sum-of-the-years'-digits method, that produce substantially similar results.

Under the declining-balance method, a constant rate is applied to the beginning balance of the remaining depreciable base to calculate the depreciation charge for the current period. For the sum-of-the-years'-digits method, the depreciable base (initial asset cost less salvage value, if any) is multiplied by the remaining years of the asset's useful life divided by the sum of the asset's original useful life in years (see Example PPE 4-3).

When applying an accelerated depreciation method, a reporting entity will often plan to change to the straight-line method at a specific point in the service life to fully depreciate the cost over the estimated life of the asset. Example PPE 4-3 illustrates accelerated deprecation methods.

EXAMPLE PPE 4-3

Accelerated depreciation methods

PPE Corp buys a piece of manufacturing equipment at the beginning of the year for $100,000. The equipment is not expected to have any salvage value at the end of its 10-year useful life.

How is depreciation expense calculated using the declining-balance method and the sum-of-the-years'-digits method?

Analysis

Declining-balance method

The most common declining-balance method is double-declining-balance. To calculate the constant depreciation rate, the annual rate of depreciation (calculated as 1 over the useful life) is multiplied by 2. In this example, the constant rate would be 20% (1 / 10 × 2). Depreciation expense in the first year would be $20,000 ($100,000 × 20%). In the second year, the same constant rate would be applied to the remaining balance and depreciation expense would be $16,000 (($100,000 - $20,000) × 20%)). The same constant rate would be applied to the remaining balance in each successive year throughout the asset's remaining useful life.

Sum-of-the-years'-digits method

Depreciation expense in any given year is calculated as the initial cost, net of salvage value, multiplied by a fraction—the numerator of which is the remaining years of useful life and the denominator of which is the sum of the digits comprising the original life of the asset. In this example, because the equipment is expected to have a ten-year useful life, the digits 1 through 10 are added together (i.e., 1 + 2 + 3, etc.) to determine the denominator of 55. Depreciation expense in year 1 would be $18,182 ($100,000 × 10/55). In year 2, depreciation expense would be $16,363 ($100,000 × 9/55), with the same methodology used in each successive year throughout the asset's useful life.

Regardless of the method elected, total depreciation expense over the life of an asset will be the same as the total depreciation expense using the straight-line method. An accelerated depreciation method will result in greater depreciation expense in the early years of an asset's useful life and less depreciation expense in the later years as compared to the straight-line depreciation method.

4.3.2.3 Units-of-production method of depreciation

The units-of-production method relates depreciation to the asset's estimated use or output. The rate of depreciation per hour of usage or unit of production is derived by dividing the depreciable amount by the asset's estimated total service capability, measured in terms of hours or units. This method is sometimes employed when the asset's usage varies considerably from period-to-period to more accurately reflect consumption of the economic benefits.

For example, assume a machine costs $50,000, with a salvage value of $5,000. The total usage of the machine is expected to be 100,000 hours. The depreciation rate per hour's usage is therefore $0.45 (($50,000 - $5,000) / 100,000 hours). If the actual usage is 20,000 hours in a given year, depreciation would be $9,000 ($0.45 × 20,000 hours).

4.3.2.4 Modified units-of-production method of depreciation

Straight-line depreciation is based on the premise that depreciation of a productive asset is a function of time, not usage. Units-of-production depreciation is based on the premise that depreciation of a productive asset is a function of usage, not time. Modified units-of-production (MUP) depreciation, sometimes referred to as modified straight-line depreciation, is a hybrid of these two depreciation models. MUP depreciation is based on the premise that depreciation of a productive asset is a function of both time and usage. MUP depreciation is uncommon in practice, especially relative to straight-line and accelerated depreciation methods.

Under MUP depreciation, within a broad range of production levels (the "variable production range"), depreciation is directly proportional to usage (sometimes measured by level of output). At extreme levels of production, this relationship succumbs to the time element, and the productive asset is considered to have a minimum and maximum economic useful life in years, regardless of usage. This is especially important when the asset is operated at extremely low production levels; establishing a maximum economic useful life precludes the possibility that the asset's depreciable life would be extended indefinitely, or beyond the asset's productive life.

In constructing an MUP depreciation formula, consideration should be given to choosing the measure of asset usage—the "unit" in units-of-production. The unit may be defined in terms of asset usage (e.g., days used for drilling rigs) or asset production (e.g., tons of steel produced for steelmaking machinery and equipment). The objective is to select the measure of asset usage that bears the most direct relationship to the usefulness of the asset within the variable production range. Production processes that involve numerous individual assets or produce several different products may pose difficulties in choosing the most appropriate measure of asset usage. An inability to select a meaningful measure of asset usage may indicate that MUP depreciation is either inappropriate or impractical and instead, another method should be used.

4.3.2.5 Group and composite depreciation methods

Multiple-asset groups may be depreciated in one of two ways: the "group" method and the "composite" method. The group method can only be used for groups of assets that are largely homogeneous and have approximately the same useful lives (e.g., telephone poles). When applied to a largely homogeneous population, the group method closely approximates a single-unit depreciation profile because the dispersion from the average useful life is not meaningful. The composite approach may be used in limited circumstances for closely related heterogeneous assets that have different lives (e.g., individual assets in a power plant). Under both methods, a reporting entity depreciates the balance over the average life of the assets in the group.

To apply the group or composite method of depreciation, a reporting entity should have quantitative data to support the use of the method, such as the dispersion of useful lives from the average for the group. Updated depreciation studies are usually performed on a regular basis to support ongoing use of the group or composite method. The frequency of the study is a function of the extent of changes since the last study. For example, more frequent or immediate studies may be appropriate in circumstances when a reporting entity experiences a significant and unplanned level of retirements. Significant and unplanned retirements may change the key characteristics of the group of assets (e.g., average age, average remaining life) such that the previous depreciation rates may no longer be a reasonable estimate of the assets' remaining lives. Periodic depreciation studies with regular updates help to ensure that depreciation is recorded over a reasonable estimate of the remaining useful lives of the assets.

In general, absent infrequent or unexpected retirements, and unlike when each asset is depreciated individually, neither the group nor composite method of depreciation results in the recognition of a gain or loss upon the retirement of an asset. Instead, if an asset is retired before or after the average service life of the group is reached, an amount is recognized in accumulated depreciation for the difference between the original cost of the asset and any consideration received upon retirement or disposal. The result is that any gain or loss on disposal of an individual asset is reflected in accumulated depreciation; no gain or loss on disposal is recognized in earnings. The group and composite methods tend to smooth any potential differences caused by over- or under-depreciation.

However, when there are unforeseen or unexpected retirements, a gain or loss should be recognized in earnings. For example, the early retirement of an entire generating station due to storm damage would likely be considered unforeseen or unexpected and would result in the recognition of a loss.

Example PPE 4-4 illustrates the application of the group method of depreciation.

EXAMPLE PPE 4-4

Application of the group depreciation method

On January 1, 20X1, Telecom Co purchased 1,000 new telephone poles for $100,000 (which included installation), each with an estimated useful life of five years (annual rate of deprecation of 20%). At the time of purchase, there is no expected salvage value. Telecom Co groups all of its telephone poles for purposes of calculating depreciation expense. At the end of two years of service, 100 telephone poles are retired early, and no consideration is received.

How should Telecom Co account for the purchase, depreciation, and retirement of the telephone poles?

Analysis

Telecom Co would record the following journal entries (amounts in thousands):

Dr. Telephone poles	$100	
Cr. Cash		$100
To record initial purchase		

Dr. Depreciation expense	$20	
Cr. Accumulated depreciation		$20
To record annual depreciation in years 1 and 2 ($100 / 5 years)		

Dr. Accumulated depreciation	$10	
Cr. Telephone poles		$10
To record early asset retirement (100 telephone poles x $0.1 original cost)		

Dr. Depreciation expense	$18	
Cr. Accumulated depreciation		$18
To record annual depreciation in year 3 (($100-10) x 20%)		

The total cost of the retired poles would be charged to accumulated depreciation. Depreciation would continue to be recognized for the remaining telephone poles until they are retired. Given the early retirement, Telecom Co may need to evaluate whether the previous depreciation rate of 20% is still a

reasonable estimate of the remaining useful life of the group. Once the last asset in the group is retired, a gain or loss would be recognized for any difference between cost and accumulated depreciation.

4.3.2.6 *Change in depreciation method*

A reporting entity should evaluate both the method of depreciation and the remaining useful lives of its long-lived assets as events and circumstances change. When events occur that trigger the need to assess an asset for recoverability, it may also be necessary to consider whether the method of depreciation and the asset's estimated useful life continue to be appropriate. See PPE 4.2.3 for further information about changes in useful life.

Consistent with ASC 250-10-45-18, a change from one depreciation method to another (including a change from one accelerated method to another accelerated method) is a change in accounting estimate that is effected by a change in accounting principle. Such changes can only be made if the new method is determined to be preferable.

A change from the unitary method of depreciation to a group or composite method of depreciation is also considered to be a change in depreciation method and is permitted only if the new accounting principle is preferable. Although the composite and group methods are acceptable depreciation methods, the unitary method is generally considered preferable as it better reflects the expected use of individual long-lived assets. Therefore, we generally do not believe it would be appropriate to change methods from the unitary method of depreciation to the group or composite method.

In accordance with ASC 250-10-45-20, a planned change from an accelerated depreciation method to the straight-line method at a specific point in the service life of an asset to fully depreciate the cost over the estimated life of the asset does not constitute a change in accounting principle if this policy is applied consistently.

Whether a change in the method of applying the principle of depreciation is preferable is determined on a case-by-case basis. See FSP 30.4 for further information about changes in accounting principle.

4.3.3 *Amortization of intangible assets*

An intangible asset that has a finite life should be amortized over its estimated useful life to the entity. If an intangible asset's useful life is determined to be finite, but the precise length of that life is not known, the intangible asset should be amortized over the entity's best estimate of the asset's useful life. The method of amortizing an intangible asset should reflect the pattern in which the asset's economic benefits are consumed or otherwise used up, as discussed in PPE 4.3.2. If such a pattern cannot reliably be determined, ASC 350-30-35-6 requires use of a straight-line amortization method, as discussed in PPE 4.3.2.1.

A reporting entity should consider the nature of the amortizable intangible asset and its expected use when assessing if the pattern of consumption can be reliably determined or if the straight-line method will provide an appropriate method of amortization. The valuation performed for purposes of measuring the intangible asset's fair value (if acquired) may also provide a reasonable starting point to discern the expected pattern of economic benefit of an intangible asset. For example, when an income approach is used to measure the fair value of a long-lived intangible asset, the projected cash flows may be the best indication of the pattern of economic benefit expected from the asset, as adjusted for entity-specific considerations.

Consideration should be given to whether discounted or undiscounted cash flows should be used. Judgment should be applied in determining whether discounted or undiscounted cash flows better reflect the pattern of economic benefit the entity may expect to derive from the asset.

At times, it may appear that a finite-lived intangible asset's economic benefits are consumed toward the latter part of the asset's life. Before selecting an amortization method that increases in later years, a reporting entity should support the assertion by preparing an analysis that demonstrates that (1) the benefits received from consuming the asset are greater in the latter part of the asset's useful life and (2) cash flows generated from the asset are consistent with that belief. For example, a fixed-duration customer contract that is not likely to be renewed or extended may generate sales of increasingly larger quantities of a product through the expiration date of the contract. In this instance, the economic benefits are likely to be consumed toward the latter part of the asset's life. Due to the pattern of consumption for many intangible assets, instances when amortization expense is greater in the later years are expected to be rare.

4.3.3.1 Amortization of customer-based intangible assets

Some intangible assets recognized in a business combination derive their value from future cash flows expected from the customers of the acquired entity. Companies may also recognize this type of intangible asset when they acquire groups of customer accounts in an asset acquisition. Such assets are often measured using an income approach, which uses valuation techniques to convert future amounts (e.g., cash flows or earnings) to a single present value amount (discounted). This approach may also provide evidence as to the assets' useful lives and the pattern of economic benefit expected to be derived.

Typically, customer relationships within a large group of accounts may dissipate at a more rapid rate in the earlier periods than in later periods. In this circumstance, straight-line amortization over an expected useful life of the group of accounts may overstate net earnings in earlier periods and understate such earnings in later periods. Therefore, customer-based intangible assets should generally be amortized systematically to allocate an amount over the periods expected to be benefited using the pattern of economic benefit. Management should evaluate whether the actual net cash flows from the acquired customer accounts differ (or are likely to differ) significantly from those underlying the original method of allocating the assets' cost, and revise accounting estimates when necessary.

Although the attribution of the fair value of a customer-related intangible asset may best be reflected based on the pattern of economic benefit, we are aware that in the past the SEC staff has accepted a straight-line amortization method over a shorter term if the pattern of usage or consumption associated with the asset is such that amortization over a longer period of economic benefit would not differ materially from amortization using an accelerated method. Judgment should be applied in determining whether a straight-line method over a shorter term is appropriate.

4.4 Component depreciation accounting

A long-lived asset may consist of several different and significant physical components. If a long-lived asset comprises two or more significant components, with substantially different useful lives, a question arises as to whether each component should be treated as a separate unit of account for depreciation purposes. US GAAP does not include a requirement to use component depreciation, but it is permitted. A reporting entity should make an accounting policy election as to the level of disaggregation to be applied when recording a long-lived asset.

The principles of component accounting were described in the proposed PPE SOP (see PPE 1.1). While not authoritative, the PPE SOP may be considered by reporting entities when identifying components.

Excerpt from paragraph 49 of the proposed PPE SOP

A component is a tangible part or portion of PP&E that (a) can be separately identified as an asset and depreciated or amortized over its own separate expected useful life and (b) is expected to provide economic benefit for more than one year. If a component has an expected useful life that differs from the expected useful life of the PP&E asset to which it relates, the cost should be accounted for separately and depreciated or amortized over its separate expected useful life.

A reporting entity using component depreciation should identify the components at the time of the acquisition or construction of the long-lived asset. The total capitalized costs of the long-lived asset should be allocated to components either on a specific identification basis or based on relative fair value. If it is not practicable to determine the specific cost or relative fair value of components, capitalized costs may be allocated based on another reasonable method, such as relative square footage for real estate.

If one significant part has a useful life and a pattern of consumption that is the same as or similar to those of another part of the same asset, the two parts may be grouped together as one component for depreciation purposes.

4.4.1 Component replacements when using component depreciation

If a component that is separately identified and depreciated is replaced, the replacement should be capitalized at the time of its installation if the capitalization criteria have been met. The net book value of the component that was replaced, if any, should be charged to depreciation expense in the period it is replaced.

A question arises as to whether the reporting entity can capitalize a replacement that previously had not been accounted for as a separate component. If the replacement meets the capitalization criteria, the reporting entity can make an accounting policy election to either (1) charge the cost of the replacement to expense in the current period or (2) capitalize it as a separate component and charge the net book value of the component that was replaced to depreciation expense when it is removed form service. The proposed PPE SOP (see PPE 1.1) discusses estimating the net book value of a replaced component under the option (2).

Excerpt from paragraph 53 of the proposed PPE SOP

If not separately identifiable in the accounting records, the estimated net book value of an item to be replaced should be calculated by estimating the previously capitalized costs of the replaced PP&E component and subtracting an estimate of accumulated depreciation. The estimate of accumulated depreciation is calculated using the same depreciation method and expected useful life previously used to depreciate the total PP&E asset to which the component relates.

Chapter 5: Long-lived asset impairment and assets held for sale—updated May 2021

5.1 Long-lived asset impairment and assets held for sale—overview

This chapter discusses the accounting for impairment of long-lived assets that are held and used, including tangible assets and intangible assets subject to amortization, and how to assess, measure, and recognize such impairment under ASC 360-10. This chapter also discusses the accounting for long-lived assets that are to be disposed of by sale under ASC 360-10.

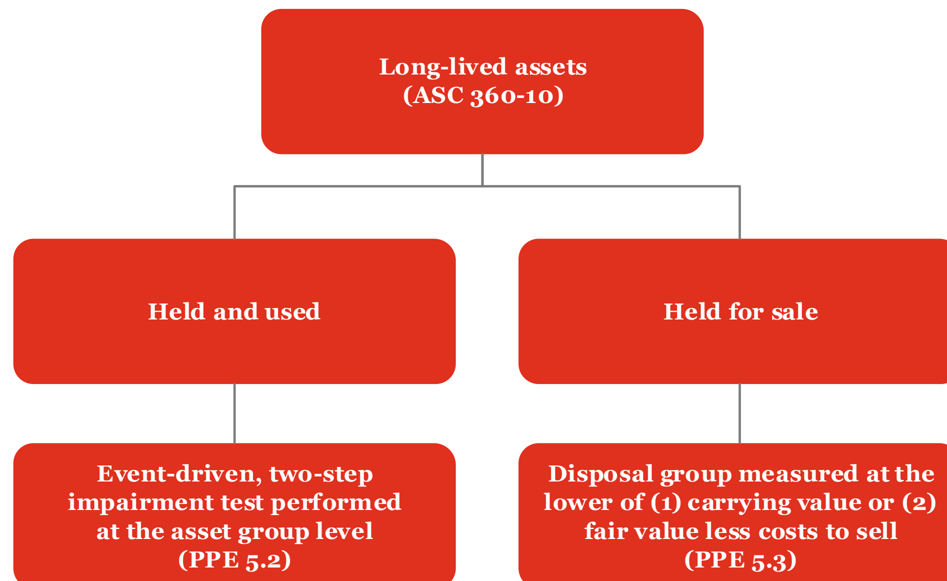
The impairment of indefinite-lived intangible assets and goodwill are governed by ASC 350. Refer to BCG 8 and BCG 9 for guidance on accounting for the impairment of indefinite-lived intangible assets and goodwill, respectively.

5.1.1 Impairment or disposal of long-lived assets—overview

Events or circumstances may occur that result in a material and sustained decrease in the cash flows generated from long-lived assets, potentially resulting in impairment. As defined in ASC 360-10, impairment is the condition that exists when the carrying amount of a long-lived asset (asset group) exceeds its fair value. Whether a long-lived asset is held and used or to be disposed of by sale determines how to measure, recognize, and present the carrying amounts of such assets in the financial statements.

Long-lived assets are subject to two accounting models for assessing their carrying amounts: (1) assets to be held and used and (2) assets to be disposed of by sale. Figure PPE 5-1 depicts the models for making these assessments.

Figure PPE 5-1
Models for assessing the carrying amounts of long-lived assets



The impairment guidance for long-lived assets to be held and used applies to, among other things: (1) a right-of-use asset recorded by lessees (following adoption of ASC 842), (2) long-lived assets recorded by lessees under capital lease (prior to adoption of ASC 842), (3) long-lived assets of lessors subject to

operating leases, (4) proved oil and gas properties that are being accounted for using the successful efforts method, and (5) long-term prepaid assets.

The impairment provisions of ASC 360-10-35 do not apply to (1) financial assets, (2) long-lived assets for which the accounting is prescribed in other applicable accounting guidance (e.g., deferred income taxes, goodwill, and indefinite-lived intangibles), and (3) long-lived assets for which the accounting is prescribed for certain specialized industries (e.g., the record and music, motion picture, broadcasting, software, and insurance industries).

If a long-lived asset (asset group) has not yet met the held for sale requirements of ASC 360-10-45-9, the long-lived assets should continue to be classified as held and used. For example, management might be exploring strategic alternatives for long-lived assets, including continuing to use the assets in a modified manner, abandoning the assets, or disposing of the assets through sale. In these situations, the assets should be classified as held and used for purposes of applying the impairment guidance in ASC 360-10-35 until the assets meets the held for sale requirements. See PPE 6 for details on disposals of assets by sale and other than by sale (e.g., abandonment).

5.2 Impairment of long-lived assets to be held and used

Long-lived assets that are held and used are tested for impairment at the asset group level. The ASC Master Glossary defines an asset group.

Definition from ASC Master Glossary

Asset Group: An asset group is the unit of account for a long-lived asset or assets to be held and used, which represents the lowest level for which identifiable cash flows are largely independent of the cash flows of other groups of assets and liabilities.

The determination of the asset group is critical because cash flows from one asset group should not be used to offset shortfalls in another asset group when applying the recoverability test of ASC 360-10. PPE 5.2.1 includes further details regarding the determination of the asset group.

When an asset group includes assets that are not covered by ASC 360-10, the appropriate order of impairment testing must be followed as it could impact the accounting. Refer to PPE 5.2.2 for further discussion regarding the order of impairment testing.

Impairment testing is required when events occur that indicate an asset (asset group) may not be recoverable. Such events are commonly referred to as triggering events. PPE 5.2.3 includes considerations regarding when to test a long-lived asset (asset group) for impairment.

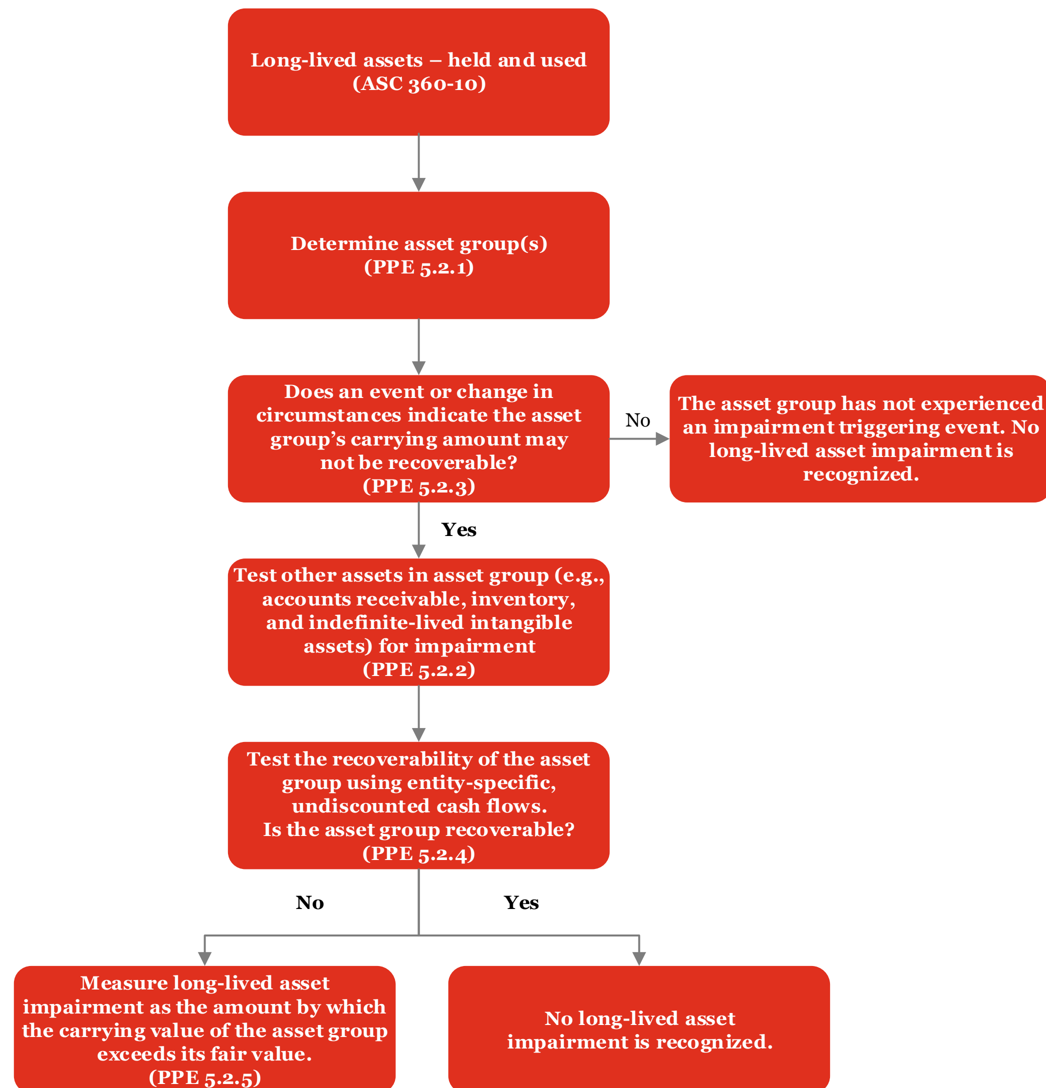
An asset (asset group) should be tested for recoverability by comparing the net carrying value of the asset (asset group) to the entity-specific, undiscounted net cash flows to be generated from the use and eventual disposition of that asset (asset group). PPE 5.2.4 includes details regarding the recoverability test for long-lived assets that are held and used.

If the carrying amount of an asset (asset group) is not recoverable, an impairment loss is recognized if the carrying amount of the asset (asset group) exceeds its fair value. See PPE 5.2.5 for further details on measuring and recognizing an impairment loss for long-lived assets that are held and used.

Figure PPE 5-2 illustrates the model for assessing impairment of long-lived assets that are held and used.

Figure PPE 5-2

Model for assessing impairment of long-lived assets that are held and used



5.2.1 *Determining the asset group for long-lived assets*

Some long-lived assets may have largely independent cash flows and, as a result, should be tested for impairment individually. However, most long-lived assets are used in conjunction with other assets and do not generate cash flows that are largely independent of the other assets in the group. In these situations, the asset group should be considered the unit of account for impairment testing. Additionally, many asset groups include not only long-lived assets, but also other assets outside of the scope of ASC 360-10 (e.g., inventories, indefinite-lived intangible assets, goodwill). See PPE 5.2.2 for information on the order of impairment testing for asset groups including assets outside the scope of ASC 360-10.

The determination of a reporting entity's asset groups involves judgment and all relevant facts and circumstances should be considered. In making this determination, a number of entity-specific operating characteristics should be assessed, including the interdependency of revenues between assets, shared cost structures, the interchangeability of assets used in operations, and how assets are managed and utilized by the business.

Interdependency of revenue producing activities refers to the extent to which the revenues of a group of assets are dependent on or intermingled with the revenue producing activities of another group of assets. If relationships among revenue producing activities hinder a reporting entity's ability to suspend the revenue producing activities of one group of assets because it would cause a significant adverse impact on the revenues generated by another group of assets, a higher level grouping that combines these interdependent revenue producing activities into one asset group may be necessary. Interdependent revenues may sometimes result from a reporting entity's operating structure, contractual requirements, or other factors.

The concept of interdependent revenues when determining asset groups is illustrated in Example PPE 5-1.

EXAMPLE PPE 5-1

Interdependent revenues when determining asset groups

Bus Corp operates a bus transportation business that provides service under a single contract with a municipality that requires minimum service on each of five separate routes. Assets devoted to serving each route and the cash flows from each route are discretely identifiable and measurable. One of the routes operates at a significant operating deficit that results in the inability to recover the carrying amount of the route's dedicated assets.

What is the appropriate level at which to group assets to test for impairment?

Analysis

The revenues of the other four routes depend upon continuing to operate the unprofitable route (i.e., the contract would not permit Bus Corp to curtail any one of the bus routes); therefore, the five bus routes would be the appropriate level at which to group assets to test for and measure impairment.

The existence of a shared cost structure may also be a factor when determining the appropriate level at which to group assets for impairment testing. Shared costs are costs incurred by the entity that relate to more than one group of assets and for which costs cannot be discretely identified for allocation to an applicable lower level asset group. If cash flows from a group of assets result from significant shared operations (e.g., shared sales force or manufacturing functions), it may be necessary to group assets at a higher level. However, the existence of shared service activities, such as back-office support activities (e.g., a shared payroll function) would not necessarily support grouping assets at a higher level. This is because in many instances, routine shared services can objectively be allocated to a lower level or may not be considered significant to the cash flows of the asset group.

Further, allocated direct costs would not typically be considered shared costs when assessing whether a reporting entity should group assets at a higher level. For example, assume a reporting entity is assessed an aggregate annual fee by the Environmental Protection Agency (EPA) for its carbon emissions from operation of three production facilities (at a fixed rate per metric ton of carbon

dioxide). The amount of the EPA fee, which can be allocated based on the carbon dioxide emitted by each of the entity's facilities, would be considered an allocated direct cost rather than a shared cost even though the annual EPA assessment is a single amount.

ASC 360-10 does not specifically address how to measure cash flows resulting from intercompany purchase and sale transactions. Generally, cash flows from intercompany sales are determined based on normal purchase prices paid to and sale prices received from third parties. However, when purchases and sales among vertically integrated operations are significant, the appropriate level of independent, identifiable cash flows may become more difficult to identify. In such cases, it may be appropriate to consider whether the asset group should be identified at a higher level.

5.2.1.1 Entity-wide asset groups for long-lived assets

A reporting entity may have long-lived assets that are shared among several asset groups, such as a corporate headquarters facility, a shared distribution center, or a shared research facility. Such assets are commonly referred to as entity-wide or enterprise assets. When an enterprise asset does not have its own separately identifiable cashflows, the carrying amount of the asset should not be allocated to lower-level asset groups for impairment testing under ASC 360-10. Instead, the recoverability of the enterprise asset should generally be evaluated for impairment on an entity-wide basis and, as a result, the recoverability of the enterprise asset depends on the net cash flows of the lower level asset groups. Enterprise assets should be tested for recoverability after testing for any lower level asset groups is performed, as necessary. Management could utilize multiple approaches to perform the impairment test for enterprise assets.

One approach, commonly referred to as the residual approach, would be to first test the lower level asset groups across the enterprise for recoverability based on undiscounted cash flows, imputing an appropriate charge, if any, for the use of the shared assets. Next, the excess undiscounted cash flows from the recoverability tests of the lower level asset groups would be accumulated. Cash flows attributable to the enterprise assets would equal the aggregated excess undiscounted cash flows of the lower level asset groups, after adding back any imputed charge to the lower level asset groups for the use of the enterprise assets, and reducing the cash flows for any expenses directly attributable to the enterprise assets. If the carrying amount of the enterprise assets (asset group) exceeds the aggregated excess undiscounted cash flows available from the lower-level asset groups and the cash flows for any expenses directly attributable to the enterprise assets, an impairment loss should be recognized. See PPE 5.2.4 and PPE 5.2.5 for information on testing a long-lived asset for recoverability and measuring a long-lived asset impairment loss, respectively.

Example PPE 5-2 illustrates the asset group determination for an enterprise asset.

EXAMPLE PPE 5-2

Asset group determination for enterprise assets

Retail Corp operates retail clothing stores in malls and shopping centers throughout the continental United States. Retail Corp considers each individual retail store to be its own asset group, as this is the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. Retail Corp also operates a large flagship store located in a prominent tourist destination in a major metropolitan city. The flagship store is twice as large as Retail Corp's typical retail stores, its décor includes high-end furnishings, and it carries limited inventories.

Should Retail Corp's flagship store be assessed for impairment as an enterprise asset?

Analysis

Retail Corp may conclude that the flagship store is an enterprise asset for the purpose of performing long-lived asset impairment testing, particularly if management concludes that the flagship store serves primarily as a marketing vehicle to raise brand awareness for other retail stores. In evaluating whether the flagship store should be assessed for impairment as an enterprise asset, management may consider the location of the flagship store, the size of the flagship store in comparison to the company's typical retail stores, whether management anticipated negative cash flows over the life of the store at the time it was opened, the nature of furnishings and décor in comparison to other retail stores, the level and nature of inventories carried at the flagship store, and other factors indicating the flagship store supports the revenue-generating activities of other, lower-level asset groups.

5.2.1.2 *Changes to asset groups for long-lived assets*

When a reporting entity experiences a significant change in its operations or in the way it utilizes long-lived assets that causes a change to the interdependency of cash flows (e.g., a significant acquisition or disposition), the reporting entity should consider whether a change to its asset groups is necessary. For example, when a lessee subleases all or a part of a right-of-use asset that was previously used in operations, a reassessment of the asset group to which the right-of-use asset is assigned may be necessary (see PPE 5.2.7).

Changes in asset groups that result from changes in facts and circumstances should be accounted for prospectively as a change in accounting estimate following the guidance of ASC 250-10. When a reporting entity determines facts and circumstances warrant a change in asset groups, the reporting entity should consider whether the change also represents an impairment indicator for the impacted asset group(s).

5.2.2 *Order of impairment testing for long-lived assets held and used*

Long-lived assets that are held and used should be reviewed for impairment following the guidance in ASC 360-10-35. Under this guidance, the carrying amounts of any assets that are not within the scope of ASC 360-10, other than goodwill, should be adjusted for impairment (as necessary) prior to testing long-lived assets for impairment. The order of performing impairment testing is important as this may impact the amount of impairment recognized as a result of the next sequential impairment test.

Impairment testing should be performed in the following order:

- Test other assets (e.g., accounts receivable, inventory) under applicable guidance and indefinite-lived intangible assets (other than goodwill) under ASC 350

- Test long-lived assets (asset group) under ASC 360-10

- Test goodwill of a reporting unit that includes the aforementioned assets under ASC 350. Goodwill should only be included in an asset group if the asset group is or includes a reporting unit. If an asset group includes only a portion of a reporting unit, the carrying amount of goodwill should not be included in the asset group. For details regarding the identification of reporting units see BCG 9.2.

The carrying values are adjusted, if necessary, for the result of each impairment test prior to performing the next test. This order differs from the held for sale impairment model discussed in PPE 5.3, which requires that goodwill and other assets that are not in the scope of ASC 360-10 be tested for impairment prior to measuring the fair value less cost to sell of the disposal group.

5.2.3 When to test long-lived assets for impairment

Unlike indefinite-lived intangible assets and goodwill, which are required to be tested for impairment at least annually, ASC 360-10 does not require annual impairment testing for long-lived assets that are held and used. Instead, a long-lived asset (asset group) that is held and used should be tested for recoverability whenever events or changes in circumstances indicate that the carrying amount of the asset group may not be recoverable. As detailed in ASC 360-10-35-21, the following are examples of such events or changes in circumstances that may require impairment testing (commonly referred to as impairment indicators or triggering events):

Excerpt from ASC 360-10-35-21

a. A significant decrease in the market price of a long-lived asset (asset group)

b. A significant adverse change in the extent or manner in which a long-lived asset (asset group) is being used or in its physical condition

c. A significant adverse change in legal factors or in the business climate that could affect the value of a long-lived asset (asset group), including an adverse action or assessment by a regulator

d. An accumulation of costs significantly in excess of the amount originally expected for the acquisition or construction of a long-lived asset (asset group)

e. A current-period operating or cash flow loss combined with a history of operating or cash flow losses or a projection or forecast that demonstrates continuing losses associated with the use of a long-lived asset (asset group)

f. A current expectation that, more likely than not, a long-lived asset (asset group) will be sold or otherwise disposed of significantly before the end of its previously estimated useful life. The term *more likely than not* refers to a level of likelihood that is more than 50 percent.

The above impairment indicators are examples and should not be considered the only potential indicators that an asset (asset group) may not be recoverable. If a reporting entity identifies additional impairment indicators for its specific operations, those indicators should also be considered (e.g., decline in stock price or goodwill impairment). The existence of an individual indicator outlined above is not automatically conclusive that the asset (asset group) may not be recoverable. Instead, reporting entities will need to exercise judgment and consider the combined effect of all indicators and developments, both positive and negative, when determining whether an asset (asset group) may not be recoverable.

If a reporting entity believes the carrying amount of an asset (asset group) may not be recoverable, it should determine whether the asset (asset group) is impaired in accordance with ASC 360-10.

5.2.3.1 Impairment indicators for individual assets in an asset group

A reporting entity may identify an impairment indicator for an individual asset within a broader asset group. For example, a reporting entity may become aware that lease payments for a piece of equipment under a long-term operating lease used in a larger manufacturing facility are "above market," indicating that the fair value of the related right-of-use asset may be below its carrying amount.

When a reporting entity identifies an impairment indicator for an individual asset included in a broader asset group, the reporting entity should consider the significance of the asset in relation to the overall asset group and the facts and circumstances surrounding the impairment indicator. If the reporting entity concludes that the individual asset is insignificant to the broader asset group, it may conclude that an impairment indicator does not exist for the asset group, and thus no impairment testing would be necessary. Alternatively, if the reporting entity concludes that the individual asset is significant in relation to the larger asset group, or the impairment indicators impacting the individual asset more broadly impact the overall asset group, impairment testing at the asset group level may be required.

5.2.4 Determining whether long-lived assets are recoverable

The first step in the impairment test is to determine whether the long-lived assets are recoverable, determined by comparing the net carrying value of the asset group to the entity-specific, undiscounted net cash flows to be generated from the use and eventual disposition of that asset group. This is commonly referred to as the recoverability test.

If the assets are recoverable (i.e., the undiscounted net cash flows exceed the net carrying value of the asset group), an impairment should not be recognized, even when the net carrying value of the long-lived assets exceeds their fair value. If the assets are not recoverable (i.e., the net carrying value of the asset group exceeds the undiscounted net cash flows), an impairment loss should be recognized based on the amount by which the carrying value of the asset group exceeds its fair value. See PPE 5.2.5 for details on recognition and measurement of an impairment loss.

Even when an asset is determined to be recoverable, changes in the estimate of the asset's useful life should be considered in light of the change in circumstances that led to the recoverability assessment. Consistent with ASC 360-10-35-22, it may be necessary to review depreciation and amortization estimates and to adjust the useful life of an asset, or of multiple assets within an asset group. See PPE 4.2.3 for further details on accounting for changes in useful lives of long-lived assets.

Example PPE 5-3 illustrates when depreciation estimates should be updated in conjunction with impairment testing.

EXAMPLE PPE 5-3

Revising depreciation estimates with impairment testing

Chemical Co operates two chemical refineries that produce the same product, which is sold to the same group of customers. Both chemical refineries also share the same group of suppliers. One plant is on the east coast and the second plant is on the west coast. Management has determined that the two chemical refineries represent one asset group. During the fourth quarter, Chemical Co ceased production at the east coast plant due to adverse economic conditions and management determined it

will recommend to the board of directors a permanent closure of the plant, which is required to be approved by the board of directors. Management expects the board of directors will approve the permanent closure of the plant.

The board of directors met after year-end and approved the permanent closure of the east coast plant effective immediately.

How should Chemical Co management test the asset group for recoverability in the fourth quarter?

Analysis

In conjunction with the decision to cease production in the fourth quarter, Chemical Co management should test the chemical refineries asset group for recoverability in accordance with ASC 360-10-35-21. If it is determined that the asset group, consisting of both refineries, passes the recoverability test due to the significant continuing undiscounted cash flows at the west coast plant, Chemical Co would not record an impairment.

However, Chemical Co should adjust the useful life of the east coast plant beginning when management determines the useful life is shortened which, depending on the facts and circumstances, will likely be before the board of directors' approval. Consideration of whether acceleration of depreciation is warranted at the time the asset group is tested for impairment is consistent with ASC 360-10-35-22 because management has determined the useful life of the east coast plant has been shortened significantly. Revising the depreciation in the current period is consistent with ASC 270-10-45-14, which indicates that accounting for a change in estimate should commence in the period in which the change in estimate is made. Chemical Co should also consider whether the useful life of the west coast plant remains appropriate given the adverse economic conditions leading to the change in useful life of the east coast plant.

5.2.4.1 Estimates of future cash flows used in the recoverability test

Cash flows used in the recoverability test may differ from the cash flows used in measuring the fair value of the asset group. The recoverability test is based on the entity-specific, undiscounted cash flows expected to result from the entity's use and eventual disposition of the asset group, rather than on market-participant assumptions that would be used in measuring the asset group's fair value. Cash flow estimates should reflect conditions and assumptions that existed as of the measurement date (i.e., as of the triggering event date) and should not reflect subsequent events.

Estimating cash flows for purposes of the recoverability test is subjective and requires judgment. As described in ASC 360-10-35-30, estimates of future cash flows should be reasonable in relation to the assumptions used to develop other information the entity uses for comparable periods, such as internal budgets and projections, accruals related to incentive compensation plans, or information communicated to others. Additionally, key assumptions, such as price and volume levels, should consider expected changes in market conditions. Projections of expected future cash flows should include:

- All cash inflows expected from the use of the long-lived asset (asset group) over its remaining useful life, based on its existing service potential (i.e., taking into account the asset's cash-flow-generating capacity and physical output capacity, but excluding future capital improvements and other expenditures that would increase the service potential of the asset).

- Any cash outflows necessary to obtain the projected cash inflows, including future expenditures to maintain the asset (asset group). The cash outflows should include costs directly attributable to the asset group based on the nature of the expense rather than who incurs it (e.g., expenses directly attributable to the asset group incurred at the corporate level may need to be allocated when testing for recoverability).

- Cash flows associated with the eventual disposition, including selling costs, of the long-lived assets that would typically represent the salvage or residual value of those assets. The proceeds from eventual disposition may include the terminal value of the assembled group of assets that constitute a business. However, such terminal value may be less than the terminal value determined for business valuation purposes because it would reflect only the value after maintaining the existing service potential of the business during the period the asset group is used, as required by ASC 360-10.

ASC 360-10 requires that only the existing service potential of an asset group on the test date be considered when testing an asset group for recoverability. An increase in utilization that does not require an increase in existing service potential of the asset group may be included in management's estimate of undiscounted cash flows. For example, for an asset group in which the primary asset is a plant operating at 70% of capacity, it may be appropriate for management to assume that utilization of the plant will increase to 80% due to new orders, provided management can support its assertion of increased order volume. Conversely, if an increase in the utilization would require an increase in the existing service potential of the asset group (e.g., a major expansion of the plant would be required to meet this increased utilization), the inclusion of the incremental cash flows in management's estimate of undiscounted cash flows would not be appropriate.

5.2.4.2 Cash flow estimation period used in the recoverability test

The period of time used to determine estimates of future cash flows for the recoverability test is based on the remaining useful life of the primary asset in the asset group. This should be the period over which the asset will be depreciated and is not the asset's potentially longer remaining economic life.

Excerpt from ASC 360-10-35-31

[T]he primary asset is the principal long-lived tangible asset being depreciated or intangible asset being amortized that is the most significant component asset from which the asset group derives its cash-flow-generating capacity.

The primary asset cannot be land, an indefinite-lived asset, or an internally-generated intangible asset. that has been expensed as incurred. The primary asset of an asset group is generally the asset that has the longest remaining useful life, would require the greatest level of investment to replace, and without which some or all of the other assets of the group might not have been acquired by the entity.

The ASC 360-10 recoverability test is intended to test the recoverability of the overall asset group, not just the primary asset. As such, there may be assets used with the primary asset that continue to have value at the end of the life of the primary asset. According to ASC 360-10-35-32(c), if an asset group's primary asset is not the asset that has the longest remaining useful life, estimates of future cash flows for the asset group should be based on the assumption that the asset group will be sold at the end of the remaining useful life of the primary asset. This is referred to as the residual value of the asset group.

When calculating the residual value of the asset group at the end of the life of the primary asset (i.e., at the end of the undiscounted cash flow period), the recoverability test should consider how to maximize the value of the asset group. Cash flow estimates should be based on the existing service potential of the asset group, and therefore should include cash flows associated with future expenditures necessary to maintain that service potential, such as repairs and maintenance and replacements. Accordingly, budgets that contemplate major capital expansion during the life of the primary asset, rather than normal, ongoing maintenance and capital replacements, generally should not be used as the basis for cash flow estimates when testing recoverability.

The residual value of the asset group may be estimated using discounted cash flows to determine the value of the asset group at the end of the undiscounted cash flow period (i.e., at the end of the primary asset's useful life). When the asset group constitutes a business, the residual value may need to be estimated using a pricing multiple or discounted cash flows. The estimate should consider that expansionary growth was excluded during the undiscounted cash flow period and should consider the costs necessary to replace the primary asset.

If the asset group is a reporting unit, the valuation under both ASC 350 and ASC 360 will include a residual value that represents the value of the business at the end of the discrete cash flow period. However, the residual value under ASC 360 and ASC 350 will differ. This is because the residual value calculation for the goodwill impairment test in ASC 350 uses market participant assumptions and reflects the value that the reporting unit is expected to generate at the end of the discrete projection period (assumed to be in perpetuity because business enterprises are generally assumed to have perpetual lives) and would include expansionary growth during the life of the primary asset when applicable to the business. However, the starting point for the projections used to calculate the residual value for the impairment test in ASC 360 should reflect only the value to be generated after maintaining the existing service potential of the business through the life of the primary asset. The calculation of the residual value in ASC 360 would still include expansionary growth and market participant assumptions; however, this would be from a different starting point than under ASC 350. Additionally, the discount rates and other assumptions used may differ under ASC 360 as the terminal value used in the goodwill impairment test under ASC 350 commences at the point in time when projections reflect the maturity of the business and future long-term growth levels have been reached. Whereas the residual value calculated in the ASC 360 impairment test is as of the end of the remaining useful life of the primary asset.

5.2.4.3 Probability-weighted cash flow estimates in the recoverability test

If alternative courses of action to recover the carrying amount of a long-lived asset or asset group are under consideration, or a range is estimated for the amount of possible future cash flows, the likelihood of those possible outcomes should be considered. Therefore, the use of an expected cash flow approach may be appropriate, because it uses a set of cash flows that, in theory, represents the probability-weighted average of all possible cash flows. On the other hand, the use of a single set of cash flows that represents management's best estimate of the most likely outcome within a range of possible estimated amounts may be appropriate. See ASC 820-10-55-5 through ASC 820-10-55-20 for additional guidance on these techniques.

Cash flows used in a recoverability test should be based on conditions that exist as of the testing date. If the asset is held and used but the entity is contemplating a sale, the cash flows should consider the various courses of action weighted for their respective probabilities. See PPE 5.3.1.1 for considerations for asset group sales occurring after the balance sheet date.

See Example PPE 5-4 for an illustration of the probability-weighted approach used when performing the recoverability test under ASC 360-10.

EXAMPLE PPE 5-4

Probability-weighted approach in the recoverability test (ASC 360-10)

Manufacturing Co owns a manufacturing facility that is included in an asset group that is tested for recoverability. As of the balance sheet date, the asset group has a carrying amount of $60 million. Management is contemplating selling the asset group after either two or five years. Management has determined that the cash flows under both scenarios depend on the whether a key contract is renewed. Using the probability-weighted approach, the cash flows associated with each scenario are as follows.

	Operating cash flows (in millions)	Cash flows upon sale[1]	Total cash flows	Probability assessment	Possible cash flows
Two years					
No renewal	$21	$44	$65	40%	$26
Renewal	$26	$44	$70	60%	$42
					$68
Five years					
No renewal	$63	$13	$76	50%	$38
Renewal	$71	$13	$84	50%	$42
Total					$80

[1] Although cash flows upon sale are the same in this example, they may vary in other scenarios

Management determined there is a 25% probability that the asset group will be sold after two years and 75% probability it will be sold at the end of five years.

Does the asset group pass the recoverability test?

Analysis

Management would determine the expected undiscounted cash flows as follows.

	Possible cash flows (in millions)	Probability assessment	Probability-weighted cash flows
Two years	$68	25%	$17
Five years	$80	75%	$60
Total			$77

Since the undiscounted cash flows of $77 million exceed the carrying value of $60 million, the carrying amount of the asset group is recoverable, and an impairment would not be recognized.

5.2.4.4 *Assets under development in the recoverability test*

Long-lived assets that are under development will generally not generate cash inflows until the asset is substantially complete. As a result, cash flow estimates used to test the recoverability of an asset group that is under development should be based on the expected service potential of the asset group when development is substantially complete. Those estimates should include cash flows associated with all future expenditures necessary to complete the development of the asset, including interest payments that will be capitalized as part of the cost of the asset. This is different for estimates for cash flows associated with long-lived assets already completed and in-use, which would exclude interest payments (see PPE 5.2.4.5).

5.2.4.5 *Debt and other obligations in the recoverability test*

Principal and interest payments on debt obligations should generally be excluded from cash flows used in assessing the recoverability of an asset group because they do not represent the lowest level of identifiable cash flows. This is because debt obligations are typically funded at the corporate level and are not attributable to a specific asset group.

If debt obligations are directly related to the funding of specific assets within an asset group, or the asset group is a business or reporting unit, there may be instances when it is appropriate to include the cash flows associated with the debt obligations when assessing recoverability. When debt is included in the carrying amount of an asset group, only the cash outflows for principal payments should be included when assessing recoverability. Interest payments should be excluded because they relate to the capitalization of the entity, not its operations. The principle underlying this concept is that similar asset groups should not yield different results in the recoverability test because of different capital structures. As a result, the inclusion or exclusion of debt obligations in an asset group and the related cash flows should generally not result in a different conclusion when performing the recoverability test. See PPE 5.2.7.1 for information on the treatment of lease liabilities in the recoverability test.

5.2.4.6 *Long-term operating obligations in the recoverability test*

Payments associated with long-term operating obligations should be considered in the cash flow estimates of the asset group(s) that gave rise to the liabilities. When the cash flows to settle such obligations are equal to the recorded liability, there should be no impact to the recoverability test.

In situations in which the cash outflows exceed a recorded liability (e.g., due to the liability being recorded on a discounted basis), we believe that that the excess portion of the cash outflows represents accretion and should be excluded from the cash outflows of the asset group when testing for recoverability. We believe the intent of ASC 360-10-35 is to maintain consistency when comparing the undiscounted cash flows to the carrying value of asset group being tested for recoverability. That is, if the liability is considered a part of the asset group, then the associated cash flows that were used to determine the recorded liability should be considered as cash outflows, excluding the portion representing accretion.

Pension obligations should generally be excluded from the carrying amount of an asset group as they represent nonoperating liabilities that are not specifically attributable to an asset group. However, if

pension obligations are determined to be specifically attributable to an asset group being assessed for recoverability, only the service cost component of net periodic pension cost should be included as an operating cash flow in the recoverability test. Any other components of net periodic pension cost (e.g., interest cost) are considered nonoperating in nature and should therefore be excluded from cash flow estimates when performing the recoverability test, similar to other financing costs.

5.2.4.7 Contingent obligations in the recoverability test

In situations in which a loss contingency is not probable, and thus no liability is recorded under ASC 450-10, but the expected cash outflow related to the contingency is greater than zero (i.e., a loss is possible), the cash outflows of the asset group should include management's best estimate of future cash flows related to the loss contingency.

5.2.4.8 Consideration of income tax effects in the recoverability test

ASC 360-10 is silent as to whether estimates of expected future net cash flows for the recoverability test should be estimated on a pre-tax or a post-tax basis. In practice, many reporting entities perform the recoverability test on a pre-tax basis. However, there may be unusual situations in which incremental tax effects directly attributable to a specific asset should be considered in assessing an asset's recoverability. Examples might include low income housing tax credits or shale oil tax credits. Such tax attributes should only be included in the recoverability test if the tax effects are important to the asset's economics. When assessing recoverability of an asset group using cash flows on a post-tax basis, any related deferred taxes should be included in the carrying amount of the asset group. This approach generally results in the same recoverability conclusion whether cash flows are considered on a pre-tax or post-tax basis.

5.2.4.9 Customer relationships in the recoverability test

New customer relationships that are expected to arise after the recoverability testing date should be evaluated to determine whether the related undiscounted cash flows should be included in the recoverability test. If anticipated new customer relationships can be supported based on the existing service potential of the asset group, the cash flows from the new customer relationships should be included when assessing recoverability. However, if the new customer relationships require an increase in the asset group's service potential (e.g., capital expansion is required to acquire the new customer relationships), it would not be appropriate to include the cash flows from the new customer relationships when assessing recoverability.

When the primary asset is a group of customer relationships recognized as a single customer relationship intangible asset, the undiscounted cash flow period would be the remaining useful life of the recognized customer relationship asset. The reporting entity would consider the cash flows from customers existing as of the impairment test date, including both those that existed when the customer relationship intangible asset was originally acquired and new customers that exist as of the impairment testing date. Anticipated new customers would only include those expected to be obtained during the undiscounted cash flow period that are able to be supported by the existing service potential of the asset group in the undiscounted cash flow period. The undiscounted cash flows would also include any expected residual value of the customer relationship asset.

For example, if as of the impairment test date the remaining estimated useful life of the recognized customer relationship is two years, then the undiscounted cash flow period would be two years, even if the reporting entity anticipates adding new customers after the testing date. A reporting entity would

then need to determine the residual value for the asset group as a whole at the end of two years. The residual value of the asset group would include the cash flows associated with the eventual disposition of the entire asset group at the end of the undiscounted cash flow period. Residual value may incorporate value related to new customer relationships developed after the undiscounted cash flow period and other customer relationships developed after the impairment test date that could be supported by the asset group.

5.2.4.10 Leasehold improvements in the recoverability test

When the primary asset in an asset group is leasehold improvements, the undiscounted cash flow period would be the remaining useful life of the leasehold improvements, which would generally correspond with the remaining term of the lease. See PPE 5.2.7 through PPE 5.2.7.3 for long-lived asset impairment considerations relating to right-of-use assets.

5.2.4.11 Impact of bankruptcy filing on the recoverability test

Cash flow forecasts utilized in the impairment test by a reporting entity considering a bankruptcy filing may extend beyond the expected bankruptcy filing date (i.e., cash flows may include projecting the undiscounted cash flows beyond the expected emergence from bankruptcy, provided the entity has a scenario supporting the continued operation of the asset group beyond emergence). When forecasting future cash flows, consideration should be given to the factors that might lead to the bankruptcy filing, as well as the impact the filing could have on the reporting entity's future operations.

For example, if the reporting entity is having difficulty financing its operations, and if customers will be unwilling to purchase from, or suppliers will be unwilling to sell to, a company in bankruptcy, these facts should be considered in the cash flow projections used to test the assets for impairment. It may also be appropriate for the reporting entity to consider multiple possible cash flow scenarios utilizing the probability-weighted approach as discussed in PPE 5.2.4.3. One of the potential scenarios would likely reflect the reporting entity's sale of the asset group in the event that it does not receive the necessary financing to emerge from bankruptcy.

5.2.4.12 Impact of going concern considerations on the recoverability test

Management's conclusion that there is substantial doubt about a reporting entity's ability to continue as a going concern would not limit the cash flow projection period used in the impairment test to one year from the financial statement issuance date. Instead, cash flow forecasts may extend beyond one year to reflect the life of the primary asset, provided the reporting entity expects to operate though the primary asset's useful life. Although there may be substantial doubt about the reporting entity's ability to continue as a going concern, the financial statements have been presented assuming the reporting entity will continue as a going concern and do not reflect any adjustments that might result from the outcome of this uncertainty (i.e., they are not prepared on a liquidation or other basis of accounting). As a result, the cash flow projections may consider a period greater than one year. However, consideration should be given to the factors that gave rise to the going concern in preparing the cash flow projections. If the reporting entity has plans to change its strategic direction or focus as a result of its financial circumstances, the useful lives of the assets and the expected cash flows may need to be re-evaluated.

5.2.4.13 *Environmental contingencies in the recoverability test*

ASC 360-10-55-7 through ASC 360-10-55-18 includes guidance for the treatment of environmental costs in the recoverability test. As detailed in ASC 360-10-55-8 to ASC 360-10-55-10, environmental costs should be excluded from the recoverability test in the following situations:

- Management intends to operate the asset for the asset's remaining depreciable life, future cash flows exceed the asset's carrying amount, and management does not expect the disposition to result in a cash outflow.

- Management expects to operate the asset indefinitely, the asset is currently generating positive cash flows and profitability is expected to continue, and there are no known constraints on the asset's economic life.

- Management expects to close the asset permanently at the end of its useful life as the remediation costs exceed the potential proceeds to be received in a disposal and remediation costs are only incurred if the asset is sold or abandoned (cash flows related to idling the plant would need to be considered).

- Management expects to sell the asset and the sale will not require remediation costs to be incurred.

ASC 360-10-55-13 to ASC 360-10-55-18 describes the following situations in which environmental costs should be included in the recoverability test:

- Management expects to incur remediation costs, however, there are uncertainties related to the application of regulatory requirements. The amount included should consider the estimate, based on probability, of incurring costs.

- The useful life is limited by actual or expected technological advances or contractual or regulatory provisions and management is required to dispose of the asset after the service potential has ended, which will cause environmental remediation costs to be incurred.

- The asset has cash flow losses that are expected to continue and, although management expects the asset to be profitable in the future, management may not be able to fund the losses until it turns profitable and management would likely dispose of the asset in a forced liquidation, which will cause environmental remediation costs to be incurred.

- Management intends to sell, abandon, or close an asset in the future, any of which will result in environmental costs being incurred.

- Management expects to operate the asset over its useful life and expects to incur related asset retirement costs over the life of the asset.

5.2.4.14 *Asset retirement obligations in the recoverability test*

ASC 360-10-35-18 requires capitalized asset retirement costs (ARCs) to be included in the carrying amount of the asset group being tested for impairment. However, the estimated cash outflows related to the liability for an asset retirement obligation (ARO) that has been recognized in the financial

statements should be excluded from the cash flows used in the recoverability test and the determination of the asset's fair value.

We believe that the intent of this guidance is that the asset being tested for impairment would not be reduced by the recorded ARO (i.e., the carrying amount of the ARC would not be "netted down" by the related ARO). Because the cash outflows related to the recorded liability are excluded from the asset group's undiscounted cash flows, the recorded liability should also be excluded from the asset group's carrying amount. However, the same result is generally expected due to the consistent comparison of cash flows to the carrying amount of the asset group being tested. That is, if the ARO was included in the carrying value of the asset group, the associated cash flows used to determine the liability should be considered as cash outflows when assessing recoverability, excluding the portion representing accretion.

See Example PPE 5-5 for an illustration of the recoverability test for an asset group that includes an ARO.

EXAMPLE PPE 5-5

Consideration of AROs when assessing long-lived asset recoverability

PPE Corp has an asset group with a carrying value of $11 that consists primarily of long-lived assets. The carrying value of $11 includes asset retirement costs of $1 and excludes the ARO of $3. The cash outflows associated with the ARO are $3.50, which exceed the ARO liability recorded due to discounting. PPE Corp is performing a recoverability test and determines that the net cash inflows, excluding the costs of the ARO, are expected to be $12.50.

Is the asset group recoverable?

Analysis

Management may use two approaches to test the asset group for recoverability, either excluding or including the ARO from the recoverability test. If management excludes the ARO, it should be excluded from both the carrying amount and undiscounted cash flows of the asset group. In this approach, the carrying amount of the asset group would be $11, and the undiscounted cash inflows are $12.50 (an excess of $1.50).

Alternatively, management could include the ARO in both the carrying amount and undiscounted cash flows of the asset group. Under this approach, the ARO cash outflows, net of accretion, should be included in the cash outflows, resulting in net inflows of $9.50 ($12.50 - $3). The carrying value of the asset group should also be reduced by the ARO, resulting in net assets of $8 ($11 - $3). The result would be an excess of $1.50 (gross asset of $8 compared to cash flows of $9.50).

The inclusion or exclusion of the ARO will not impact the results of the recoverability test as long as the ARO is treated consistently when determining both the carrying amount of the asset group and the undiscounted net cash flows.

5.2.4.15 Consideration of AOCI in the recoverability test

ASC 360-10 and ASC 830-30-45-13 do not specifically address whether cumulative foreign currency translation adjustments (CTA) included in accumulated other comprehensive income (AOCI) should

be included when measuring the carrying amount of an asset group that is held and used. In the absence of specific guidance, we believe that CTA and other amounts included in AOCI should be excluded when measuring the carrying amount of an asset group that is held and used. Such amounts should only be considered when measuring the carrying amount of a disposal group that meets the held for sale criteria (see PPE 5.3.3.4).

5.2.5 Measuring and allocating an impairment loss—held and used

If the asset (asset group) fails the recoverability test, an impairment loss is measured as the amount by which the carrying amount of the asset (asset group) exceeds its fair value. An impairment loss that results from applying ASC 360-10 should reduce only the carrying amounts of the long-lived assets in the asset group. The other assets in the asset group (other than goodwill) that are not in the scope of ASC 360-10 should be tested for impairment in accordance with other GAAP prior to performing the impairment test on the long-lived assets (see PPE 5.2.2).

ASC 360-10-35-23 provides guidance for the grouping of long-lived assets for purposes of recognition and measurement of an impairment loss, whereas ASC 360-10-35-28 provides guidance on the allocation of impairment losses to the long-lived assets of the group.

Grouping Long-Lived Assets Classified as Held and Used

ASC 360-10-35-23

For purposes of recognition and measurement of an impairment loss, a long-lived asset or assets shall be grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. However, an impairment loss, if any, that results from applying this Subtopic shall reduce only the carrying amount of a long-lived asset or assets of the group in accordance with paragraph 360-10-35-28.

Allocating Impairment Losses to an Asset Group

ASC 360-10-35-28

An impairment loss for an asset group shall reduce only the carrying amounts of a long-lived asset or assets of the group. The loss shall be allocated to the long-lived assets of the group on a pro rata basis using the relative carrying amounts of those assets, except that the loss allocated to an individual long-lived asset of the group shall not reduce the carrying amount of that asset below its fair value whenever that fair value is determinable without undue cost and effort. See Example 1 (paragraph 360-10-55-20) for an illustration of this guidance.

One acceptable interpretation of this guidance is that differences between the fair values and carrying values of assets and liabilities of the asset group, other than long-lived assets to be held and used, should impact the impairment loss for those long-lived assets. Another acceptable view is that the intent of the guidance is to measure the impairment of the long-lived assets only; for purposes of determining the amount of the impairment loss, the loss should therefore be measured by comparing the fair value of the group of long-lived assets subject to impairment testing within the scope of ASC 360 to its net carrying amount.

Example PPE 5-6 and Example PPE 5-7 illustrate the measurement of impairment losses for long-lived assets.

EXAMPLE PPE 5-6

Measuring an impairment loss — loss recognized

Construction Co owns a construction facility in Europe that qualifies as an asset group under ASC 360. Included in the asset group are long-lived assets consisting of PP&E, a customer relationship asset, and a patent. The carrying amount of the asset group exceeds its undiscounted future cash flows and as a result, the entity failed the recoverability test. The carrying amounts and management's estimated fair value of the long-lived assets within the asset group subject to impairment testing within the scope of ASC 360 are as follows:

	Carrying amount	Fair value	Difference
PP&E	$600	$100	($500)
Customer relationship	200	300	100
Patent	0	100	100
Total	$800	$500	($300)

What is the amount, if any, of the impairment loss?

Analysis

Following the approach in ASC 360-10-35, an impairment loss of $300 would be recognized since the aggregate carrying amount of $800 exceeds the aggregate fair value of $500. Although the carrying amount of the PP&E exceeds its fair value by $500, only a $300 impairment should be recorded and allocated to PP&E. None of the impairment should be allocated to the customer relationship asset or patent because their fair values are readily determinable and exceed their carrying amounts.

EXAMPLE PPE 5-7

Measuring an impairment loss — no loss recognized

Construction Co owns a construction facility in Europe that qualifies as an asset group under ASC 360. Included in the asset group are long-lived assets consisting of PP&E, a customer relationship asset, and a patent. The carrying amount of the asset group exceeds its undiscounted future cash flows and as a result, the entity failed the recoverability test.

The carrying amounts and management's estimated fair value of the long-lived assets within the asset group subject to impairment testing within the scope of ASC 360 are as follows:

	Carrying amount	Fair value	Difference
PP&E	$600	$100	($500)
Customer relationship	200	300	100
Patent	0	450	450
Total	$800	$850	$50

What is the amount, if any, of the impairment loss?

Analysis

Although the carrying amount of the PP&E is more than its fair value by $500, no impairment should be recognized since the aggregate carrying amount of the long-lived assets is less than their fair value.

The impairment loss should be allocated among the long-lived assets in the asset group on a pro rata basis using their relative carrying amounts, except that the loss allocated to an individual long-lived asset should not reduce the carrying amount of that asset below its fair value whenever that fair value is determinable without undue cost and effort. If certain assets within the asset group are to be abandoned, it is generally not appropriate to allocate the entire held and used impairment loss to those assets, even though the adjusted carrying value of those assets may be in excess of their fair values at the impairment date.

ASC 360-10-55-21 and ASC 360-10-55-22 show an example of the allocation of an impairment loss to the long-lived assets of an asset group.

ASC 360-10-55-21

An entity owns a manufacturing facility that together with other assets is tested for recoverability as a group. In addition to long-lived assets (Assets A–D), the asset group includes inventory measured using first-in, first-out (FIFO), which is reported at the lower of cost and net realizable value in accordance with Topic 330, and other current assets and liabilities that are not covered by this Subtopic. The $2.75 million aggregate carrying amount of the asset group is not recoverable and exceeds its fair value by $600,000. In accordance with paragraph 360-10-35-28, the impairment loss of $600,000 would be allocated as shown below to the long-lived assets of the group.

Asset Group	**Carrying Amount (in $000s)**	**Pro Rata Allocation Factor**	**Allocation of Impairment (Loss) (in $000s)**	**Adjusted Carrying Amount (in $000s)**
Current assets	$400	—	—	$400
Liabilities	(150)	—	—	(150)
Long-lived assets:				
Asset A	590	24%	($144)	446
Asset B	780	31	(186)	594
Asset C	950	38	(228)	722
Asset D	180	7	(42)	138
Subtotal — long-lived assets	2,500	100	(600)	1,900
Total	**$2,750**	**100%**	**($600)**	**$2,150**

ASC 360-10-55-22

If the fair value of an individual long-lived asset of an asset group is determinable without undue cost and effort and exceeds the adjusted carrying amount of that asset after an impairment loss is allocated initially, the excess impairment loss initially allocated to that asset would be reallocated to the other long-lived assets of the group. For example, if the fair value of Asset C is $822,000, the excess impairment loss of $100,000 initially allocated to that asset (based on its adjusted carrying amount of $722,000) would be reallocated as shown below to the other long-lived assets of the group on a pro rata basis using the relative adjusted carrying amounts of those assets.

Long-Lived Assets of Asset Group	**Adjusted Carrying Amount (in $000s)**	**Pro Rata Reallocation Factor**	**Reallocation of Excess Impairment (Loss) (in $000s)**	**Adjusted Carrying Amount after Reallocation (in $000s)**
Asset A	$446	38%	($38)	$408
Asset B	594	50	(50)	544
Asset D	138	12	(12)	126
Subtotal	1,178	**100%**	(100)	1,078
Asset C	722		100	822
Total	**$1,900**		**$ -**	**$1,900**

Long-lived assets may include property subject to nonrecourse debt. The fair value of the property should be assessed without regard to the nonrecourse provisions. If the carrying amount of the property that reverts to the lender is less than the amount of nonrecourse debt extinguished, a gain would be recognized on extinguishment. Example PPE 5-8 illustrates the consideration of nonrecourse debt when measuring the fair value of an asset group.

EXAMPLE PPE 5-8

Impact of nonrecourse debt when measuring the fair value of an asset group

PPE Corp borrows $5 million from a bank on a nonrecourse basis to purchase a building. The building is the only long-lived asset in the asset group. Three years after the acquisition, the asset group is tested for impairment and fails the recoverability test. At that time, the building's carrying amount is $4.7 million, fair value is $2 million, and the balance of the loan due to the lender is $3.7 million.

What impairment charge should be recorded in year 3?

Analysis

The fair value of the property should be assessed without regard to the nonrecourse provisions (in which PPE Corp would transfer the building to the lender in full satisfaction of the debt). An impairment charge of $2.7 million ($4.7 million carrying amount less $2 million fair value) should be recorded. It would not be appropriate to limit the impairment charge to $1 million based on an assumption that the building owner could transfer ownership of the building to the bank in satisfaction of the nonrecourse debt.

If PPE Corp subsequently defaults on the debt and transfers ownership of the building to the lender, assuming the carrying amount and fair value of the building are still $2 million and the carrying amount of the loan is $3.7 million, a gain of $1.7 million would be recognized by PPE Corp on the extinguishment of the debt.

If an impairment loss on an asset to be held and used is recognized, that loss should be included in income from continuing operations before income taxes and within income from operations, if such an amount is presented. After recognition of an impairment loss, the adjusted carrying amount of a long-lived asset becomes that asset's new accounting basis. Subsequent reversal of a previously recorded impairment loss is prohibited. The adjusted carrying amount of the long-lived asset should be depreciated or amortized over the asset's remaining useful life.

When a reporting entity has failed the recoverability test, any impairment of the asset group must be recognized in the applicable reporting period. There is no option to record an estimate subject to finalization in a subsequent period, as is permitted for goodwill impairment tests by companies that apply ASC 350-20-35-18 (i.e., those that have not yet adopted ASU 2017-04). It is expected that both steps of the impairment test will be completed in the period in which the asset group is tested for impairment.

5.2.6 Fair value considerations – long-lived assets held and used

ASC 360-10 requires that the fair value of the asset group be determined in order to recognize and measure the amount of any impairment loss. Consistent with the guidance of ASC 820-10, the fair value of the asset group should be determined from the perspective of a market participant

considering, among other things, appropriate discount rates, valuation techniques, the most advantageous market, and assumptions about the highest and best use of the asset group.

The fair value should incorporate both recognized and unrecognized long-lived assets within the asset group. For example, unrecognized customer relationships that are part of the asset group should be considered when determining the fair value of the long-lived assets if it is reasonable that a market-participant would ascribe value to them.

If an income approach is used to measure the fair value of the asset group, the cash flows should be based on market-participant assumptions, rather than a reporting entity's own assumptions about how it intends to use the asset group. Therefore, cash flows used to determine fair value may differ from the cash flows used in the recoverability test. Management may start with cash flow estimates used in the recoverability test but should then incorporate the perspective of market participants. Reporting entities should not presume that entity-specific cash flow estimates are representative of market participant assumptions. Because the continued use of a long-lived asset demonstrates the presence of service potential, it would be unusual that the fair value of a long-lived asset would be zero while it is still being used. See FV 7.4 for further guidance regarding fair value measurements when recognizing and measuring long-lived asset impairments.

5.2.7 Right-of-use asset impairment considerations

As discussed in PPE 4.2.4, under ASC 842, the subsequent measurement of a right-of-use asset is subject to guidance under ASC 842 and ASC 360. For further details of ASC 842, including the initial accounting and subsequent measurement of a lease, see the *Leases* guide. A right-of-use asset is also subject to the *Impairment or Disposal of Long-Lived Assets* subsection of ASC 360.

Right-of-use assets should be assigned to an asset group for purposes of applying the impairment guidance in ASC 360. See PPE 5.2.1 for guidance related to determining asset groups. There may be limited circumstances when a right-of-use asset is its own asset group.

Lease accounting should be applied at the lowest component level. See LG 2.5 for information on determining lease components. If the lessee determines that the lease has more than one lease component, the lessee will need to determine if the lease components should be included in different asset groups for purposes of testing for impairment.

A lessee should reassess its asset groupings when there is a change in facts and circumstances in the interdependency of cash flows. For a right-of-use asset, a reassessment of the asset group to which the right-of-use asset is assigned might be necessary if the lessee subleases all or a part of the underlying asset. For example, assume a lessee has two manufacturing facilities that it leases to make widgets. The manufacturing facilities are in the same asset group. The company decides it no longer needs one facility for production and subleases it. Because the cash inflows from the sublease are not dependent on the widget manufacturing, the lessee might determine that the facility should no longer be included in the widget asset group.

A decision to sublease, or a plan to abandon (see PPE 6.4.1 and PPE 6.4.1.1), may not, in isolation, cause a reassessment of an asset grouping, particularly if the lessee is continuing to use the underlying asset in substantially the same manner for a period of time after the decision (i.e., the level of identifiable cash flows have not yet materially changed).

If a lessee decides to sublease a portion of a right-of-use asset that the lessee originally accounted for as one unit of account, the lessee should consider whether it needs to reassess the unit of account. Lease accounting should be applied at the lowest component (i.e., unit of account). For example, assume that a lessee originally accounts for a ten-year lease of a five-story building as a single right-of-use asset. In year five, the lessee decides to sublease two of the floors. The lessee may have accounted for the building as a single lease component at lease inception because all floors were intended to have the same use (e.g., as a single administrative office). The lessee should consider whether its subsequent decision to sublease two floors indicates that the lease contains more than one lease component. The lessee should consider the nature and interdependency of the floors covered by the arrangement using the lease component guidance to determine its units of account (see LG 2.5 and LG 3.3.3.3 for further details). If the lessee determines that it has two lease components (three floors used in operations and two floors subleased to a tenant), the lessee needs to allocate the carrying amount of the right-of-use asset and lease liability to the lease components. Generally, we believe the allocation should be based on the relative fair value of the lease components at the lease commencement date (as defined in the ASC Master Glossary). If the lessee does not know the fair value of the lease components at lease commencement, the lessee may base its allocation on the relative fair value on the date that the lessee decides to sublease.

The decision to sublease a portion of a larger right-of-use asset may be an indicator of impairment depending on the nature and magnitude of the lease component relative to the overall asset group. ASC 360-10-35-21 provides indicators of impairment, including a significant adverse change in the extent or manner in which an asset group is being used. See PPE 5.2.3 for details regarding indicators of impairment.

Example PPE 5-9 illustrates the accounting when subleasing a right-of-use asset.

EXAMPLE PPE 5-9

Lease impairment considerations when subleasing a right-of-use asset

A company leases computers that will no longer be used in their current state once replacement computers are put in place. The original term of the lease was for eight years and commenced in January 20X0. The computers are currently used to support the company's HQ functions (e.g., accounting, finance, human resources).

In October 20X3, the company concludes that by mid-20X4 it will no longer need the leased computers in their current operations; however, a market exists to sublease the computers through the end of the lease term. As such, the company will continue to use the right-of-use asset through the end of the lease term and therefore it does not need to adjust the remaining useful life of the asset.

As of June 30, 20X4, the company is no longer using the computers for its current operations and enters into a sublease for the computers through the remainder of the term on the head lease. The total lease payments in the sublease are less than the remaining contractual lease payments under the head lease.

On June 30, 20X4, the company determines that the cash inflows from the sublease represent separate identifiable cash flows that are largely independent of the cash flows of other assets and liabilities. Therefore, the company concludes that the right-of-use asset should be included in its own asset group. Prior to moving the right-of-use asset into its own asset group, the asset group in which the right-of-use asset was included was not impaired.

When the right-of-use asset is included in a new asset group, should the company test the new asset group for impairment?

Analysis

Yes. The expected change in use of the asset group and the sublease payments which are less than the lease payments under the head lease indicate that the carrying amount of the asset group may not be recoverable and are impairment triggers.

For the recoverability test, the company would estimate the expected undiscounted cash flows over the remaining useful life of the right-of-use asset (i.e., the primary asset), which is 42 months (i.e., June 30, 20X4 through December 31, 20X7).

The company determines that the carrying value of the asset group is greater than its undiscounted cash flows. If the carrying value of the asset group is more than the fair value of the asset group, it would record an impairment. If the right-of-use asset is impaired on June 30, 20X4, amortization of the right-of-use asset and lease liability would be delinked in the subsequent accounting (see PPE 5.2.7.3). The right-of-use asset would be amortized on a straight-line basis. The company would continue to account for the lease liability using the same effective interest method as it had prior to the impairment.

Conditions that lead to a right-of-use asset impairment trigger may also lead to the reassessment of the lease term. However, an impairment trigger under ASC 360 does not necessarily cause reassessment of the lease term under ASC 842. The criteria that trigger an ASC 360 impairment test are different than those for a lease term reassessment under ASC 842. For further discussion regarding lease term reassessment, see LG 5.3.1.

5.2.7.1 Right-of-use asset recoverability test

A right-of-use asset is a long-lived asset and as such, the carrying value should be included in an asset group for impairment testing. See PPE 5.2.4 for details on the recoverability test.

When performing the recoverability test, the reporting entity will need to elect to either: (1) include the carrying amount of operating lease liabilities in the asset group and include the associated operating lease payments in the undiscounted cash flows, or (2) exclude the carrying amount of the operating lease liabilities from the asset group and exclude the associated operating lease payments from the undiscounted cash flows.

Although debt payments are generally not included in the cash flows used in a recoverability test (see PPE 5.2.4.5), the rationale for including an operating lease liability in a recoverability test is based on the ASC 842 requirement to separate operating lease liabilities from finance lease liabilities on the balance sheet as they are not "debt like." Conversely, because operating lease liabilities have characteristics that are similar to finance lease liabilities, a lessee may choose to exclude the operating lease payments from the undiscounted cash flows.

In principle, different results in the recoverability test for similar asset groups should not result from the use of different capital structures. Therefore, the inclusion or exclusion of the lease liability and the related cash flows generally should not result in a different conclusion in the recoverability test.

When performing the recoverability test, if a reporting entity elects to include the operating lease liabilities in the asset group and the associated operating lease payments in the undiscounted cash flows, the reporting entity should also make an accounting policy election to either include or exclude the interest portion of the operating lease payments as a cash outflow in the recoverability test. Including the interest payments as a cash outflow is consistent with the inclusion of rent expense for operating leases prior to the adoption of the new leases standard. In contrast, including only the principal lease payments is similar to the model for debt, in the limited circumstances when debt is considered in the test.

Variable lease payments should generally be included in the undiscounted cash flows in the recoverability test when the variable lease payments are not already included in the measurement of the lease liability. For example, a lease of retail property may specify that lease payments are based on a percentage of the lessee's retail sales at the property, which would be a variable lease payment not included in the lease liability. The estimate of these variable lease payments would be included in the undiscounted cash flows used for the recoverability test, regardless of the accounting policy election.

Assuming an impairment indicator exists for an asset group that includes long-lived assets that are not fully impaired, a recoverability test should still be performed when the asset group has a zero or negative carrying amount. If the undiscounted cash flows of the asset group are less than the carrying amount of the asset group, including when the undiscounted cash flows are more negative than the carrying amount of the asset group, the asset group fails the recoverability test and the lessee should measure the impairment loss (see PPE 5.2.5).

As discussed in PPE 5.2.4.2, the period of time used to determine estimates of future cash flows for the recoverability test is based on the remaining useful life of the primary asset of the group. ASC 360-10-35-31 states that the primary asset is the principal long-lived tangible asset being depreciated or intangible asset being amortized that is the most significant component asset from which the asset group derives its cash flow-generating capacity. If a right-of-use asset meets this definition, it would be the primary asset of an asset group.

Impact of lease renewals on right-of-use asset recoverability

There may be circumstances when management expects to renew a lease and the remaining useful life of the primary asset does not reflect the additional lease term. For example, the primary asset may not be the right-of-use asset or the right-of-use asset may be the primary asset, but its useful life does not include the lease renewal period because it has not met the lease remeasurement criteria in ASC 842 (see LG 5.3). When there is a lease renewal period and management expects to renew the lease, there are multiple approaches management could use to determine the residual value of the asset group.

One approach would be to consider the cash flows generated by the asset group during the renewal period based on management's expectation that it will renew the lease. For example, assume the asset group includes a right-of-use asset related to a five-year lease and subsequently management changes its plans and now expects to exercise a five-year renewal option. At the end of the first year of the lease, management has determined that an impairment triggering event has occurred for the asset group. In performing the recoverability test, the cash flows would include (1) the undiscounted cash flows over years two through five of the lease, and (2) the residual value determined based on the cash flows expected during the renewal period, discounted to year five of the lease (i.e., the end of the undiscounted cash flow period). The sum of the cash flows would then be compared to the carrying amount of the asset group. Other approaches may also be acceptable when determining the residual value of the asset group (see PPE 5.2.4.2).

5.2.7.2 *Measuring impairment of a right-of-use asset*

When measuring the asset group's fair value in the impairment test, the lessee can elect to either include or exclude the operating lease liabilities in the asset group, consistent with the recoverability test (see PPE 5.2.7.1). We generally do not expect significant differences in the measurement of an impairment loss because a lessee's estimate of the fair value of the asset group would reflect whether the asset group includes or excludes operating lease liabilities. See FV 8 for a detailed discussion of the incorporation of credit risk in the fair value measurement of assets and liabilities.

Variable lease payments should be included when determining the fair value of the asset group using the discounted cash flow approach. Consistent with ASC 820, a market participant would consider expected lease cash outflows in determining the fair value of the asset group.

When determining the fair value of a right-of-use asset, market participant assumptions should be used. For example, when determining the appropriate discount rate to use when calculating the fair value of a right-of-use asset using the income approach, the discount rate applied should be based on a market participant's assessment of the risk in the cash flow forecast related to the asset group. This would not necessarily be the same as the lessee's incremental borrowing rate. To determine an appropriate rate, a lessee should consider the highest and best use of the right-of-use asset (e.g., is the space more profitable as retail versus office space, which would likely result in different market discount rates). This use may be different than how the lessee is currently using the right-of-use asset. For discussion on the considerations of the highest and best use of nonfinancial assets, see FV 4.2.5. For discussion of the considerations when determining the fair value of the lease liability, see FV 4.2.6.

The inclusion of operating lease liabilities in a lessee's asset group may result in the carrying amount of the asset group being zero or negative. While the fair value of a legal entity is generally not negative as the equity holders can choose not to fund future losses, asset groups are often not legal entities, thus an asset group can have a negative fair value. This contrasts with calculating the fair value of a reporting unit for purposes of a goodwill impairment test. The fair value for a reporting unit typically would not be negative because a reporting unit often consists of one or more legal entities and is typically a business.

A negative asset group fair value (i.e., the need to pay a market participant to step into the current owner's shoes) may result when there are costs to exit an activity that is within a larger entity. Although the fair value of the asset group can be negative, the fair value of an individual asset cannot be less than zero.

As discussed in PPE 5.2.5, an impairment loss should be allocated among the long-lived assets in the asset group on a pro rata basis using their relative carrying amounts, except that the loss allocated to an individual long-lived asset should not reduce the carrying amount of that asset below its fair value whenever that fair value is determinable without undue cost and effort.

5.2.7.3 *Accounting for a lease after impairment testing (ASC 842)*

If a right-of-use asset is impaired, the impairment will be allocated to the asset group, including the right-of-use asset, as discussed in PPE 5.2.5. As a result of recognizing an impairment for a right-of-use asset, the right-of-use asset amortization becomes delinked from the lease liability. Prior to impairment, the amortization of the right-of-use asset is the difference between the straight-line lease expense and the effective interest calculated on the lease liability. This results in straight-line lease expense. However, in accordance with ASC 842-20-25-7, once the right-of-use asset is impaired, the

lessee will continue to amortize the lease liability using the same effective interest method but the right-of-use asset will be amortized on a straight-line basis over its remaining useful life. The resulting accounting is similar to the accounting a lessee would apply to a finance lease.

As discussed in PPE 5.2.4, the useful lives of long-lived assets should be reassessed whenever events or circumstances indicate that a revision to the useful life is warranted. It may be necessary to reassess the useful life of a right-of-use asset even when the asset is not impaired based on the outcome of the recoverability test. For further details regarding the remaining useful life of a right-of-use asset, see PPE 4.2.4.

If a right-of-use asset has not been impaired, but its useful life has been shortened, different approaches can be applied to subsequently amortize the right-of-use asset. See PPE 6.4.1.1 for examples of two acceptable approaches, including “delinked” and “linked” recognition methods.

5.2.7.4 Presentation and disclosure–held and used impairment

See FSP 8.6.6.1 for information on the presentation and disclosure of held and used impairment losses.

5.3 Accounting for long-lived assets to be disposed of by sale

Once all the criteria in ASC 360-10-45-9 are met, a long-lived asset (disposal group) should be classified as held for sale. The long-lived asset (disposal group) should be reported at the lower of its carrying value or fair value less cost to sell beginning in the period the held for sale criteria are met. The carrying amount of the asset (disposal group) should be adjusted each reporting period for subsequent changes in fair value less cost to sell; however, the asset (disposal group) should not be adjusted above its initial carrying amount as of the date it was classified as held for sale.

Once classified as held for sale, depreciation and amortization should not be recorded for any long-lived assets included in the disposal group. Because right-of-use assets are within the scope of ASC 360-10, reporting entities should cease amortizing any right-of-use assets included in a disposal group once classified as held for sale, whereas interest on any related lease liabilities should continue to be accreted. See PPE 5.3.1 for guidance regarding the held for sale criteria and PPE 5.3.3 for guidance regarding the measurement of a disposal group.

A reporting entity with a component that meets the held for sale criteria should also consider whether the component meets the criteria for reporting discontinued operations. See FSP 27 for further details regarding the discontinued operations criteria, as well as presentation and disclosure requirements for components qualifying as a discontinued operation.

When a disposal group includes assets that are not within the scope of ASC 360-10, the order of impairment testing is different from the order of an asset group that is held and used. See PPE 5.3.3 for information regarding the order of impairment testing for a disposal group that qualifies as held for sale and the interaction with other standards.

5.3.1 Held for sale criteria—overview

ASC 360-10-45-9 requires that a long-lived asset (disposal group) should be classified as held for sale in the period in which all of the held for sale criteria are met. All criteria must be met as of or prior to the balance sheet date for a long-lived asset (disposal group) to qualify as held for sale.

5.3.1.1 Management commitment to a plan (held for sale)

ASC 360-10-45-9(a) requires that management, having the authority to approve the action, must commit to a plan to sell the asset (disposal group). The plan should specifically identify (1) all major assets to be disposed of, (2) significant actions to be taken to complete the plan, including the method of disposition and location of those activities, and (3) the expected date of completion. Merely exploring or assessing the feasibility of a sale of a long-lived asset (disposal group) does not constitute a commitment to a plan to sell.

If the board of director's approval for a plan of disposal is required by company policy or is sought by management, the commitment criterion generally is not met until such approval has been obtained. Similarly, if shareholder approval is required by company policy or is sought by management, the commitment criterion generally is not met until shareholder approval has been obtained. However, if management and the board of directors control a majority of the reporting entity's voting shares, approval by management and the board of directors is usually sufficient, as shareholder approval would be considered perfunctory.

When formal approval of a sale is required to be obtained from a third party (e.g., a governmental agency or a lender) the nature and likelihood of the third party approval should be considered in determining whether management has the ability to commit to a disposal plan. Routine or perfunctory approvals normally do not impact management's ability to commit to a plan to sell. Additionally, in situations where obtaining such approval could extend the period required to complete the sale beyond one year, it may still be appropriate to classify the disposal group as held for sale, provided a firm purchase commitment is probable within one year (see Example 9 of ASC 360-10-55-45).

In bankruptcy proceedings, due to the increased power of the bankruptcy court or creditors' committee, management may not have the level of authority to approve the sale of assets. Instead, this authority may be with the bankruptcy court or creditors' committee. Therefore, the held for sale criteria may not be met if approval of the bankruptcy court or creditors' committee has not yet been obtained.

Commitment to a plan after the balance sheet date (held for sale)

A reporting entity may commit to a plan to sell a long-lived asset (disposal group) shortly after its balance sheet date, but before issuance of its financial statements. In these situations, the long-lived assets (disposal group) should continue to be classified as held and used until the all held for sale criteria are met in the subsequent reporting period. The held and used classification determination made as of the balance sheet date should not be revised for a decision to sell the asset after the balance sheet date.

However, a plan to sell a held and used long-lived asset for a loss shortly after the balance sheet date should be evaluated to determine whether a held and used impairment existed as of the balance sheet date, as events or conditions arising after the balance sheet date often affirm conditions that existed as of the balance sheet date. Depending on the significance of the asset in relation to the overall asset

group and the facts and circumstances surrounding the sale of the asset, it may be necessary to test the asset group under the held and used impairment approach as of the balance sheet date. If required to be tested for recoverability, estimates of future cash flows should reflect all available information based on facts and circumstances as of the balance sheet date, including the likelihood of the sale of the related asset. Furthermore, disclosures should be considered if a reporting entity determines that no impairment existed as of the balance sheet date, but the asset is subsequently sold for a loss shortly after year end.

5.3.1.2 Available for immediate sale in present condition (held for sale)

ASC 360-10-45-9(b) requires that the asset (disposal group) be available for immediate sale in its present condition, subject only to terms that are usual and customary for sales of such assets (disposal groups). There should be no ongoing operational requirement to use the asset (disposal group), and the reporting entity should have the intent and ability to sell the asset (disposal group) in its current condition. For example, if a reporting entity is selling a manufacturing facility but a backlog of orders exists and needs to be fulfilled prior to sale, the manufacturing facility would not be considered available for immediate sale and this criterion would not be met. Alternatively, if the reporting entity was selling the manufacturing facility and the customer orders, this criterion would be met. See ASC 360-10-55-37 through ASC 360-10-55-42 for further examples illustrating this criterion.

5.3.1.3 Program to locate a buyer and other actions (held for sale)

ASC 360-10-45-9(c) requires the initiation of an active program to locate a buyer and other actions required to complete the plan to sell the asset (disposal group). To meet this criterion, a reporting entity should be actively seeking a buyer. However, this does not mean a seller needs to have identified a buyer or have executed a letter of intent or purchase and sale agreement for this criterion to be met. For example, if management has engaged a third party (e.g., a sales or real estate agent) to identify and approach potential buyers to submit bids for an asset (disposal group), a plan to sell may exist.

5.3.1.4 Sale is probable and within one year (held for sale) – updated November 2021

ASC 360-10-45-9(d) requires that the sale of the asset (disposal group) is probable, and transfer of the asset (disposal group) is expected to qualify for recognition as a completed sale within one year. The term “probable” refers to a future event or events “likely to occur,” which is generally considered a 75% threshold. In assessing whether a sale is probable and will be completed within one year, management should consider historical experience in closing similar sales transactions, the market in which the asset (disposal group) is being sold, potential buyers’ ability to obtain any necessary financing, the regulatory environment in which the entity operates, and any other relevant factors.

Under ASC 842, if the reporting entity plans to enter into a sale and leaseback transaction and it is probable that the sale requirements under ASC 842-20 will be met within a year, this criterion would likely be met. Refer to LG 6.3 for guidance on determining whether a sale has occurred under ASC 842. Under ASC 840, if the reporting entity plans to enter into a sale and leaseback transaction for more than a minor portion of a property, this criterion would not be met. See ASC 360-10-55-43 through ASC 360-10-55-49 for examples illustrating this criterion.

See PPE 5.3.7 for the ASC 360-10-45-11 exceptions to the one-year requirement for events or circumstances beyond a reporting entity’s control.

5.3.1.5 *Actively marketed for sale at a reasonable price (held for sale)*

ASC 360-10-45-9(e) requires that the asset (disposal group) is being actively marketed for sale at a price that is reasonable in relation to its current fair value. This is because the price at which a long-lived asset (disposal group) is being marketed is indicative of whether the entity currently has the intent and ability to sell the asset (disposal group). A market price that is reasonable in relation to fair value indicates that the asset (disposal group) is available for immediate sale, whereas a market price in excess of fair value indicates that the asset (disposal group) is not available for immediate sale, as a reporting entity may simply be "sizing the market" to ascertain interest in the asset (disposal group).

5.3.1.6 *Unlikely significant changes to plan will be made (held for sale)*

ASC 360-10-45-9(f) requires that actions required to complete the plan indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn. In considering whether this criterion is met, reporting entities should consider their history of similar sales transactions and whether significant changes to initial plans for those similar transactions occurred. A history of significant changes to sales plans or withdrawal from sales plans may indicate that this criterion has not been met.

In some cases, a reporting entity may wish to dispose of an operating segment consisting of multiple components, but it is unclear if a single buyer will acquire the segment or if portions of the segment will be sold in multiple sales. In other cases, a reporting entity may decide to dispose of a segment, but is uncertain whether it can locate a buyer at a price that is acceptable and, if not, it will spin off the segment to its shareholders. In these cases, it is unlikely a plan exists as the disposal is subject to significant changes.

5.3.1.7 *Held for sale criteria for real estate*

As discussed in PPE 1.7, reporting entities constructing assets for sale or rental should consider the incremental guidance in ASC 970, *Real estate - general*. Specifically, ASC 970-360-35-3 states the held for sale criteria discussed in PPE 5.3.1 do not apply to real estate projects, or portions of a real estate project, that are substantially complete and that are to be sold. These properties are considered held for sale regardless of whether they meet the held for sale criteria (e.g., a real estate property that is substantially complete would be treated as held for sale irrespective of the estimated timing of the sale). If, however, the real estate project is currently under development (but not substantially complete), held for future development, or held for use (e.g., to be leased to a third party), ASC 970-360-35-3 states that the held and used impairment guidance should be followed (see PPE 5.2).

5.3.2 *Order of impairment testing for long-lived assets held for sale*

As detailed in ASC 360-10-35-39, the carrying amounts of any assets that are not covered by ASC 360-10, including indefinite-lived intangible assets and goodwill, that are included in a disposal group should be adjusted in accordance with other applicable GAAP before measuring the disposal group's fair value less cost to sell (see PPE 5.3.3). A reporting entity should perform impairment testing in the following order:

- Test other assets (e.g., accounts receivable, inventory) under applicable guidance

- Test goodwill and indefinite-lived intangible assets for impairment under ASC 350

- Test the disposal group for impairment under ASC 360-10

The carrying amounts are adjusted, if necessary, for the result of each test prior to performing the next test. This order is different than that applied for assets to be held and used (see PPE 5.2.2). Performing testing in the correct order is necessary as the order of impairment testing may impact the amount of goodwill impairment loss recognized.

5.3.3 Measuring the fair value of a disposal group (held for sale)

An asset (disposal group) should be reported at the lower of its carrying value or its fair value less cost to sell, beginning in the period the held-for-sale criteria are met. The fair value of a disposal group should be measured consistent with the guidance of ASC 820-10 and should be determined from the perspective of a market participant considering, among other things, appropriate discount rates, valuation techniques, the most advantageous market, and assumptions about the highest and best use of the disposal group.

Additional losses should be recognized for any subsequent decreases in fair value less cost to sell of the disposal group. Any loss recognized is considered a loss on sale rather than an impairment loss. Additionally, any subsequent increase in the disposal group's fair value less cost to sell should be recognized, but not in excess of the cumulative loss previously recognized. That is, the disposal group should not be written up to an amount above its carrying amount as of the date it was initially classified as held for sale. See PPE 5.3.3.1 through PPE 5.3.3.7 for guidance surrounding the measurement of specific assets and liabilities including a disposal group that qualifies as held for sale.

5.3.3.1 Costs to sell a disposal group (held for sale)

Costs to sell a disposal group include incremental, direct costs to transact the sale and represent the costs that result directly from and are essential to a sale transaction that would not have been incurred by the entity had the decision to sell not been made. ASC 360-10-35-38 describes the types of costs that qualify as costs to sell.

ASC 360-10-35-38

Costs to sell are the incremental direct costs to transact a sale, that is, the costs that result directly from and are essential to a sale transaction and that would not have been incurred by the entity had the decision to sell not been made. Those costs include broker commissions, legal and title transfer fees, and closing costs that must be incurred before legal title can be transferred. Those costs exclude expected future losses associated with the operations of a long-lived asset (disposal group) while it is classified as held for sale. Expected future operating losses that marketplace participants would not similarly consider in their estimates of the fair value less cost to sell of a long-lived asset (disposal group) classified as held for sale shall not be indirectly recognized as part of an expected loss on the sale by reducing the carrying amount of the asset (disposal group) to an amount less than its current fair value less cost to sell. If the sale is expected to occur beyond one year as permitted in limited situations by paragraph 360-10-45-11, the cost to sell shall be discounted.

These types of costs may vary depending on the transaction, but generally include legal fees, brokerage commissions, and closing costs that must be incurred before legal title can be transferred. For example, costs to sell would exclude costs to raze property in accordance with a sale agreement or costs to remove machinery and equipment from a building in conjunction with the sale. However,

costs to sell generally exclude holding costs such as insurance, rent, property taxes, security, and utilities while the disposal group is held for sale. Future losses associated with the operations of a disposal group while it is classified as held for sale should also be excluded from costs to sell.

The deferral of costs to sell is not appropriate. When a gain on disposal is expected, a reporting entity should continue to expense all costs to sell as incurred. Since these costs do not meet the definition of an asset in CON 6, *Elements of Financial Statements,* there is no basis to defer such costs. Deferring the costs would be similar to recognizing a contingent gain. Per ASC 450-30-25-1, contingent gains are not recognized until they are realized. This accounting treatment is similar to the accounting for other costs associated with an exit or disposal activity as described in ASC 420-10-25-15.

5.3.3.2 Allocating goodwill to a disposal group (held for sale)

ASC 350-20-40-1 through ASC 350-20-40-7 include guidance for allocating reporting unit goodwill to a disposal group. When a disposal group meets the definition of a business and is a reporting unit, the reporting entity should include the goodwill of that reporting unit in the disposal group's carrying amount to determine any gain or loss on disposal. When some, but not all, of a reporting unit is to be disposed of, the accounting for that reporting unit's goodwill will depend on whether the disposal group constitutes a business. If the disposal group does not constitute a business, no goodwill should be attributed to the disposal group. Alternatively, if the disposal group constitutes a business, the reporting entity should attribute a portion of the reporting unit's goodwill to the disposal group in determining the gain or loss on the disposal of the business. In accordance with ASC 350-20-40-3, the amount of goodwill that is attributed to the disposal group should be based on the relative fair values of (1) the disposal group and (2) the portion of the reporting unit that will be retained.

A scenario may arise where a disposal group that previously met the definition of a business (i.e., prior to the adoption of ASU 2017-01) no longer meets the definition of a business. For example, an acquired hotel may have met the definition of a business prior to the adoption of ASU 2017-01, and as a result, goodwill may have been recognized in acquisition accounting. However, subsequent to the adoption of ASU 2017-01, the hotel may no longer meet the definition of a business (e.g., if substantially all of the fair value of the set is concentrated in the value of the hotel building). If a reporting entity disposes of the hotel in a subsequent period, and the hotel qualifies as held for sale, goodwill should not be allocated to the disposal group because the hotel does not constitute a business. As a result, the goodwill recognized from the initial acquisition of the hotel would be "stranded" in the remaining reporting unit. In this scenario, we believe that the reporting entity should consider whether the reporting unit to which that goodwill was assigned has experienced a goodwill impairment indicator since substantially all of the benefit that gave rise to the assignment of goodwill is now disposed of (or classified as held for sale). We believe this is consistent with the guidance of ASC 350-20-40-7.

See BCG 9.10 through BCG 9.10.6 for further information on identifying reporting units and allocating goodwill to a disposal group.

5.3.3.3 Other assets and liabilities in a disposal group (held for sale)

A disposal group may include long-lived assets as well as other assets that are not within the scope of ASC 360-10 (e.g., accounts receivable, inventory, indefinite-lived intangible assets, etc.). A disposal group may also include liabilities directly associated with the assets to be sold and that will be transferred in the transaction. For example, legal obligations that transfer with a long-lived asset, such

as certain environmental obligations or obligations that a buyer would settle when assumed as part of the group (e.g., warranties) should be included in the disposal group.

As discussed in PPE 5.3.2, the carrying amounts of any assets that are not within the scope of ASC 360-10 that are included in a disposal group classified as held for sale should be adjusted for impairment in accordance with other applicable GAAP prior to measuring the fair value less cost to sell of the disposal group. These assets should continue to be measured in accordance with other applicable GAAP each reporting period until the disposal is completed.

When a disposal group that is held for sale includes an asset retirement obligation (ARO) and its associated asset retirement costs (ARC), the guidance in ASC 360-10-35-43 should be followed. The reporting entity should cease depreciation of the ARC once the held for sale criteria are met. However, accretion of the ARO should continue to be recognized until the disposal is completed.

Outstanding debt obligations should not be included in a disposal group unless the debt will be assumed by the buyer in the transaction. The debt obligation should not be included in the disposal group even if the outstanding debt obligation is required to be repaid by the seller as a result of the sale transaction with the proceeds from the sale.

5.3.3.4 Including amounts from AOCI in a disposal group (held for sale)

ASC 830-30-45-13 includes guidance regarding the treatment of cumulative translation adjustments (CTA) included in accumulated other comprehensive income (AOCI) when determining the carrying amount of a disposal group that is a foreign entity.

ASC 830-30-45-13

An entity that has committed to a plan that will cause the cumulative translation adjustment for an equity method investment or a consolidated investment in a foreign entity to be reclassified to earnings shall include the cumulative translation adjustment as part of the carrying amount of the investment when evaluating that investment for impairment. The scope of this guidance includes an investment in a foreign entity that is either consolidated by the reporting entity or accounted for by the reporting entity using the equity method. This guidance does not address either of the following

a. Whether the cumulative translation adjustment shall be included in the carrying amount of the investment when assessing impairment for an investment in a foreign entity when the reporting entity does not plan to dispose of the investment (that is, the investment or related consolidated assets are held for use)

b. Planned transactions involving foreign investments that, when consummated, will not cause a reclassification of some amount of the cumulative translation adjustment.

When a disposal group is classified as held for sale, the carrying amount of the disposal group should include the CTA that will be eliminated upon sale when measuring the disposal group at the lower of its fair value less cost to sell or carrying amount. However, such amounts should remain classified within AOCI until the disposal group's sale date in accordance with ASC 830-30-40-1.

Although ASC 830-30-40-1 and ASC 830-30-45-13 only address the treatment of cumulative translation adjustments, we believe that other amounts in AOCI should be analogized to this guidance

(e.g., unrealized gains or losses on investments classified as available for sale, unrealized employee benefit plan gains or losses, etc.) when determining the carrying amount of a disposal group that is held for sale.

5.3.3.5 *Deferred income taxes in a disposal group (held for sale)*

A reporting entity should determine whether deferred taxes need to be included in the carrying amount of a disposal group classified as held for sale. According to ASC 360-10-15-4, a disposal group represents assets to be disposed of together as a group in a single transaction and liabilities directly associated with those assets that will be transferred in the transaction. A determination of whether deferred tax assets and liabilities should be included in the disposal group depends on whether the buyer will acquire any of the tax attributes and succeed to the tax basis of assets and liabilities. If the buyer will be acquiring tax benefits or assuming tax liabilities (otherwise known as "inside" basis difference), deferred taxes should be included in the disposal group. While the determination ultimately depends on the terms of the sale and the provisions of the relevant tax law in the applicable jurisdiction, in general sales of asset groups in the form of the sale of the shares of a corporation would result in the tax bases of assets and liabilities and tax attributes carrying over to the buyer. Conversely, a sale of an asset group that is structured as the sale of assets and liabilities will result in the buyer establishing a new tax basis in those assets and liabilities.

If the sale is structured as a sale of stock, deferred taxes associated with any book-tax basis differences in the assets and liabilities of the disposal group will usually be assumed by the buyer. Therefore, these deferred taxes should be included in the carrying amount of the disposal group because the deferred taxes meet the definition of assets to be disposed of or liabilities to be transferred (included in the definition of a disposal group in ASC 360-10-15-4).

A decision to sell the shares of a subsidiary could require the recognition of additional deferred taxes associated with the difference between the seller's carrying amount of the subsidiary's net assets in the financial statements and its basis in the shares of the subsidiary (otherwise known as "outside" basis difference). Because those deferred taxes will remain with, and be settled by the seller, they should not be included in the disposal group. Refer to ASC 740-30-25-10 and TX 11.1 for further guidance regarding the recognition of any temporary difference related to the outside basis difference.

If the sale is structured as an asset sale, the seller will usually retain and settle or recover the deferred tax assets and liabilities (i.e., any inside basis differences will reverse in the period of sale and become currently deductible by or taxable to the seller). Therefore, in an asset sale, deferred taxes should usually not be included in the carrying amount of the assets and liabilities that are held for sale because they will not be transferred to the buyer (i.e., they are not part of the disposal group as defined in ASC 360-10-15-4).

5.3.3.6 *Loss exceeds carrying amount of long-lived assets (held for sale)*

In some situations, the difference between the carrying amount and fair value less cost to sell of the disposal group (i.e., the implied loss on disposal) may exceed the carrying amount of long-lived assets in the disposal group. For example, if the carrying amount of the disposal group is $100 and fair value less cost to sell is $75, there is an implicit $25 loss on sale. If the carrying amount and fair value of the long-lived assets in the disposal group are $20 and $5, respectively, the $25 loss would exceed the $20 carrying amount.

In these situations, the SEC staff has indicated there are two acceptable interpretations of the literature for accounting for the loss on sale on the held-for-sale date. The first method interprets ASC 360-10-35-43 as redefining the unit of account as the disposal group; thus, a loss should be recognized to record the disposal group at the lower of its carrying amount or its fair value less cost to sell. Under this approach, the loss on sale would be $25 as of the held-for-sale date, recorded against the disposal group as a whole. The second method interprets ASC 360-10-35-40 as limiting the loss to the excess of carrying amount over the fair value of the long-lived assets, because only long-lived assets are within the scope of ASC 360-10. Using this approach, the loss on sale would be $15 on the held-for-sale date.

The discussion above relates to measurement of disposal groups classified as held for sale under ASC 360-10. If the asset group is held and used, an impairment loss cannot reduce the carrying amount of the long-lived assets below their fair value.

5.3.3.7 Retained NCI in a disposal group (held for sale)

When a reporting entity records a subsidiary as held for sale but plans to retain a noncontrolling equity investment in the subsidiary, the reporting entity should reclassify all of its interest in the disposal group's assets and liabilities as held for sale as of the date the held for sale criteria are met. Due to the loss of control, the sale would be treated as a sale of 100% of the ownership interest. The retained interest would be measured at fair value. This contrasts with reclassifying only the pro rata portion of each of the subsidiary's balance sheet line items being sold to held for sale in the reporting entity's balance sheet. See EM 5.2 for the accounting for changes in interest. See BCG 5.5 for additional details on changes in interest resulting in loss of control.

5.3.4 Impact of held for sale loss on subsidiary financial statements

When a parent records a held for sale loss on a subsidiary, the subsidiary should assess if an impairment triggering event has occurred for the subsidiary's standalone financial statements. In the parent's financial statements, the parent would measure the subsidiary at the lower of its carrying amount or fair value less cost to sell. If separate financial statements of the subsidiary are prepared, the subsidiary should assess if a triggering event has occurred for an impairment test on its long-lived assets. If so, such test should be completed assuming the assets are to be held and used. That is, a recoverability test would be based on cash flows on an undiscounted basis over the remaining life of the asset group, as determined based on the group's primary asset, not based on fair value. The difference in the basis of accounting by the parent and the subsidiary may result in the parent reducing the carrying amount of the subsidiary in the parent's financial statements while an impairment loss may not be required in the subsidiary's financial statements.

5.3.5 Newly acquired assets classified as held for sale

ASC 360-10-45-12 provides specific criteria which, if met, require the acquirer to present newly acquired assets as assets held for sale. The criteria require a plan to dispose of the assets within a year and that it be probable that the acquirer will meet the other held-for-sale criteria within a short period of time after the acquisition date (usually within three months). If the disposal group qualifies as a component, the component should also be immediately classified as a discontinued operation as of the acquisition date. The objective of this requirement is to include in discontinued operations those assets and operations that will never be considered part of a reporting entity's continuing operations. See FSP 27.3.1.1 for additional information relating to discontinued operations considerations.

5.3.6 *Changes to a plan of sale (held for sale)*

Based on a change in circumstances that were previously considered unlikely to occur, a reporting entity may have a change to a plan of sale and decide not to sell a long-lived asset (disposal group) previously classified as held for sale. At the time the decision is made, the long-lived asset (disposal group) should be reclassified as held and used. Upon reclassification as held and used, the long-lived asset (disposal group) should be measured in accordance with ASC 360-10-35-44 at the lower of (1) its carrying amount before the asset (disposal group) was classified as held for sale, adjusted for any depreciation or amortization expense that would have been recognized had the assets continued to be classified as held and used, or (2) the fair value at the date of the subsequent decision not to sell. Any adjustment to the carrying amount based on reclassifying the long-lived assets (disposal group) to held and used should be reflected in the income statement within continuing operations in the period the decision is made not to sell.

5.3.7 *Held for sale classification beyond one year*

As discussed in PPE 5.3.1.4, to qualify as held for sale the sale of the asset (disposal group) must be probable and transfer of the asset (disposal group) must be expected to qualify for recognition as a completed sale within one year. ASC 360-10-45-11 grants certain exceptions to the one-year requirement as there may be events or circumstances beyond a reporting entity's control that extend the period required to complete the sale of an asset or disposal group. An exception to the one-year requirement applies in the following situations, which are illustrated in ASC 360-10-55-44 through ASC 360-10-55-49:

- If at the date a reporting entity commits to a plan to sell a long-lived asset (disposal group), the entity reasonably expects that others (not a buyer) will impose conditions on the transfer of the disposal group that will extend the period required to complete the sale and (1) actions necessary to respond to those conditions cannot be initiated until after a firm purchase commitment is obtained and (2) a firm purchase commitment is probable within one year.

- If a reporting entity obtains a firm purchase commitment and, as a result, a buyer or others unexpectedly impose conditions on the transfer of a long-lived asset (disposal group) previously classified as held for sale that will extend the period required to complete the sale and (1) actions necessary to respond to the conditions have been or will be timely initiated and (2) a favorable resolution of the delaying factors is expected.

- If during the initial one-year period, circumstances arise that previously were considered unlikely and, as a result, a long-lived asset (disposal group) previously classified as held for sale is not sold by the end of that period and (1) during the initial one-year period the entity initiated actions necessary to respond to the change in circumstances, (2) the asset (disposal group) is being actively marketed at a price that is reasonable given the change in circumstances, and (3) the other criteria in ASC 360-10-45-9 are met.

Repeated delays in the sale of an asset or disposal group may raise questions as to whether the held for sale criteria have been met. If at any time the criteria for held for sale classification are no longer met (except for the permitted exceptions discussed above), a long-lived asset or disposal group classified as held for sale should be reclassified as held and used (see PPE 5.3.6).

5.3.8 Presentation and disclosure (held for sale)

See FSP 8.6.2 for information on the presentation and disclosure requirements for assets (disposal groups) that qualify as held for sale. Additionally, see FSP 27 for information on the presentation and disclosure requirements for discontinued operations.

Chapter 6: Asset disposals—updated November 2021

6.1 Asset disposals overview

A long-lived asset should be derecognized when it is disposed. There are various ways that a reporting entity can dispose or partially dispose of a long-lived asset. Prior to disposing of a long-lived asset, a reporting entity should determine whether the disposal group meets the held for sale criteria. For further details regarding a disposal group and the held for sale criteria, refer to PPE 5.3. This chapter discusses various aspects of accounting for disposals by sale (see PPE 6.2) and disposals other than by sale (see PPE 6.3).

The derecognition of nonfinancial assets and in substance nonfinancial assets for transactions with non-customers is codified in ASC 610-20. The objectives of ASC 610-20 are to (1) generally align the accounting for transfers of nonfinancial assets to non-customers with the accounting for contracts with customers under ASC 606 and (2) provide specific guidance for transfers of certain nonfinancial assets (such as equipment or intangible assets). Additionally, ASC 610-20 eliminates rules specifically addressing sales of real estate (i.e., ASC 360-20). ASC 610-20 was effective at the same time a reporting entity adopted the amended revenue guidance in ASC 606.

In addition to accounting for the disposal of nonfinancial assets, a reporting entity may have related activities applicable to the guidance under ASC 420-10, *Exit or Disposal Cost Obligations*. This guidance addresses the recognition, measurement, and reporting of costs associated with exit and disposal activities, including restructuring activities. ASC 420-10 focuses on the recognition of liabilities, specifically requiring that companies only record such liabilities when they are incurred. This guidance is discussed further in PPE 6.4.

6.2 Disposals by sale

Long-lived assets are often disposed of by a sale to a third party (e.g., sale of a plant by a manufacturing company). Each transaction should be evaluated to determine the appropriate derecognition guidance to apply in accounting for the disposal.

A reporting entity should first determine whether the transaction is partially in the scope of other topics. For example, a guarantee created in conjunction with the transfer of a nonfinancial asset, or a seller's obligation to provide a separate identifiable service to the buyer will likely be accounted for separate from the disposal. See PPE 6.2.1 for further discussion on transactions that are partially in the scope of other topics.

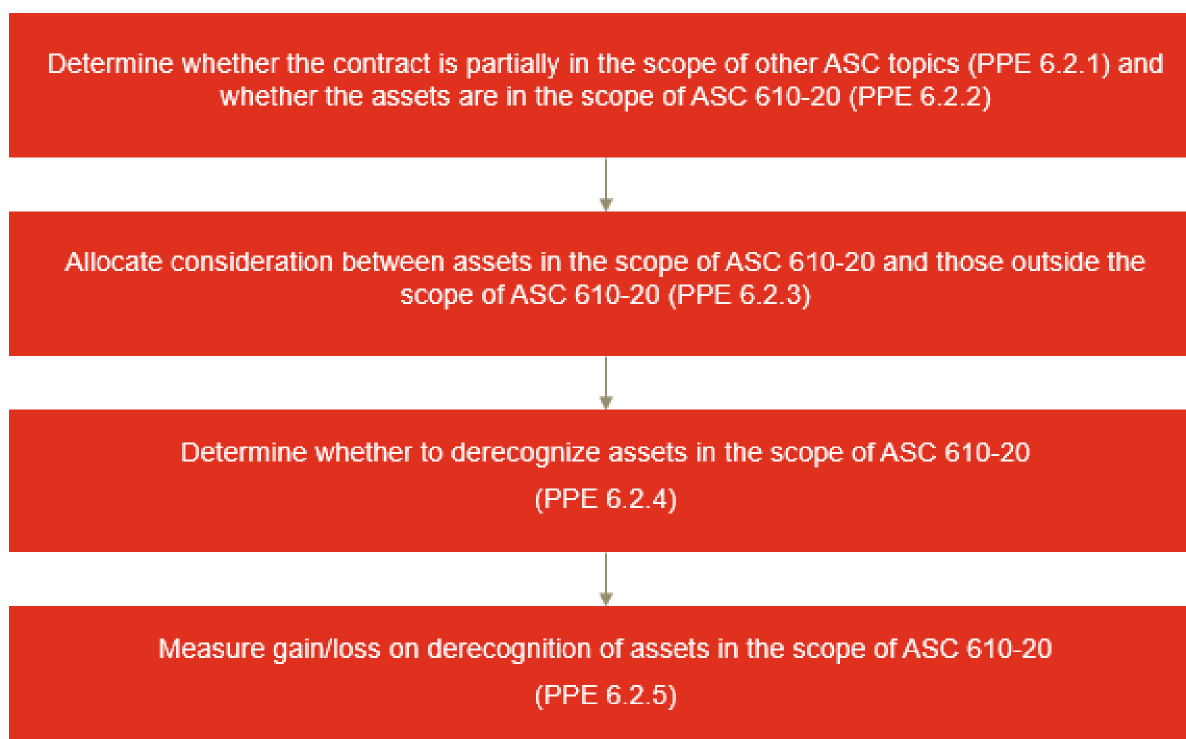
The reporting entity will need to determine whether the transaction is in the scope of ASC 610-20, *Gains and Losses from the Derecognition of Nonfinancial Assets,* or other topics. For example, the sale of assets in the ordinary course of business (e.g., sale of a car by a car dealer) are governed by the revenue guidance in ASC 606, *Revenue from Contracts with Customers*. Furthermore, the sale of a group of long-lived assets that constitutes a business and that is not a sale to a customer should be accounted for in accordance with ASC 810-10-40, unless it is a conveyance of oil and gas mineral rights (see ASC 932-360, *Extractive Activities – Oil and Gas, Property, Plant, and Equipment*). As discussed in PPE 6.2.2.5, financial assets (e.g., equity method investments) that are disposed in conjunction with the sale of nonfinancial assets may also be within the scope of ASC 610-20 when they are determined to be in substance nonfinancial assets. Refer to PPE 6.2.2 for further details on evaluating the appropriate derecognition model for various disposals.

Once it is determined that the disposal is within the scope of ASC 610-20, the entity will need to allocate the contract consideration (see PPE 6.2.3), determine whether the disposal meets the derecognition criteria (see PPE 6.2.4), and measure the gain or loss upon derecognition (see PPE 6.2.5).

Figure PPE 6-1 provides an overview of the steps to consider when applying the guidance in ASC 610-20.

Figure PPE 6-1

Steps to consider in applying the guidance in ASC 610-20



6.2.1 *Assessing what is part of a disposal*

The seller may have certain arrangements that should be accounted for separately from the disposal transaction. In many disposal transactions, a seller may make certain representations and warranties associated with the sale. See PPE 6.2.1.1 for further considerations when accounting for these arrangements.

The seller and buyer may have a preexisting relationship before negotiations for the sale of long-lived assets or they may enter into an arrangement during the sale negotiations that are separate from the sale of long-lived assets. For example, a buyer might pay a lump-sum amount to a seller in exchange for a warehouse and the seller's commitment to provide maintenance services for the 12-month period after the sale. A question arises as to whether a portion of the lump-sum payment should be allocated to the maintenance services.

If the arrangements include the seller's obligation to provide a separate identifiable service to the buyer or settle a preexisting relationship between the seller and buyer, the seller should evaluate

whether each of the arrangements are entered into on an arm's length basis. This may impact the measurement of the gain or loss on the sale of the long-lived assets and the accounting for the subsequent service arrangement or settlement of the preexisting relationship. There is no explicit guidance for determining what is part of a disposal under US GAAP. In making this determination, among other things, the seller should consider the reasons for the transaction, who initiated the transaction, and the timing of the transaction, by analogy to the guidance for an acquisition in ASC 805-10-55-18. The assessment is a matter of judgment and should be based on the individual facts and circumstances.

Example PPE 6-1 further demonstrates the accounting for a transition services agreement.

EXAMPLE PPE 6-1

Accounting for a transition services agreement when the seller of a plant will perform services at no cost to the buyer

Manufacturing Co agrees to sell a manufacturing plant for $100 million to PPE Corp. Manufacturing Co's net book value of the assets sold to PPE Corp is $70 million, with a fair value of $95 million. In connection with the purchase and sale agreement, Manufacturing Co and PPE Corp also enter into a transition services agreement (TSA) under which Manufacturing Co agrees to provide building management services to PPE Corp for a period of one year at no cost to PPE Corp. Manufacturing Co estimates the fair value of the services to be provided under the TSA to be $5 million, at a cost of $3 million. For simplicity, all tax effects have been ignored, and assume that there are no direct costs to sell the manufacturing plant.

How should Manufacturing Co determine the gain to be recognized upon sale of the plant to PPE Corp?

Analysis

On the date of sale, Manufacturing Co should allocate a portion of the proceeds to the fair value of the services to be rendered under the TSA. Although the TSA agreement stipulates that the services will be performed by Manufacturing Co at no cost to PPE Corp, the substance of the transaction is that a portion of the consideration for the sale of the plant relates to the transition services that will be provided in the future. Manufacturing Co should recognize the $5 million (i.e., the estimated fair value of the services to be provided under the TSA) over the period during which the services are rendered. Expenses related to the TSA should be recognized as incurred. On the date of the sale, Manufacturing Co should recognize a gain on disposal of the plant of $25 million ($100 million sales price - $5 million allocated to the TSA - $70 million net book value).

Manufacturing Co should report the proceeds received from providing the service under the TSA as "other income," assuming such services do not relate to the primary business in which Manufacturing Co operates. Expenses should be reported in their natural expense classifications.

6.2.1.1 Seller representations

In many disposal transactions, a seller may make general representations and warranties associated with the sale. In addition, the seller may agree to indemnify the buyer for events that occurred prior to the sale (e.g., environmental or litigation exposure). When a sales agreement includes a provision that may cause the seller to not receive all of the stated sales proceeds (or to return some or all of the initial

sales consideration), consideration should be given to the amount and timing of recognition of the gain or loss on sale.

Absent evidence to the contrary, general representations and warranties provided by the seller as a part of the sale are usually valid as of the sale date. A future claim by the buyer is usually not expected and therefore would not affect the gain or loss recognized on the date of sale.

If the representations and warranties are indemnifications that fall under the guidance of ASC 460-10-15-4(c) (within the "Guarantees" subtopic), a liability should be recorded at the sale date by the seller (i.e., the seller should recognize the potential for a future cash outflow resulting from the indemnifications). The nature of the indemnifications determines whether they would be within the scope of ASC 460-10. ASC 460-10-15-4(c) refers to indemnification agreements that "contingently require the indemnifying party (guarantor) to make payments to an indemnified party (guaranteed party) based on changes in an underlying that is related to an asset, a liability, or an equity security of the indemnified party." In applying this guidance, a general representation and warranty as to the authorized capital stock of an acquired entity, a common item included in acquisition agreements, would not represent an indemnification within the scope of ASC 460-10 as it is not related to a change in an underlying asset, liability, or equity security. On the other hand, if the seller offered an indemnification limiting a buyer's economic exposure to a specific foreign tax position related to an entity being sold, it would most likely be appropriate to recognize a liability for the fair value of the guarantee following the guidance in ASC 460-10 (see TX 15.8 for further guidance on tax-related indemnifications).

If the guarantee was created in conjunction with the contemporaneous transfer of a nonfinancial asset, it would represent a distinct element outside the scope of ASC 610-20. Accordingly, a reporting entity would reduce the transaction price of the nonfinancial asset by the fair value of the guarantee liability. The residual transaction price would be allocated to the remaining elements, as discussed in PPE 6.2.3. This is further explored in Example PPE 6-2.

EXAMPLE PPE 6-2

Calculating the gain or loss on the sale of a long-lived asset when the seller provides an indemnification

Seller Corp sells a machine with a carrying value of $5,000 to Buyer Corp for $8,000. The sales price can be reduced by up to $1,000 based on Buyer Corp's verification of Seller Corp's representation of the machine's tax basis. Seller Corp concludes that the tax indemnification is within the scope of ASC 460. In accordance with ASC 460-10, Seller Corp recognizes a liability for the fair value of the tax indemnification at the date of the sale, which is estimated to be $500.

How should Seller Corp determine the gain to be recognized upon sale of the machine?

Analysis

Seller Corp would record a $2,500 gain in the period of the disposal of the machine, which is equal to the sales price less the carrying value less the fair value of the indemnification ($8,000-$5,000-$500).

Indemnifications, guarantees, and warranties not within the scope of ASC 460-10 should be evaluated to determine if such amounts represent variable consideration. If such amounts are determined to be

variable consideration, the seller should evaluate whether the amounts to be received from the buyer at a future date, would be constrained. See PPE 6.2.5.1 for further details.

In some disposal transactions, part of the consideration for the sale of an asset is held in an escrow account and released to the seller at a later date, usually upon the passage of time or upon the satisfaction of certain considerations. Proceeds held in escrow may represent variable consideration (i.e., based on future events occurring or conditions being met) or collateralize the seller's representations and warranties associated with the sale. When an escrow arrangement is established, the seller should consider the accounting implication of the arrangement. Assuming the proceeds in escrow are not included on the seller's balance sheet, it may be appropriate to recognize a receivable for part or all of the proceeds held in an escrow account at the time of sale and to include such amounts as part of the consideration received for the sale of the asset when determining the gain or loss on sale. Recognition of amounts in escrow is further explored in Example PPE 6-3.

EXAMPLE PPE 6-3

Recognition of amounts in escrow

Seller Corp sold one of its manufacturing facilities, Plant A, to Buyer Corp for $10 million in cash, of which $1 million was placed in an escrow account. The $1 million set aside is to be used to compensate Buyer Corp for any violations of the general representations and warranties listed in the purchase agreement. Seller Corp is not aware of any potential claims and has assessed the probability of having incurred a violation to be insignificant. Barring any violations, the cash in the escrow account will be released to Seller Corp one year after the sale. Management has determined that the $1 million in the escrow account does not represent contingent consideration.

How should the $1 million in the escrow account be recognized by Seller Corp?

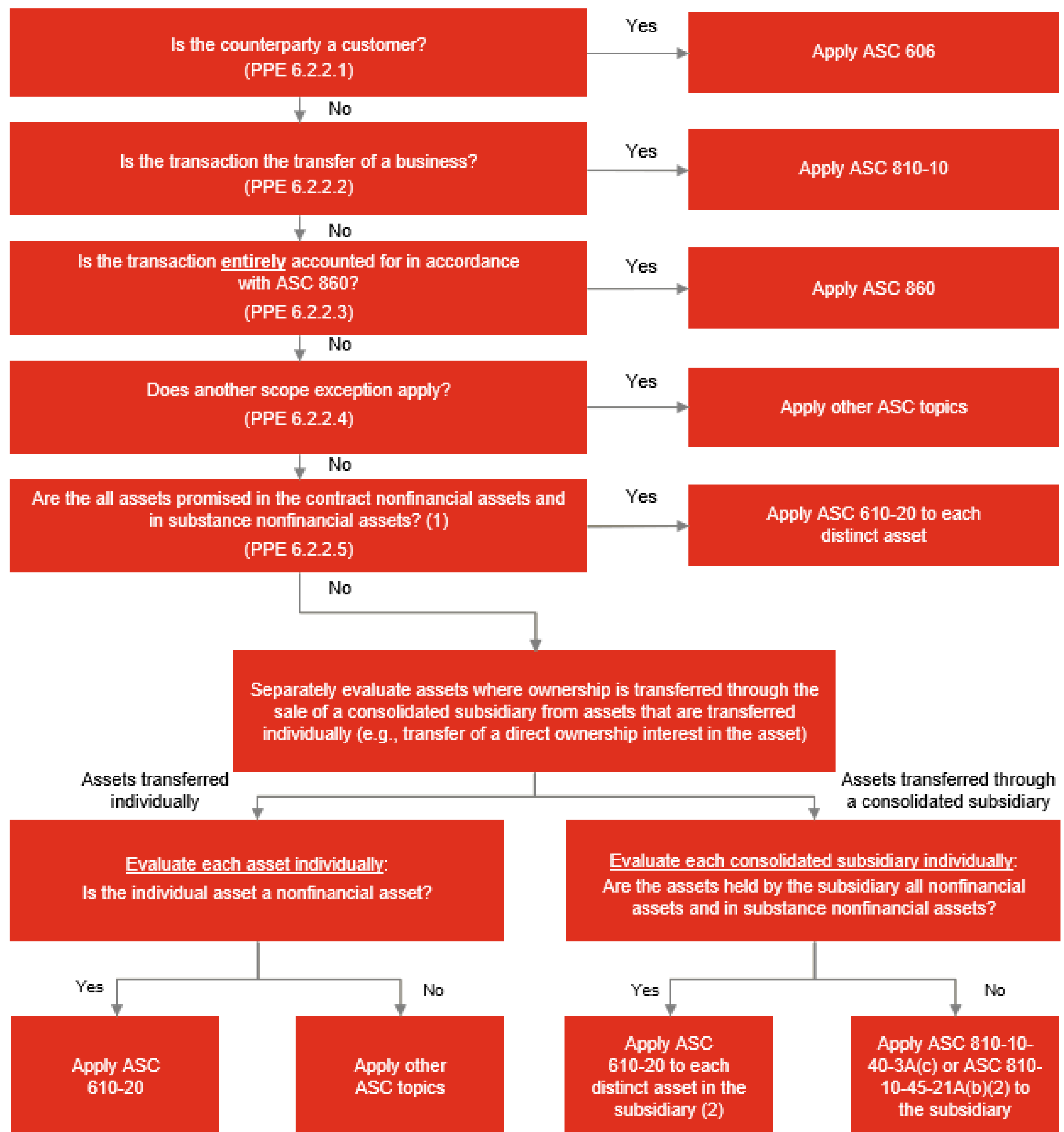
Analysis

As management of Seller Corp has determined its representations and warranties do not represent indemnifications within the scope of ASC 460-10, and the probability that a violation will occur is insignificant, the entire sales price of $10 million, which includes the $1 million held in escrow, should be recorded at the closing date and considered in determining the gain or loss on sale of Plant A.

6.2.2 *Determining the derecognition model for the disposal*

After determining whether the contract is partially in the scope of other topics and determining what is part of the disposal transaction, each disposal should be evaluated to determine the appropriate derecognition guidance to apply in accounting for the transaction. Figure PPE 6-2 provides a decision tree for evaluating the applicable derecognition model for various nonfinancial asset disposals and references where further details can be found.

Figure PPE 6-2
Determining assets that are in the scope of ASC 610-20 for derecognition



(1) Refer to Example PPE 6-5, Example PPE 6-6, and Example PPE 6-7 for illustrations of the application of this guidance.

(2) When the individual consolidated subsidiary holds substantially all nonfinancial assets and in substance nonfinancial assets, all of the assets in the subsidiary will apply ASC 610-20 for derecognition.

6.2.2.1 *Determining whether a sale is to a customer*

Per ASC 610-20-15-4(a), if the counterparty in the transaction is a customer and the assets being transferred are an output of the reporting entity's ordinary activities, the transaction is within the scope of ASC 606. As stated in ASC 606, a customer is a party that has contracted with an entity to obtain goods or services that are an output of the reporting entity's ordinary activities in exchange for consideration (e.g., a car manufacturer sells a car that it produced to a customer, a homebuilder sells a home that it developed to a customer). Transactions with customers are addressed in PwC's guide, *Revenue from contracts with customers*. Refer to RR 2.4 for further guidance on identifying the customer in a contract.

The sale of a nonfinancial asset that is not an output of the reporting entity's ordinary activities would be accounted for under ASC 610-20 because the counterparty does not meet the definition of a customer for that specific transaction. For example, when a telecommunications company sells its phone service to a customer, the phone service is considered to be an output of that company's ordinary activity. However, if the same company sells that counterparty trucks that it no longer needs to maintain its equipment, the trucks are not an output of the company's ordinary activity and are not considered to be a sale to a customer.

A counterparty to the contract would not be a customer if the counterparty has contracted with the entity to participate in an activity or process in which the parties to the contract share in the risks and benefits that result from the activity or process (such as developing an asset in a collaboration arrangement) rather than to obtain the output of the reporting entity's ordinary activities.

Determining whether the counterparty to a disposal arrangement is a customer is important as revenue from contracts with customers will follow the guidance in ASC 606. While ASC 610-20 includes certain recognition and measurement principles of ASC 606, there are different presentation and disclosure requirements. For example, transactions with customers will be reported in revenue and cost of goods sold under ASC 606 while transactions with non-customers will usually be presented as a gain or loss included in income from continuing operations before income taxes under ASC 610-20 (per the guidance in ASC 610-20-45-1, which refers to the guidance in ASC 360-10-45-5 for presentation of the gain or loss on sale).

This determination could also impact the elimination of intercompany profits and losses for transfers of nonfinancial assets between an investor and an equity method investee. The guidance in ASC 323-10-35-7 provides an exception which excludes arm's-length transactions when an investor sells a nonfinancial asset that is in the scope of ASC 610-20 to an equity method investee. Under the exception, when an equity method investor sells a nonfinancial asset that is within the scope of ASC 610-20 to its equity method investee in an arm's-length transaction, the investor is not required to eliminate the intercompany gain or loss on sale from this transaction. See EM 4.2 for further details regarding the elimination of intercompany transactions for investments accounted for under the equity method.

6.2.2.2 *Sale of a business*

Per ASC 610-20-15-4(b), if the transferred set meets the definition of a business under ASC 805 and is not a sale to a customer, the transaction is within the scope of the derecognition guidance in ASC 810, regardless of whether a legal entity is transferred. For additional guidance on the definition of a business, see BCG 1.2.

ASC 810-10-40 requires the reporting entity to deconsolidate a subsidiary or derecognize a group of long-lived assets as of the date the reporting entity ceases to have a controlling financial interest. Full gain or loss is recognized in net income in the period of deconsolidation or derecognition. See BCG 5.5 for further details regarding the sale of businesses.

6.2.2.3 Sale of financial assets under ASC 860

Per ASC 610-20-15-4(e), if the transaction is entirely within the scope of ASC 860 (e.g., the only asset transferred in the transaction is a financial asset), then apply ASC 860. When a sale includes both financial and nonfinancial assets, the financial assets will be within the scope of ASC 610-20 if they are determined to be in substance nonfinancial assets. See PPE 6.2.2.5 for details regarding which financial assets are determined to be in substance nonfinancial assets.

Financial assets under the scope of ASC 860 include the transfer of investments accounted for under ASC 323, *Investments - Equity Method and Joint Ventures*. Regardless of whether the sale is of an entire position or a partial sale of an equity method investment, entities should apply the guidance contained in ASC 860 to assess such transfers. Under ASC 610-20, entities will no longer "look through" these investments to determine if the underlying assets should be accounted for under other guidance, as was previously required under the real estate-specific guidance. For example, if a reporting entity only sells its interest in an equity method investment (i.e., the company does not sell the interest in conjunction with other assets or liabilities), the transaction would be entirely within the scope of ASC 860, even if the only assets held by the equity method investee are nonfinancial assets.

See EM 5.4 and TS 1.3 for further discussion on the accounting for transfers of financial assets.

6.2.2.4 Other scope exceptions (ASC 610-20)

In addition to the scope exceptions for a sale to a customer, sale of a business, and transfer of financial assets, there are other scope exceptions in ASC 610-20-15-4, these exceptions include:

- Sale and leaseback transactions within the scope of ASC 842-40 (or prior to adoption of ASC 842, a real estate sale-leaseback transaction or a non-real estate sale-leaseback transaction within the scope of ASC 360-20 or ASC 840-40, respectively). See LG 6 for more information on accounting for sale and leaseback transactions.

- Conveyances of oil and gas mineral rights within the scope of ASC 932-360

- Transfers of nonfinancial assets that are part of the consideration in a business combination within the scope of ASC 805, which should be recorded following ASC 805-30-30-8. See PwC's *Business combinations and noncontrolling interests* guide for details on accounting for business combinations.

- Nonmonetary exchanges within the scope of ASC 845. See PPE 2.3.1.1 for details on accounting for nonmonetary exchanges in an asset acquisition.

- Lease contracts within the scope of ASC 842 (or ASC 840 prior to the adoption of ASU 2016-02, *Leases*). See PwC's *Leases* guide for details on accounting for leases.

- Transfers of nonfinancial or in substance nonfinancial assets solely between entities under common control. See BCG 7 for more information on the accounting for common control transactions.
- An exchange of takeoff and landing slots within ASC 908-350
- A contribution of cash and other assets, including a promise to give, within the scope of ASC 720-25, *Other expenses - Contributions made*, or ASC 958-605, *Not-for-profit entities – Revenue recognition*.
- Transfer of an investment in a venture accounted for by proportionate consolidation, as described in ASC 810-10-45-14

6.2.2.5 Nonfinancial assets and in substance nonfinancial assets

If one of the scope exceptions in ASC 610-20 does not apply, the reporting entity will need to determine whether the assets transferred are nonfinancial assets or in substance nonfinancial assets, which are in the scope of ASC 610-20. Some examples of nonfinancial assets include intangible assets, long lived assets (e.g., land, building, machinery, equipment), materials, and supplies.

In substance nonfinancial assets are defined in ASC 610-20-15-5.

Excerpt from ASC 610-20-15-5

An in substance nonfinancial asset is a financial asset (for example, a receivable) promised to a counterparty in a contract if substantially all of the fair value of the assets (recognized and unrecognized) that are promised to the counterparty in the contract is concentrated in nonfinancial assets.

If substantially all of the fair value of the assets that are promised in a contract is concentrated in nonfinancial assets, the financial assets promised to the counterparty are considered to be in substance nonfinancial assets and are in the scope of ASC 610-20. For example, if a reporting entity transfers a building and receivables that together do not comprise a business to a non-customer and substantially all of the fair value is concentrated in the building (i.e., a nonfinancial asset), the receivables would be considered in substance nonfinancial assets. Consequently, both the building and the receivables would follow the derecognition guidance in ASC 610-20 (i.e., the receivables are not in the scope of ASC 860 for derecognition).

ASC 610-20 does not define what constitutes “substantially all.” However, the term is used in other areas of GAAP (e.g., definition of a business, leases) and, while not a bright line, is typically interpreted to mean approximately 90% or greater.

Cash, cash equivalents, deferred taxes, and liabilities are excluded from the determination of whether substantially all of the fair value of the assets transferred is concentrated in nonfinancial assets. Cash transferred with the assets should be considered a reduction of the transaction price, consistent with ASC 606 for consideration payable to a customer. See RR 4.6 for details.

If a transaction includes the transfer of multiple assets that are transferred either as a direct ownership interest in the individual assets or transferred through an ownership interest in one or more consolidated subsidiaries, the transaction should be assessed in the aggregate to determine if it is in

the scope of ASC 610-20. When a reporting entity transfers an ownership interest in one or more consolidated subsidiaries (that is not a business), it must look to the underlying assets of the subsidiaries for this determination. If the assets transferred in the transaction are comprised of substantially all nonfinancial assets, the transaction is accounted for under ASC 610-20. Otherwise, each individual asset and each individual subsidiary will be evaluated separately to determine whether they are within the scope of ASC 610-20.

When a transferred subsidiary is not in the scope of ASC 610-20 (e.g., the transaction in the aggregate is not comprised of substantially all nonfinancial assets and when assessed individually the subsidiary is not comprised of substantially all nonfinancial assets), the entire subsidiary would be derecognized using the guidance in ASC 810-10-40-3A(c) or ASC 810-10-45-21A(b)(2), unless other guidance addresses the substance of the transaction (e.g., ASC 805, ASC 606, ASC 845, ASC 860, ASC 932). When derecognizing the subsidiary, the reporting entity should not separate the individual assets transferred; rather, the entire subsidiary should be derecognized under the same derecognition model.

When an ownership interest in an unconsolidated entity (e.g., equity method investments, investments in joint ventures) is transferred, the investor does not need to evaluate the underlying assets of the investee. The ownership interest of an equity investee is a financial asset.

Example PPE 6-4, Example PPE 6-5, and Example PPE 6-6 illustrate the evaluation of financial assets and nonfinancial assets sold in a single transaction that, when combined, are not a business or sale to a customer. Figure PPE 6-2 is a decision tree which includes an overview of the evaluation of nonfinancial assets and in substance nonfinancial assets, including those held in consolidated subsidiaries.

EXAMPLE PPE 6-4

Transfer of subsidiaries – Substantially all of the fair value is concentrated in nonfinancial assets

Seller Corp transfers ownership interests in Subsidiaries A and B to Buyer Corp, a non-customer. Individually and when combined, Subsidiaries A and B are not businesses and contain the following types of assets at fair value, excluding cash.

	Financial	**Nonfinancial**	**Percent nonfinancial**
Subsidiary A	$5	$95	95%
Subsidiary B	3	7	70%
	$8	$102	93%

Should Seller Corp derecognize Subsidiary A and Subsidiary B using the guidance in ASC 610?

Analysis

Yes. Given that substantially all of the fair value of the underlying assets on an aggregate basis is concentrated in nonfinancial assets (i.e., 93% nonfinancial assets), all of the financial assets are

considered in substance nonfinancial assets. Consequently, the assets in Subsidiary A and Subsidiary B would be derecognized by Seller Corp using the guidance in ASC 610-20.

EXAMPLE PPE 6-5

Transfer of subsidiaries - Substantially all of the fair value is not concentrated in nonfinancial assets

Seller Corp transfers ownership interests in Subsidiaries C and D to Buyer Corp, a non-customer. Individually and when combined Subsidiaries C and D are not businesses and contain the following types of assets at fair value, excluding cash.

	Financial	**Nonfinancial**	**Percent nonfinancial**
Subsidiary C	$5	$95	95%
Subsidiary D	30	70	70%
	$35	$165	83%

Should Seller Corp derecognize Subsidiary C and Subsidiary D using the guidance in ASC 610?

Analysis

On an aggregate basis, substantially all of the fair value of the underlying assets is not concentrated in nonfinancial assets (i.e., 83% nonfinancial assets). Therefore, each of the entities would be evaluated separately. The assets in Subsidiary C would be derecognized under ASC 610-20 because substantially all of the fair value of the underlying assets in that subsidiary is concentrated in nonfinancial assets (i.e., 95% nonfinancial assets). However, the guidance in ASC 810 would be applied to the transfer of Subsidiary D.

EXAMPLE PPE 6-6

Transfer of subsidiaries and other individual assets - Substantially all of the fair value is not concentrated in nonfinancial assets

Seller Corp transfers ownership interests in Subsidiaries C and D to Buyer Corp, a non-customer. Additionally, in conjunction with the transfer, Seller Corp transfers ownership interests in other individual assets, which include its interest in an equity method investment and its interest in a long-lived asset (equipment). Individually and when combined the individual assets, Subsidiary C and Subsidiary D are not businesses and contain the following types of assets at fair value, excluding cash.

	Financial	Nonfinancial	Percent nonfinancial
Individual assets	$8	$92	92%
Subsidiary C	5	95	95%
Subsidiary D	30	70	70%
	$43	$257	86%

Should Seller Corp derecognize the individual assets, Subsidiary C, and Subsidiary D using the guidance in ASC 610?

Analysis

On an aggregate basis, substantially all of the fair value of the underlying assets is not concentrated in nonfinancial assets (i.e., 86% nonfinancial assets). Therefore, each distinct asset and each individual subsidiary would be evaluated separately. The equity method investment is a financial asset and will be derecognized under ASC 860. The long-lived asset is a nonfinancial asset and will be derecognized under ASC 610-20. The assets in Subsidiary C would be derecognized under ASC 610-20 because substantially all of the fair value of the underlying assets in that subsidiary is concentrated in nonfinancial assets (i.e., 95% nonfinancial assets). However, the other relevant guidance in ASC 810 would apply to the transfer of Subsidiary D.

6.2.2.6 *Examples of typical disposal transactions*

Figure PPE 6-3 summarizes the main categories of disposal transactions and where such disposals are further discussed, either in this chapter or in other PwC guides.

Figure PPE 6-3
Key types of disposal transactions

Type of transactions	Accounting literature	Reference for more information
Sale to a customer (ASC 606)		
Sale of nonfinancial assets* to a customer	ASC 606	RR 1
Sale of a business (ASC 810)		

Type of transactions	Accounting literature	Reference for more information
Sale of nonfinancial assets* that meet the definition of a business to a noncustomer	ASC 810-10	PPE 6.2 BCG 5.5
Disposal of a nonfinancial asset that is not a business to a noncustomer (ASC 610-20)		
Sale of nonfinancial assets*	ASC 610-20	PPE 6.2
Sale of a legal entity that owns substantially all nonfinancial assets* or that is otherwise in the scope of ASC 610-20	ASC 610-20	PPE 6.2 PPE 6.2.2
Distribution of nonfinancial* assets to owners in a split-off transaction	ASC 610-20	PPE 6.3.3
Exchange of principally nonfinancial assets*	ASC 610-20	PPE 6.3.6
Contribution of nonfinancial assets* to an entity in exchange for an equity method investment in that entity	ASC 610-20	PPE 6.2 EM 3.2.4
Contribution of nonfinancial assets* to an entity in exchange for an equity interest in that entity accounted for under ASC 321	ASC 610-20	PPE 6.2 LI 2
Contribution of nonfinancial assets* to a joint venture in exchange for an interest in that joint venture	ASC 610-20	PPE 6.2 EM 6.3.1.2
Sale of financial assets (ASC 860)		
Sale of an undivided interest accounted for using the equity method	ASC 860	EM 5.2.2 TS 1.2.1
Sale of all or a portion of an equity method investment**	ASC 860	EM 5.2.2 TS 1.2.1

Type of transactions	Accounting literature	Reference for more information
Other transactions		
Sale of an undivided interest accounted for using the proportionate consolidation method	ASC 810	CG 6.4
Sale of a legal entity that does not own substantially all nonfinancial assets* and that is not otherwise in the scope of ASC 610-20	ASC 810	PPE 6.2 PPE 6.2.2
Receipt of funds in research and development arrangements	ASC 730-20	PPE 8.3.4
Abandonment of nonfinancial assets	ASC 360-10	PPE 6.3.1
Distribution of nonfinancial assets that constitute a business to owners in a spinoff transaction	ASC 505-60/ ASC 845-10	PPE 6.3.2
Involuntary conversion of nonfinancial assets	ASC 610-30	PPE 6.3.4
Transfer of nonfinancial assets to entities under common control	ASC 805-50	BCG 7

* This includes real estate. ASC 610-20 eliminated specific guidance for sales of real estate and in substance real estate. However, a conveyance of oil and gas mineral rights was and continues to be excluded from the scope of the referenced guidance. See ASC 932 for guidance on conveyances of oil and gas mineral rights and related transactions.

** This includes when an investee owns substantially all real estate or in substance real estate. The ASC 860 scope exception for sales of in substance real estate was removed by ASU 2017-05, which clarifies that the sale of an equity method investment in a real estate venture is no longer treated as an in substance sale of real estate. Instead, those transactions are required to be analyzed like any sale of an ownership interest subject to the sales of financial assets guidance in ASC 860.

6.2.3 Allocating consideration partially within the scope of ASC 610-20

In some transactions the contract may be partially within the scope of ASC 610-20 and partially within the scope of other topics. When nonfinancial assets are transferred directly (i.e., not through the sale of ownership interests in a legal entity) and do not represent substantially all of the fair value of the assets transferred, the contract may be partially within the scope of ASC 610-20 and partially within the scope of other guidance. Additionally, as discussed in PPE 6.2.1.1, guarantees that are in the scope of ASC 460 are also outside the scope of ASC 610-20. In such instances, the guidance in ASC 610-20-15-9 directs entities to consider the separation and allocation guidance within ASC 606. ASC 606-10-15-4 requires each part of the contract to be evaluated to determine if other applicable guidance

specifies how to separate and measure the element. The portion of the contract for which other guidance specifically applies would be separated and/or initially measured based on that guidance. If the other guidance does not specifically address how to determine the consideration for the element, the allocation would be performed based on the relative standalone selling prices. See RR 2.2 for additional detail regarding how to identify and separate parts of a contract that are partially within the scope of ASC 606 and ASC 610-20. Each element would then be derecognized based on the relevant disposal model applicable to that element. Example PPE 6-7 provides an example of allocating consideration to each transferred element.

EXAMPLE PPE 6-7

Derecognition using multiple models

Real Estate Corp enters into a contract to transfer several real estate-related assets to PPE Corp for $2,500. The asset group includes one wholly-owned office building (the nonfinancial asset) as well as several equity method investments holding similar real estate assets (the financial assets). The set is not a business, PPE Corp is not considered a customer, no liabilities are transferred with the set, and ownership in a legal entity that is (or has been) previously consolidated under ASC 810 was not transferred. The carrying and fair values of the assets promised are as follows (assume the fair value amounts are equal to the stand alone selling prices).

	Carrying value	Fair value
Office building	$1,100	$1,350
Equity method investments	1,000	1,150
	$2,100	$2,500

How would Real Estate Corp allocate the contract consideration between the components?

Analysis

Substantially all of the fair value of the assets promised in the contract is not concentrated in nonfinancial assets because of the significant amount of financial assets (i.e., equity method investments).

The office building would be derecognized using the nonfinancial asset guidance in ASC 610-20. The equity method investments would be derecognized using the financial asset guidance in ASC 860. Depending on the facts and circumstances and the application of the respective guidance in ASC 610-20 and ASC 860, these assets may not be derecognized at the same time. There may also be different disclosure or presentation requirements for assets that are derecognized under different topics. As a result, it would be necessary to separate and allocate consideration to each asset in the transaction.

Since ASC 860 does not specifically address the determination of the transaction price when a group of transferred assets includes assets within the scope of ASC 860, the separation and allocation guidance in ASC 606 should be applied. Accordingly, $1,350 of the transaction price would be allocated to the office building (the transaction price of $2,500 × 54% (standalone selling price of the office building of

$1,350 / total standalone price of $2,500)). The remaining transaction price of $1,150 ($2,500 × 46%) would be allocated to the equity method investments, which would be derecognized in accordance with ASC 860.

6.2.4 Derecognition of nonfinancial assets

In order for a reporting entity to derecognize assets that are within the scope of ASC 610-20, the entity must transfer control of the assets to the counterparty. To determine if an entity has transferred control of the assets, the seller should first evaluate whether it has (or continues to have) a controlling financial interest under ASC 810 (see PPE 6.2.4.1).

If the reporting entity determines it does not have a controlling financial interest in either the entity that holds the assets (if ownership interests are transferred) or the counterparty (if the asset is directly transferred), the entity should evaluate whether the arrangement meets the contract criteria in ASC 606-10-25-1 (see PPE 6.2.4.2).

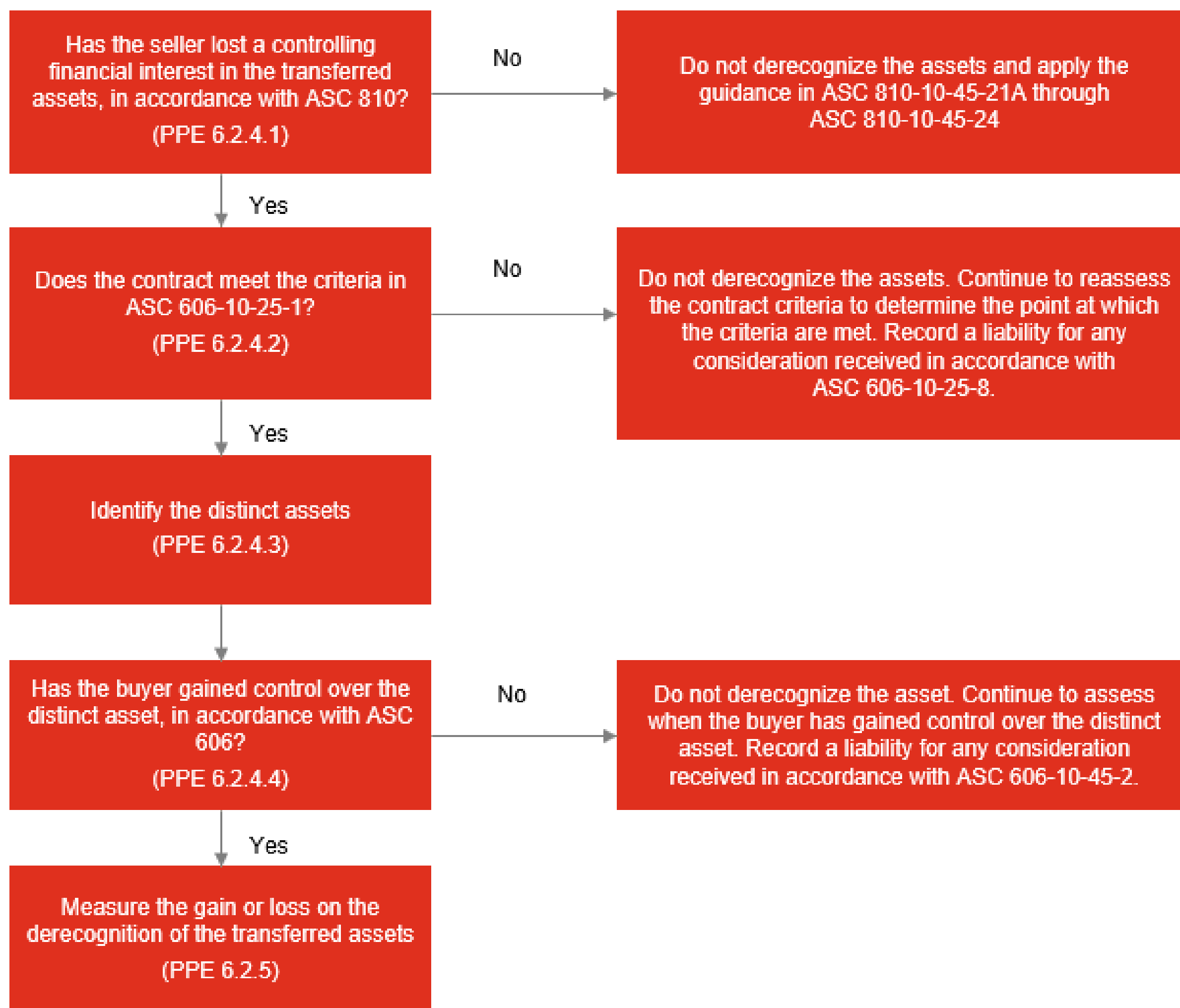
If the contract criteria are met, the reporting entity should next evaluate whether there are separate and distinct assets being transferred (see PPE 6.2.4.3). Each distinct asset will need to be evaluated to consider whether the counterparty obtains control over the distinct asset following the criteria in ASC 606 (see PPE 6.2.4.4). When the counterparty obtains control of the distinct asset, the asset will be derecognized, and the reporting entity will need to determine the resulting gain or loss upon derecognition (see PPE 6.2.5).

If the contract criteria are not met, the entity would continue to recognize the asset and apply the guidance in ASC 350-10-40-3 or ASC 360-10-40-3C. Additionally, the entity will record a liability for any consideration received and apply the guidance in ASC 606-10-25-8. Subsequently, the entity will continue to assess the contract to determine the point at which the contract criteria are met (see PPE 6.2.4.2).

When the contract criteria have been met, but the counterparty has not yet obtained control over the distinct asset, the entity will not derecognize the asset and will apply the guidance in ASC 606-10-45-2 to record a liability for any consideration received (see PPE 6.2.4.4).

Figure PPE 6-4 includes an overview of the guidance to consider when determining whether to derecognize an asset in the scope of ASC 610-20.

Figure PPE 6-4
Derecognition under ASC 610-20



6.2.4.1 *Assessing if the transferor has lost control in an asset disposal*

In accordance with ASC 610-20-25-2, a reporting entity should first assess whether it has lost control of the assets following the guidance under ASC 810. This analysis will differ based on whether the transferor sold the assets directly or indirectly through the transfer of a controlled subsidiary. If the assets are transferred directly, the transferor must not have a controlling financial interest in the transferee that receives the assets. If transferred indirectly through a controlled subsidiary, the transferor must relinquish control of the transferred subsidiary to demonstrate loss of control. For example, assume an entity holds nonfinancial assets within a consolidated subsidiary that is not a business and sells a noncontrolling interest in that subsidiary to a third party (i.e., the entity continues to consolidate the subsidiary under ASC 810). Since the selling entity controls the subsidiary before and after the transaction, the subsidiary would not be derecognized and will apply the guidance in ASC 810-10-45-21A through ASC 810-10-45-24. See CG 1.4.2.2 for the accounting considerations related to the loss of control.

Partial sales transactions

A long-lived asset may be partially disposed of either by sale or by other means, such as an exchange. In a partial sales transaction, an entity usually transfers control of a nonfinancial asset in exchange for a noncontrolling interest in the counterparty. Sometimes when a nonfinancial asset is held in a subsidiary and control is lost, a partial interest in the subsidiary is transferred in exchange for cash, and a noncontrolling interest in the subsidiary is retained.

Partial sales are most common in the real estate industry but also occur in other industries. Prior to the adoption of ASC 610-20, all partial sales of real estate were in the scope of ASC 360-20. Under ASC 360-20, the retained portion not subject to sale was held at its pro-rata carryover basis subsequent to the transaction and a gain or loss was only recorded to the extent of the sold portion. Under ASC 610-20, partial sales are not treated differently from other sales. For example, when a partial sale transaction is within the scope of ASC 610-20 and the derecognition criteria have been met, the entire gain or loss on sale would be recorded. Example PPE 6-8 illustrates the accounting for a partial sale under ASC 610-20.

Under ASC 610-20, the consideration received by the seller in partial sales transactions will be measured using the concepts in ASC 606. For example, non-cash consideration (e.g., a noncontrolling interest in the buyer of the nonfinancial assets) will be measured at its fair value.

EXAMPLE PPE 6-8

Partial sale of real estate

PPE Corp owns 100% of an office building that is not a business and has a carrying value of $50 and a fair value of $100. PPE Corp transfers the entirety of its interest in the office building to Real Estate Corp for $60 and a 40% noncontrolling interest in Real Estate Corp, which held no assets or liabilities other than the cash required to purchase a 60% interest in the office building. As a result, the fair value of Real Estate Corp is $100 after the transfer. Prior to the transaction, Real Estate Corp is owned by an unrelated third party that is not a customer in this transaction.

How should PPE Corp determine the gain on the sale of the office building?

Analysis

PPE Corp’s effective ownership interest in the office building is reduced from 100% to 40% as a result of the transaction. The noncontrolling interest (accounted for under the equity method) that PPE Corp has accepted as partial consideration for the transfer is valued at $40 ($100 fair value of Real Estate Corp × 40% ownership interest). Total consideration transferred is $100 ($60 in cash + $40 noncontrolling interest).

Consideration received is $100 and the building’s previous carrying value was $50, so a gain of $50 would be recognized. The equity investment in Real Estate Corp would be recognized at its fair value of $40.

Partial sales transactions may occur when two or more parties form an accounting joint venture (or other entity) and no single party has a controlling financial interest. If any entity transfers nonfinancial assets to an accounting joint venture (i.e., a corporate joint venture, see EM 6 for further details) in return for an investment in the venture, it may recognize the full gain or loss under ASC

610-20. Whether the full gain or loss is recognized depends on whether the seller has transferred control of the assets to the joint venture. That is, for the purpose of determining whether control has transferred when an entity receives a noncontrolling interest in a legal entity in exchange for a nonfinancial asset, ASC 610-20-25-7 states that control should be obtained by the legal owner. Example PPE 6-9 provides an illustration of a partial sale transaction with an accounting joint venture following the adoption of ASC 610-20.

EXAMPLE PPE 6-9

Sale of nonfinancial asset to an accounting joint venture

PPE Corp and Manufacturing Corp form Venture Co, an accounting joint venture in which neither party is determined to have a controlling financial interest under ASC 810. In exchange for their ownership interests, PPE Corp and Manufacturing Corp contributed manufacturing equipment and cash, respectively. The sale of manufacturing equipment is not part of PPE Corp's ordinary business activities.

Should PPE Corp recognize a gain upon the sale of the manufacturing equipment to Venture Co?

Analysis

Yes. The transfer of nonfinancial assets to a joint venture will result in the loss of control by the transferor as PPE Corp does not have a controlling financial interest in Venture Co and Venture Co has gained control of the nonfinancial assets. The joint venture is not considered a customer as the sale of manufacturing equipment is not part of PPE Corp's ordinary business activities. If the joint venture is determined to have gained control of nonfinancial assets, PPE Corp would record (1) its investment in Venture Co at fair value and (2) the full gain or loss upon derecognition of the nonfinancial assets sold. Additionally, PPE Corp should consider whether the recognition of its interest in Venture Co at fair value results in any equity method basis differences (for example, if Venture Co recognizes the assets received at PPE Corp's historical cost).

6.2.4.2 *Determining whether the contract criteria have been met*

When assessing whether the transferee has gained control of an asset in the scope of ASC 610-20, the transferor must determine whether the contract criteria in ASC 606-10-25-1 have been met.

ASC 606-10-25-1

An entity shall account for a contract with a customer that is within the scope of this Topic only when all of the following criteria are met:

a. The parties to the contract have approved the contract (in writing, orally, or in accordance with other customary business practices) and are committed to perform their respective obligations.

b. The entity can identify each party's rights regarding the goods or services to be transferred.

c. The entity can identify the payment terms for the goods or services to be transferred.

d. The contract has commercial substance (that is, the risk, timing, or amount of the entity's future cash flows is expected to change as a result of the contract).

e. It is probable that the entity will collect substantially all of the consideration to which it will be entitled in exchange for the goods or services that will be transferred to the customer (see paragraphs 606-10-55-3A through 55-3C). In evaluating whether collectibility of an amount of consideration is probable, an entity shall consider only the customer's ability and intention to pay that amount of consideration when it is due. The amount of consideration to which the entity will be entitled may be less than the price stated in the contract if the consideration is variable because the entity may offer the customer a price concession (see paragraph 606-10-32-7).

Each of these criteria are discussed further in RR 2.6.1.1 through RR 2.6.1.5.

The criteria that addresses collectability may be one of the more subjective areas in this analysis. When seller financing is provided as a part of the transaction, the asset being sold may serve as collateral for the financing (e.g., nonrecourse debt). As noted in ASC 606-10-55-3C, the entity's ability to repossess an asset transferred should not be considered for the purpose of assessing the entity's ability to mitigate its exposure to credit risk. For additional accounting considerations related to a financing component, refer to PPE 6.2.5.2.

If an arrangement does not meet all of the criteria in ASC 606-10-25-1, a contract does not exist for accounting purposes and a reporting entity should not derecognize the assets transferred. Instead, the reporting entity should continue to report the assets in its financial statements and apply the guidance in ASC 350-10-40-3 for any intangible assets or ASC 360-10-40-3C for any property, plant, and equipment. Subsequently, the reporting entity should continue to assess whether the contract criteria in ASC 606-10-25-1 have been met.

Any consideration received before the contract criteria have been met should be recorded as a liability until one of the events described in ASC 606-10-25-7 has occurred, or until the contract criteria in ASC 606-10-25-1 have been met. Refer to RR 2.6.2 for further discussion.

Example PPE 6-10 illustrates the accounting for nonrecourse seller financing when consideration is received prior to the derecognition of the nonfinancial asset.

EXAMPLE PPE 6-10

Sale of a nonfinancial asset subject to nonrecourse debt and consideration is received prior to derecognition

On January 16, 20X1, Manufacturing Corp sells a manufacturing facility with a carrying value of $1.2M to XYZ Corp for $5M. XYZ Corp makes a nonrefundable payment of $500,000 in conjunction with the transfer on January 16, 20X1. Manufacturing Corp provides nonrecourse debt for the remaining $4.5M.

The facility was closed prior to the sale and will require significant capital improvements before XYZ Corp can begin operating the facility. The nonrecourse debt is payable at the earlier of five years from the date of sale (i.e., January 16, 20X6), or one year from the commencement of operations at the facility. On January 16, 20X1, it is uncertain whether XYZ Corp will be able to generate sufficient cash proceeds at the facility to repay the nonrecourse debt of $4.5M.

On September 9, 20X1, XYZ Corp began operating the manufacturing facility. On December 31, 20X1, Manufacturing Corp concluded that it was probable that XYZ Corp will be able to repay the debt when due on September 9, 20X2. On December 31, 20X1, Manufacturing Corp also concluded that XYZ

Corp obtained control over the asset following the guidance in ASC 606, as they obtained the ability to direct the use of, and obtain substantially all of the remaining benefits from the asset (see PPE 6.2.4.4 for considerations regarding control).

The terms of the nonrecourse debt, including the interest rate, are determined to be at market for this transaction. The accounting for interest has been excluded for the purposes of this example.

The transaction is not a sale to a customer, does not represent the sale of a business, and does not meet any of the other scope exceptions in ASC 610-20. As such, Manufacturing Corp has concluded that the transaction is within the scope of ASC 610-20.

How should Manufacturing Corp account for the sale of the manufacturing facility on January 16, 20X1 and on December 31, 20X1?

Analysis

On January 16, 20X1 and up until December 31, 20X1, the transaction does not meet the contract criteria under ASC 606-10-25-1 because Manufacturing Corp concluded that it is not probable that substantially all of the consideration is collectible. Although the debt is secured by the underlying asset (i.e., the manufacturing facility), the value of the asset cannot be taken into consideration when determining whether the consideration is collectible. The $500,000 that Manufacturing Corp received on the date of sale would be considered collectible, as it is nonrefundable; however, it does not represent substantially all of the contract consideration of $5M.

As a result, consistent with the guidance in ASC 360-10-40-3C, Manufacturing Corp would not derecognize the facility and would not record the note receivable. Given that the contract criteria have not been met and control of the asset (under ASC 606) has not transferred to the buyer, the consideration received of $500,000 will be recorded as a liability.

On December 31, 20X1, Manufacturing Corp has concluded that the contract criteria under ASC 606-10-25-1 have been met and that XYZ Corp has obtained control over the asset. As a result, Manufacturing Corp will derecognize the nonfinancial asset, record a gain on sale, and record a note receivable for the nonrecourse debt outstanding.

The following journal entry would be recorded on January 16, 20X1:

Dr. Cash	$500,000	
Cr. Contract liability		$500,000

The following journal entry would be recorded on December 31, 20X1:

Dr. Note receivable	$4,500,000	
Dr. Contract liability	$500,000	
Cr. Manufacturing facility		$1,200,000*
Cr. Gain on sale		$3,800,000*

**The impact of any depreciation expense recorded during the period from January 19, 20X1 to December 31, 20X1 has been excluded. During this period, Manufacturing Corp would apply the*

guidance in ASC 360-10-40-3C to determine the appropriate amount of depreciation to record, if any.

6.2.4.3 *Identifying distinct assets*

Once a contract meets the criteria in ASC 606-10-25-1, the reporting entity should identify the distinct assets promised to the counterparty and derecognize each distinct asset once it has transferred control over it. See PPE 6.2.4.4 for further details regarding control. For many transactions within the scope of ASC 610-20, control over each asset in the contract will transfer at the same time (e.g., nonfinancial assets sold through the sale of a subsidiary). This means that the assets transferred would be derecognized at the same time. Therefore, in practice, the reporting entity may not need to separate and allocate the consideration to each distinct asset. However, for other transactions within the scope of ASC 610-20, control over each distinct asset may not transfer at the same time. This would result in those assets being derecognized at different points in time, making it necessary to separate and allocate consideration to each distinct asset in the transaction.

Each distinct asset is the unit of account for the purposes of applying the derecognition guidance and will form the basis for how and when the asset is derecognized. An asset is distinct when it meets both of the criteria in ASC 606-10-25-19. The first criteria is that the counterparty can benefit from the asset on its own or with other resources that are readily available. The second criteria is that the asset must be separately identifiable from other promises in the contract. For further discussion over these two criteria, refer to RR 3.4. For information on determining the unit of account for indefinite-lived intangible assets, refer to BCG 8.3.2.1.

6.2.4.4 *Determining whether the transferee has gained control*

After determining that the transferor has lost control of the asset under ASC 810 (see PPE 6.2.4.1) and that the contract criteria in ASC 606 have been met (see PPE 6.2.4.2), ASC 610-20 requires the transferee to gain control under ASC 606 before the transferor can derecognize the distinct asset(s). ASC 606-10-25-25 defines control as "the ability to direct the use of, and obtain substantially all of the remaining benefits from, the asset," including the ability to prevent others from directing the use of the asset and obtaining the benefits from it. ASC 606-10-25-30 includes indicators to consider in determining when control of an asset transfers to the buyer.

ASC 606-10-25-30

If a performance obligation is not satisfied over time in accordance with paragraphs 606-10-25-27 through 25-29, an entity satisfies the performance obligation at a point in time. To determine the point in time at which a customer obtains control of a promised asset and the entity satisfies a performance obligation, the entity shall consider the guidance on control in paragraphs 606-10-25-23 through 25-26. In addition, an entity shall consider indicators of the transfer of control, which include, but are not limited to, the following:

a. The entity has a present right to payment for the asset—If a customer presently is obliged to pay for an asset, then that may indicate that the customer has obtained the ability to direct the use of, and obtain substantially all of the remaining benefits from, the asset in exchange.

b. The customer has legal title to the asset—Legal title may indicate which party to a contract has the ability to direct the use of, and obtain substantially all of the remaining benefits from, an asset or to restrict the access of other entities to those benefits. Therefore, the transfer of legal title of an asset may indicate that the customer has obtained control of the asset. If an entity retains legal title solely as protection against the customer's failure to pay, those rights of the entity would not preclude the customer from obtaining control of an asset.

c. The entity has transferred physical possession of the asset—The customer's physical possession of an asset may indicate that the customer has the ability to direct the use of, and obtain substantially all of the remaining benefits from, the asset or to restrict the access of other entities to those benefits. However, physical possession may not coincide with control of an asset. For example, in some repurchase agreements and in some consignment arrangements, a customer or consignee may have physical possession of an asset that the entity controls. Conversely, in some bill-and-hold arrangements, the entity may have physical possession of an asset that the customer controls. Paragraphs 606-10-55-66 through 55-78, 606-10-55-79 through 55-80, and 606-10-55-81 through 55-84 provide guidance on accounting for repurchase agreements, consignment arrangements, and bill-and-hold arrangements, respectively.

d. The customer has the significant risks and rewards of ownership of the asset—The transfer of the significant risks and rewards of ownership of an asset to the customer may indicate that the customer has obtained the ability to direct the use of, and obtain substantially all of the remaining benefits from, the asset. However, when evaluating the risks and rewards of ownership of a promised asset, an entity shall exclude any risks that give rise to a separate performance obligation in addition to the performance obligation to transfer the asset. For example, an entity may have transferred control of an asset to a customer but not yet satisfied an additional performance obligation to provide maintenance services related to the transferred asset.

e. The customer has accepted the asset—The customer's acceptance of an asset may indicate that it has obtained the ability to direct the use of, and obtain substantially all of the remaining benefits from, the asset. To evaluate the effect of a contractual customer acceptance clause on when control of an asset is transferred, an entity shall consider the guidance in paragraphs 606-10-55-85 through 55-88.

All of the indicators do not need to be met for the entity to conclude that control has transferred. These indicators need to be evaluated collectively to determine whether they indicate that the transferee has obtained control over the distinct asset. This assessment should be focused primarily on the transferee's perspective. For further discussion related to these indicators, refer to RR 6.5.

In evaluating whether the transferee has obtained control, all terms of the contract need to be considered, including whether there are any post-sale restrictions or repurchase agreements (e.g., call options, forward options, put options). These arrangements are discussed in more detail in the following sections.

ASC 610-20-25-7 clarifies that when a reporting entity has a noncontrolling interest in the legal entity that acquires a distinct asset, the determination of whether the transferee has gained control is evaluated at the legal entity (i.e., transferee); that is, the determination is based on whether the legal entity has obtained control over the assets.

When a reporting entity concludes that the transferee has not yet obtained control over a distinct asset, the reporting entity will not derecognize the asset and subsequently, will continue to evaluate the guidance to determine the point at which the transferee obtains control over the asset. Any consideration received from the transferee, including any liabilities assumed by the transferee, in advance of obtaining control over the asset will be recorded as a contract liability following the guidance in ASC 610-20-45-2 and ASC 610-20-45-3.

Repurchase agreements

Under ASC 606-10-25-30(c), repurchase arrangements may preclude derecognition because while physical possession has transferred, another party has the right to dictate the future ownership of the asset, which indicates that control has not transferred. The accounting for a sale of a nonfinancial asset with a repurchase agreement depends on whether the agreement is (1) a seller repurchase right (i.e., a call option) or obligation (i.e., a forward agreement), or (2) a buyer repurchase right (i.e., a put option).

Call options and forward agreements

ASC 606 indicates that when a call option or forward agreement exists, a sale has not occurred and that the accounting for the arrangement is determined by the exercise price of the repurchase option. If the repurchase amount is greater than or equal to the original selling price, the arrangement should be accounted for as a financing transaction. If the repurchase amount is less than the original selling price, it should be accounted for as a lease, unless the contract is part of a sale-leaseback transaction. See RR 8.7.1 for further details.

If the arrangement is to be accounted for as a lease, the arrangement should be accounted for as a lease regardless of whether it meets the definition of a lease under ASC 842 (or ASC 840 prior to adoption). However, lease classification (operating, sales type, or direct financing) should be determined under the applicable leases guidance for each asset. Generally, when consideration transferred for the nonfinancial asset is greater than or equal to its carrying value, these arrangements would be accounted for as sales-type leases based on the lease accounting guidance, and the lessor would derecognize the nonfinancial asset despite control not being transferred under ASC 606 (and therefore ASC 610-20).

ASC 606 does not distinguish between the types of call options or discuss their specific terms. The implementation guidance and accompanying examples in ASC 610-20 and ASC 606 illustrate the accounting implications associated with fixed price call options that are exercisable by the seller without any restrictions. We believe there may be instances when the mere existence of a call option does not preclude sale accounting. The assessment of whether or not a call option precludes sale accounting should consider the substance of the call option. Factors that may impact whether the call option is substantive include the amount of the repurchase price (e.g., fixed, fair value, or formula priced) and its relationship to the fair value of the underlying asset(s), the presence and probability of any exercise contingencies associated with the option, and time to expiry, among other factors. Additionally, we believe that a fair value call option on a nonfinancial asset that is readily obtainable in the marketplace would not preclude sale accounting. However, not all call options with a fair value exercise price would result in sales treatment, as ASC 606 requires that the buyer obtains control of the asset.

We believe call options that are conditionally exercisable upon the occurrence of an event or other factors that are not within the control of the seller would not necessarily preclude sale accounting. In

determining whether control has transferred to the buyer, reporting entities should evaluate the nature and conditions associated with the exercisability of the call option, the likelihood that the exercise conditions will be met, and whether the exercise conditions are based on factors outside the seller's control. A call option that is nonsubstantive also would not preclude sale treatment (absent other factors). For example, a deep out-of-the-money call option whose exercise is remote is unlikely to have economic substance.

Put options

Generally, put options would not preclude sale accounting, as the buyer is able to obtain control of the asset and has the option, but not the obligation, to require the seller to reacquire the nonfinancial asset. However, ASC 606 indicates that under certain circumstances, a sale may not occur and the arrangement would be required to be accounted for as a financing or lease (see lease considerations for call options). Consideration should be given to circumstances when the asset sold is unique or otherwise illiquid such that the buyer (i.e., option holder) may have a significant economic incentive to exercise the put option. See RR 8.7.2 for a detailed framework for evaluating put options.

Post-sale restrictions

In considering whether a buyer has gained control of the transferred nonfinancial or in substance nonfinancial assets, ASC 606-10-25-30 notes that physical possession may indicate that the customer has the ability to direct the use of, and obtain substantially all of the remaining benefits from the transferred assets. However, physical possession may not always coincide with the buyer gaining control of the transferred assets. Consideration should be given to post-sale restrictions imposed by the seller that could directly or indirectly impede the buyer from otherwise directing the use of and obtaining substantially all of the remaining benefits from the transferred assets. Absent other factors, we generally would not expect that terms such as transfer restrictions when approval of the subsequent transfer is not to be unreasonably withheld, rights of first refusal, or regulatory limitations would preclude the buyer from obtaining control of the transferred nonfinancial or in substance nonfinancial assets under ASC 606-10-25-30.

6.2.5 Measuring the gain or loss on a disposal

Once a reporting entity determines that it should derecognize an asset under ASC 610-20, the gain or loss on the transfer must be determined. The gain or loss is calculated as the difference between the consideration allocated to each distinct asset and its carrying amount. Refer to PPE 6.2.5.6 for details regarding the allocation of consideration to more than one distinct asset.

Nonfinancial assets will likely be subject to impairment testing prior to derecognition, therefore significant losses are not expected upon derecognition. See PPE 5 for details on impairment testing and PPE 5.3 for considerations related to held for sale accounting.

Determining the consideration received in a contract can be complex as total consideration may not be for a fixed amount. See PPE 6.2.5.1 for discussion of variable consideration. The transaction may also include a financing component that may need to be separately accounted for. See PPE 6.2.5.2 for details. Total consideration may take various forms, such as noncash consideration (see PPE 6.2.5.3), consideration payable to the buyer (see PPE 6.2.5.4), or liabilities that are assumed or relieved by the buyer (see PPE 6.2.5.5).

6.2.5.1 *Variable consideration*

Entities are required to estimate the amount of variable consideration to which they are entitled. Entities will need to estimate variable consideration, including contingent consideration associated with the sale, using either an expected value or most likely amount method (see RR 4.3.1). As discussed in ASC 606, variable consideration may take various forms including, but not limited to, price concessions, volume discounts, rebates, refunds, credits, incentives, performance bonuses, milestone payments, and royalties.

Variable consideration promised for a nonfinancial asset may include payments that are contingent upon the occurrence or nonoccurrence of one or more future events. Generally, these contingent payments should be accounted for as variable consideration. However, consideration should be given to whether the contingency is unrelated to the nonfinancial asset that is sold or the performance of one of the parties to the contract. In such cases, reporting entities should also consider whether the variable consideration arrangement is or contains a derivative that should be accounted for separately under ASC 815. See RR 4.3 for details regarding the recognition of variable consideration, including additional examples.

Variable consideration can only be included in a reporting entity's estimate of consideration when it is probable that the amount will not be subject to a significant reversal in the future (i.e., constraint on variable consideration). The assessment of whether variable consideration should be constrained is largely a qualitative one that has two elements: the magnitude and the likelihood of a change in estimate. The estimate of variable consideration and evaluation of the constraint on variable consideration should be reassessed at each reporting period, with any subsequent changes recorded in the income statement. See RR 4.3.2 for further details.

Example PPE 6-11 provides an example of variable consideration in a contract.

EXAMPLE PPE 6-11

Variable consideration subject to constraint

Pharma Corp sells rights to certain in-process research and development assets (IPR&D) that have a fair value of $100 million (book value of $75 million). Pharma Corp has concluded that the IPR&D assets are subject to the nonfinancial asset derecognition guidance because they do not comprise a business and are not an output of its ordinary activities that would be considered a contract with a customer. The buyer has agreed to pay $10 million in cash at closing and will pay a royalty equal to 3% of sales derived from the IPR&D for the next five years. The royalty payments to be received by Pharma Corp were determined to not be a freestanding or embedded derivative under ASC 815.

Derecognition is appropriate because Pharma Corp does not have a controlling financial interest in the buyer (under ASC 810), and the buyer has taken control of the IPR&D (under ASC 606).

What consideration should Pharma Corp recognize upon sale?

Analysis

Pharma Corp should recognize a $65 million contract loss on sale ($75 million carrying value less $10 million upfront payment). Although Pharma Corp can develop an estimate of the sales-based royalties and does not expect to ultimately incur a loss on this transaction, the variable consideration is considered “constrained” in accordance with ASC 606-10-32-11, as Pharma Corp cannot conclude it is

probable that recognizing the variable royalties in other income would not result in a significant reversal. (Note that the constraint on estimates of variable consideration is different than the narrow exception granted for licenses of intellectual property with consideration in the form of sale or usage-based royalties whereby such royalties are not recognized until usage occurs. See RR 4.3.5 for details.) Pharma Corp should update its estimate at each reporting date until the uncertainty associated with the royalties is resolved. In subsequent periods, Pharma Corp should reassess the variable consideration and record other income for any amount that is no longer subject to the "constraint."

6.2.5.2 *Significant financing component*

In certain situations, consideration may be transferred significantly before or significantly after the buyer obtains control of the nonfinancial asset. These contracts may contain either an explicit or implicit financing component. This financing component should be assessed to determine whether it represents a significant financing component that needs to be recorded. The amount of consideration may need to be adjusted for the time value of money by discounting it, with an appropriate discount rate, over the expected payment period and recording the difference over time as either interest income or expense, as appropriate. Any explicit rate in the contract should be assessed to determine if it represents a prevailing rate for a similar transaction, or if a more representative rate should be imputed. See RR 4.4 for further details.

The guidance in ASC 606-10-32-18 provides a practical expedient that allows entities to disregard the effects of a financing component if the entity expects, at contract inception, that the period between when the entity transfers the asset and when the counterparty pays for that asset will be one year or less. See RR 4.4.2 for further details.

6.2.5.3 *Noncash consideration*

Noncash consideration transferred, such as equity shares or inventory, needs to be measured at fair value at contract inception and included when determining the transaction price (i.e., when the transfer has met the criteria in ASC 606-10-25-1). This may be different than the date when the noncash consideration is received by the transferor. See RR 4.5 for details.

The reporting entity may not be able to reliably determine the fair value of noncash consideration in some situations. In this case the value of the noncash consideration received should be measured indirectly by reference to the standalone selling price of the assets transferred by the reporting entity.

6.2.5.4 *Consideration payable to a counterparty*

An entity might pay, or expect to pay, consideration to the buyer. The consideration payable can be cash, either in the form of rebates or upfront payments, or could alternatively be a credit or some other form of incentive that reduces amounts owed to the entity by a counterparty. Consideration payable to a counterparty is recorded as a reduction of the consideration transferred, unless the payment is for a distinct good or service received from the counterparty. See RR 4.6.1 for further details.

6.2.5.5 *Liabilities that are assumed or relieved*

As noted in ASC 610-20-32-5, if a counterparty promises to assume or relieve a liability of an entity in exchange for a transfer of assets, the transferring entity should include the carrying amount of the liability in the consideration used to calculate the gain or loss on the net asset sale.

As discussed in ASC 610-20-45-3, a reporting entity will apply other guidance to derecognize the liability (e.g., ASC 405). If a reporting entity transfers control of an asset before derecognizing a liability assumed by a counterparty, the reporting entity would recognize a contract asset to the extent the carrying amount of the liability is included in the calculation of the gain or loss. Conversely, if a reporting entity transfers control of an asset after derecognizing a liability assumed by a counterparty, the reporting entity would recognize a contract liability.

A reporting entity is still required to perform impairment testing in accordance with applicable guidance for the assets to be disposed (e.g., ASC 360, ASC 350) prior to derecognition. For example, nonfinancial assets subject to nonrecourse debt that are determined to be impaired under ASC 360 may need to be written down to fair value that is less than the carrying value of the debt. Often, this occurs in foreclosures of real estate. In situations when the real estate has been written down to a value below the carrying amount of the debt, a net gain upon derecognition will result, largely comprised of a gain on debt forgiveness. See Example PPE 5-7 in PPE 5.2.5 for additional considerations for debt in impairment testing.

6.2.5.6 Allocating consideration to more than one distinct asset

When a contract includes the transfer of more than one distinct asset, an entity should allocate the consideration to each distinct asset in accordance with ASC 606-10-32-28 through ASC 606-10-32-41. Generally, this means that the consideration will be allocated to the distinct assets based on their relative standalone selling price. The objective is for an entity to allocate the consideration in an amount that depicts the amount of consideration to which the entity expects to be entitled in exchange for transferring the distinct asset to the counterparty. For further details on the determination of the standalone selling price and other considerations related to the allocation of consideration, refer to RR 5.

6.3 Disposals other than by sale

A long-lived asset may be disposed of other than by sale. This section discusses disposals by abandonment (see PPE 6.3.1), nonreciprocal transfers to owners, for example a spinoff or split-off (see PPE 6.3.2 and PPE 6.3.3), and involuntary conversions (see PPE 6.3.4).

6.3.1 Accounting for long-lived assets to be abandoned

A long-lived asset to be abandoned is considered disposed of when it ceases to be used. For example, equipment that a reporting entity plans to dispose of, but only after it is used to fulfill current orders, is not considered abandoned while it is still in use because the reporting entity receives an ongoing benefit from the equipment. Further, a temporarily idled asset is not considered abandoned as the asset will be used in the future. ASC 360-10-35-48 states that only in unusual situations is the fair value of a long-lived asset to be abandoned zero while it is still being used.

If a reporting entity commits to a plan to abandon a long-lived asset before the end of its previously estimated useful life, it should first test the asset for impairment under the held-and-used impairment guidance of ASC 360-10 (i.e., at the asset group level). After recognizing any resulting impairment, the reporting entity should then revise its future depreciation to reflect the use of the asset over its shortened remaining useful life.

In certain scenarios, the broader asset group may not fail the recoverability test under the ASC 360-10 held-and-used impairment guidance and no impairment would be recognized (e.g., when the asset to be abandoned is insignificant to the overall asset group). However, adjustment of the useful life of the to-be-abandoned asset may still be necessary in accordance with ASC 360-10-35-47. When the reporting entity ceases use of the long-lived asset, its carrying value should equal zero or its salvage value, if any.

Example PPE 6-12 illustrates the accounting for a long-lived asset to be abandoned.

EXAMPLE PPE 6-12

Accounting for an asset to be abandoned

Manufacturing Co has machines used in its manufacturing process that it plans to abandon when the upgraded replacement machines are delivered and placed in service. No proceeds are expected upon abandonment. The original machines were placed in service three years ago and are being depreciated on a straight-line basis over 10 years, with no salvage value expected at the end of 10 years. Abandonment cannot occur prior to the receipt and installation of the replacement machines, which is expected to occur in December 20X2, at which point the reporting entity will cease use of the original machines. Management began re-evaluating the efficiency of the original machines in early 20X1. It had included in its 20X2 capital expenditures budget, which was finalized and approved in June 20X1, an estimated amount to purchase the new machines. The Company considered whether the original machines were impaired under the held-and-used impairment guidance of ASC 360-10 and concluded that the overall asset group was recoverable.

How should Manufacturing Co account for the assets to be abandoned?

Analysis

Because the machines will remain in use through December 20X2, the assets should not be considered abandoned until that time. The asset group that includes the machine is not impaired on a held-and-used basis, so no impairment loss should be recognized at the time Manufacturing Co decides it will abandon the machines. However, because Manufacturing Co plans to abandon the machines before the end of their previously estimated useful lives of 10 years, the useful lives of the assets should be adjusted in June 20X1, when Manufacturing Co commits to a plan to abandon the machines. As a result, Manufacturing Co would depreciate the remaining carrying amounts of the machines over their revised useful lives of approximately 18 months.

6.3.1.1 *Right-of-use asset abandonment (under ASC 842)*

As discussed in PPE 4.2.4, the subsequent measurement of a right-of-use (ROU) asset is subject to the guidance in ASC 842 and ASC 360-10. Refer to LG 4.4, for further details regarding the subsequent recognition and measurement of a lease under ASC 842. ASC 360-10 includes guidance related to the impairment and useful lives of long-lived assets. Similar to other long-lived assets, a ROU asset may be abandoned.

When a lessee decides to cease use of a leased asset under an operating lease either immediately or in the future, it should consider whether the ROU asset is or will be abandoned. For leased space, the ROU asset is generally not abandoned until the date the space is fully vacated and the lessee has no intention to further benefit from the leased space. Temporarily idling a ROU asset (e.g., leaving leased

space unoccupied with plans to return at a future date) is not considered an abandonment under ASC 360-10-35-49. Additionally, a decision to sublease a leased asset does not constitute an abandonment as the lessee still intends to obtain economic benefits from the asset, just in a different capacity.

In some scenarios, a lessee may be uncertain as to whether it will sublease the leased asset. In these situations, we do not believe the ROU asset is abandoned because the lessee could potentially economically benefit from the ROU asset in the future, either through the lessee's use or sublease. As a result, the ROU asset should continue to follow the held-and-used long-lived asset guidance of ASC 360-10, including for impairment and useful life considerations.

Alternatively, a lessee may assert that, despite having the contractual ability to do so, it has no plans to sublease the leased asset (e.g., when there is an oversaturation of supply in the real estate market). In this scenario, judgment is required to support a conclusion that the ROU asset is or will be abandoned. For example, when a lessee has a significant remaining lease term, it may be difficult to support abandonment, especially when a reasonable party would likely attempt to economically benefit from the leased space at some point in the future (e.g., through subleasing or alternative use). Alternatively, when there is an insignificant remaining lease term and the lessee can support that the leased space will not be used, or there is no reasonable possibility of subleasing the space for the remainder of the lease term, abandonment accounting may be appropriate.

Once a decision is made to abandon a ROU asset, the lessee should first consider whether any of the conditions in ASC 842-10-35-1 exist that would require reassessment of the lease term and lease classification. See LG 5.3 for information on circumstances that may require lease remeasurement. A lessee should also consider whether changes to lease components (e.g., in the case of a partial abandonment of leased space) or asset groups are necessary. A plan to abandon a ROU asset may not, in isolation, cause a reassessment of an asset grouping, particularly if the lessee is continuing to use the underlying asset in substantially the same manner for a period of time after the decision (i.e., the level of identifiable cash flows have not yet materially changed).

Regardless of whether asset groups change, the lessee should consider whether plans to abandon a ROU asset represent an impairment indicator at the asset group level. A long-lived asset (asset group) that is held and used should be tested for recoverability whenever events or changes in circumstances indicate that the carrying amount of the asset (asset group) may not be recoverable. ASC 360-10-35-21 provides indicators of impairment, including a significant adverse change in the extent or manner in which an asset (asset group) is being used. As such, the decision to abandon a ROU asset may be an indicator that an impairment test is required for the asset group. Determining whether a plan to abandon a ROU asset results in an impairment indicator to a broader asset group will require judgment and will in part be determined by the significance of the ROU asset to the overall asset group. See PPE 6.3.1 for information on the interaction between abandonment accounting and the long-lived asset impairment guidance. Additionally, see PPE 5.2.3 for information on evaluating long-lived asset impairment triggering events and PPE 5.2.7 through PPE 5.2.7.3 for information on applying the ASC 360-10 held-and-used impairment guidance to ROU assets.

After recognizing and measuring any impairment under ASC 360-10, adjustment of the useful life of the to-be-abandoned ROU asset may be necessary in accordance with ASC 360-10-35-47. The useful life assessment of a long-lived asset is based on the lessee's assumption of the length over which it intends to use the asset. When the ROU asset is actually abandoned, its carrying amount should equal its salvage value as of the cease-use date.

If a ROU asset has not been impaired but its useful life has been shortened, one acceptable approach to subsequently account for the lease is to follow the accounting for a ROU asset that has been impaired, in which case amortization of the ROU asset and lease liability would be delinked in the subsequent accounting (see PPE 5.2.7.3). Example PPE 6-13 illustrates this delinked approach to account for the change in the remaining useful life of a ROU asset when it has not been impaired.

Another acceptable approach to subsequently account for the lease is to retain the linkage between the ROU asset amortization and the lease liability. In this case, the straight-line lease expense should be remeasured over the shortened useful life, which is consistent with the guidance in ASC 842-20-25-6(a). Example PPE 6-14 illustrates this linked approach to account for the change in the remaining useful life of a ROU when it has not been impaired.

EXAMPLE PPE 6-13

Accounting for a right-of-use asset to be abandoned (delinked approach)

Lessee Corp leases a specialized facility in a remote location from Lessor Corp on January 1, 20X1. Lessee Corp determines that the lease is an operating lease. The following table summarizes information about the lease and the leased asset.

Lease term	8 years, no renewal option
Economic life of the building	40 years
Purchase option	None
Monthly lease payments	No lease payments are due for the first three months; the remaining monthly lease payments are $200,000
Payment date	Beginning of the month
Lessee Corp's incremental borrowing rate	6%. The rate Lessor Corp charges Lessee Corp in the lease is not readily determinable by Lessee Corp
Other	There are no additional provisions in the lease that would impact its classification or measurement

How would Lessee Corp measure and record this lease?

Analysis

Lessee Corp would first calculate the lease liability as the present value of the remaining unpaid monthly fixed lease payments discounted at Lessee Corp's incremental borrowing rate of 6%; this amount is $14,624,994. The ROU asset is equal to the lease liability on the lease commencement date. Lessee Corp would record the following journal entry on the lease commencement date.

Dr. ROU asset	$14,624,994	
Cr. Lease liability		$14,624,994

Because Lessee Corp is required to pay $200,000 per month for eight years (excluding the first three months), the total lease payments are $18,600,000 ($200,000 × 93 months). Lessee Corp would then calculate the straight-line lease expense to be recorded each period by dividing the total lease payments by the total number of periods. The monthly straight-line expense would be $193,750 ($18,600,000/96 months).

Lessee Corp would calculate the amortization of the lease liability as shown in the following table. This table is shown on an annual basis for simplicity; the schedule would be calculated on a monthly basis to reflect the frequency of the lease payments.

	Payment	**"Interest" on the lease liability***	**Lease liability**
Lease commencement			$14,624,994
Year 20X1	$1,800,000	$865,614	13,690,608
Year 20X2	2,400,000	777,295	12,067,903
Year 20X3	2,400,000	677,209	10,345,112
Year 20X4	2,400,000	570,951	8,516,063
Year 20X5	2,400,000	458,140	6,574,203
Year 20X6	2,400,000	338,370	4,512,573
Year 20X7	2,400,000	211,213	2,323,786
Year 20X8	2,400,000	76,214	—
	$18,600,000	**$3,975,006**	

*Although these amounts are labelled as "interest," there is no interest expense recorded in the income statement. These amounts are calculated based on the lease liability on a monthly basis in order to determine the ending balance of the lease liability; however, there is only one straight-line lease expense recorded in the income statement. See LG 4.4.2 for additional information.

The amortization of the right-of-use asset is calculated as the difference between the straight-line lease expense ($193,750 per month) and the interest calculated on the lease liability. The following table shows this calculation. This table is shown on an annual basis for simplicity; the schedule would be calculated on a monthly basis to reflect the frequency of the lease payments.

	Straight-line expense (A)	**Interest on lease liability (B)**	**Amortization (A - B)**	**ROU asset**
Lease commencement				$14,624,994
Year 20X1	$2,325,000	$865,614	$1,459,386	13,165,608
Year 20X2	2,325,000	777,295	1,547,705	11,617,903
Year 20X3	2,325,000	677,209	1,647,791	9,970,112
Year 20X4	2,325,000	570,951	1,754,049	8,216,063
Year 20X5	2,325,000	458,140	1,866,860	6,349,203
Year 20X6	2,325,000	338,370	1,986,630	4,362,573
Year 20X7	2,325,000	211,213	2,113,787	2,248,786
Year 20X8	2,325,000	76,214	2,248,786	—
	$18,600,000	**$3,975,006**	**$14,624,994**	

For the year ended December 31, 20X1, the following cumulative journal entries would have been recorded by Lessee Corp.

Dr. Lease expense	$2,325,000	
Dr. Lease liability	$934,386	
Cr. ROU asset		$1,459,386
Cr. Cash		$1,800,000

If on December 31, 20X5, Lessee Corp determines that it will only use the facility through December 31, 20X6 (assume Lessee Corp has concluded that the residual value will be $0), Lessee Corp would adjust the remaining useful life to one year. Doing so has no impact on the accounting for the lease liability. However, the change in the useful life would impact the accounting for the ROU asset and its subsequent amortization.

On December 31, 20X5, Lessee Corp would calculate the straight-line amortization of the right-of-use asset to be recorded each period for the remaining useful life by dividing the right-of-use asset balance ($6,349,203) by the remaining useful life (one year). The monthly straight-line amortization for the remaining useful life of the right-of-use asset would be $529,100 ($6,349,203/12 months). Subsequent to December 31, 20X6, the monthly lease expense would be equal to the effective interest on the lease liability for the remainder of the lease term.

The following table shows the annual accounting amortization and calculation. This table is shown on an annual basis for simplicity; the schedule would be calculated on a monthly basis to reflect the frequency of the lease payments.

	Lease expense (A+B)	**Interest on lease liability (A)**	**Amortization (B)**	**ROU asset**
Year 20X5				$6,349,203
Year 20X6	$6,687,573	$338,370	$6,349,203	—
Year 20X7	211,213	211,213	—	—
Year 20X8	76,214	76,214	—	—
	$6,975,000	**$625,797**	**$6,349,203**	

For the year ended December 31, 20X6, the following cumulative journal entries would have been recorded by Lessee Corp.

Dr. Lease expense	$6,687,573	
Dr. Lease liability	$2,061,630	
Cr. ROU asset		$6,349,203
Cr. Cash		$2,400,000

For the year ended December 31, 20X7, the following cumulative journal entries would have been recorded by Lessee Corp.

Dr. Lease liability	$2,188,787	
Dr. Lease expense	$211,213	
Cr. Cash		$2,400,000

EXAMPLE PPE 6-14

Accounting for a right-of-use asset to be abandoned (linked approach)

Lessee Corp leases a specialized facility in a remote location from Lessor Corp on January 1, 20X1. Lessee Corp determines that the lease is an operating lease. The following table summarizes information about the lease and the leased asset.

Lease term	8 years, no renewal option
Economic life of the building	40 years
Purchase option	None
Monthly lease payments	No lease payments are due for the first three months, the remaining monthly lease payments are $200,000
Payment date	Beginning of the month
Lessee Corp's incremental borrowing rate	6%. The rate Lessor Corp charges Lessee Corp in the lease is not readily determinable by Lessee Corp
Other	There are no additional provisions in the lease that would impact its classification or measurement

How would Lessee Corp measure and record this lease?

Analysis

Lessee Corp would first calculate the lease liability as the present value of the remaining unpaid monthly fixed lease payments discounted at Lessee Corp's incremental borrowing rate of 6%; this amount is $14,624,994. The ROU asset is equal to the lease liability on the lease commencement date. Lessee Corp would record the following journal entry on the lease commencement date.

Dr. ROU asset	$14,624,994	
Cr. Lease liability		$14,624,994

Because Lessee Corp is required to pay $200,000 per month for eight years (excluding the first three months), the total lease payments are $18,600,000 ($200,000 × 93 months). Lessee Corp would then calculate the straight-line lease expense to be recorded each period by dividing the total lease payments by the total number of periods. The monthly straight-line expense would be $193,750 ($18,600,000/96 months).

Lessee Corp would calculate the amortization of the lease liability as shown in the following table. This table is shown on an annual basis for simplicity; the schedule would be calculated on a monthly basis to reflect the frequency of the lease payments.

	Payment	**"Interest" on the lease liability***	**Lease liability**
Lease commencement			$14,624,994
Year 20X1	$1,800,000	$865,614	13,690,608
Year 20X2	2,400,000	777,295	12,067,903
Year 20X3	2,400,000	677,209	10,345,112
Year 20X4	2,400,000	570,951	8,516,063
Year 20X5	2,400,000	458,140	6,574,203
Year 20X6	2,400,000	338,370	4,512,573
Year 20X7	2,400,000	211,213	2,323,786
Year 20X8	2,400,000	76,214	—
	$18,600,000	**$3,975,006**	

*Although these amounts are labelled as "interest," there is no interest expense recorded in the income statement. These amounts are calculated based on the lease liability on a monthly basis in order to determine the ending balance of the lease liability; however, there is only one straight-line lease expense recorded in the income statement. See LG 4.4.2 for additional information.

The amortization of the right-of-use asset is calculated as the difference between the straight-line lease expense ($193,750 per month) and the interest calculated on the lease liability. The following table shows this calculation. This table is shown on an annual basis for simplicity; the schedule would be calculated on a monthly basis to reflect the frequency of the lease payments.

	Straight-line expense (A)	Interest on lease liability (B)	Amortization (A - B)	ROU asset
Lease commencement				$14,624,994
Year 20X1	$2,325,000	$865,614	$1,459,386	13,165,608
Year 20X2	2,325,000	777,295	1,547,705	11,617,903
Year 20X3	2,325,000	677,209	1,647,791	9,970,112
Year 20X4	2,325,000	570,951	1,754,049	8,216,063
Year 20X5	2,325,000	458,140	1,866,860	6,349,203
Year 20X6	2,325,000	338,370	1,986,630	4,362,573
Year 20X7	2,325,000	211,213	2,113,787	2,248,786
Year 20X8	2,325,000	76,214	2,248,786	—
	$18,600,000	**$3,975,006**	**$14,624,994**	

For the year ended December 31, 20X1, the following cumulative journal entries would have been recorded by Lessee Corp.

Dr. Lease expense	$2,325,000	
Dr. Lease liability	$934,386	
Cr. ROU asset		$1,459,386
Cr. Cash		$1,800,000

If on December 31, 20X5, Lessee Corp determines that it will only use the facility through December 31, 20X6 (assume Lessee Corp has concluded that the residual value will be $0), Lessee Corp would adjust the remaining useful life to one year. Doing so has no impact on the accounting for the lease liability. However, the change in the useful life would impact the accounting for the ROU asset and the straight-line expense.

On December 31, 20X5, Lessee Corp would calculate the straight-line lease expense to be recorded each period for the remaining useful life by dividing the right-of-use asset balance ($6,349,203) and the remaining interest on the lease liability ($625,797) by the remaining useful life (one year). The monthly straight-line lease expense for the remaining useful life of the right-of-use asset would be

$581,250 (($6,349,203 + $625,797)/12 months). Subsequent to December 31, 20X6, the monthly straight-line lease expense would be $0 for the remainder of the lease term.

The amortization of the ROU asset would be calculated as the difference between the straight-line lease expense and the interest calculated on the lease liability. The following table shows this calculation. This table is shown on an annual basis for simplicity; the schedule would be calculated on a monthly basis to reflect the frequency of the lease payments.

	Straight-line expense (A)	**Interest on lease liability (B)**	**Amortization (A - B)**	**ROU asset**
Year 20X5				$6,349,203
Year 20X6	$6,975,000	$338,370	$6,636,630	(287,427)*
Year 20X7	__	211,213	(211,213)	(76,214)*
Year 20X8	__	76,214	(76,214)	__
	$6,975,000	**$625,797**	**$6,349,203**	

* When a ROU asset is negative it is presented as a liability.

For the year ended December 31, 20X6, the following cumulative journal entries would have been recorded by Lessee Corp.

Dr. Lease expense	$6,975,000	
Dr. Lease liability	$2,061,630	
Cr. ROU asset		$6,636,630
Cr. Cash		$2,400,000

For the year ended December 31, 20X7, the following cumulative journal entries would have been recorded by Lessee Corp.

Dr. Lease liability	$2,188,787	
Dr. ROU asset	$211,213	
Cr. Cash		$2,400,000

6.3.2 *Nonreciprocal transfer of assets in a spinoff*

A nonreciprocal transfer of assets to owners of a reporting entity could be in the form of a pro rata spinoff or a non-pro rata split-off. Nonreciprocal transfers of assets in a split-off are discussed in PPE 6.3.3.

ASC 505-60-20 defines a spinoff.

Definition from ASC 505-60-20

Spinoff: The transfer of assets that constitute a business by an entity (the spinnor) into a new legal spun-off entity (the spinnee), followed by a distribution of the shares of the spinnee to its shareholders, without the surrender by the shareholders of any stock of the spinnor.

In accordance with ASC 845-10-30-10, a transfer of long-lived assets that constitute a business to owners in a spinoff should be accounted for based on the recorded amount of the assets transferred (after reduction, if appropriate, for any impairment). In contrast, if the long-lived assets transferred do not constitute a business, the transaction is not a spinoff even though the distribution is pro rata. Rather, it would be considered a dividend in kind, which is generally accounted for based on the fair value of the assets transferred.

If a long-lived asset is to be disposed of in an exchange or a distribution to owners in a spinoff, and if that exchange or distribution is to be accounted for based on the recorded amount of the nonmonetary asset relinquished, the asset should continue to be accounted for as held and used until it is exchanged or distributed. If a reporting entity tests that asset for recoverability while it is classified as held and used, the estimates of future cash flows that are used in that test should be based on the use of the asset for its remaining useful life, assuming that the exchange or distribution transaction will not occur. In accordance with ASC 360-10-40-4, in addition to any impairment losses a reporting entity is required to recognize while the long-lived asset is classified as held and used, an impairment loss should also be recognized when the asset is disposed of if the carrying amount of the disposal group exceeds its fair value.

ASC 505-60 addresses whether or not to account for a spinoff as a reverse spinoff based on the substance instead of the legal form of the transaction. There is a rebuttable presumption that the spinoff should be accounted for based on its legal form (i.e., the legal spinnor is also the accounting spinnor). ASC 505-60-25-8 provides several indicators to consider when deciding if the presumption to account for the transaction based on legal form should be overcome. However, no single indicator should be considered presumptive or determinative. When the indicators are mixed, judgment will be required to determine whether the presumption has been overcome and the substance of the transaction is a reverse spin.

Excerpt from ASC 505-60-25-8

a. The size of the legal spinnor and the legal spinnee. All other factors being equal, in a reverse spinoff, the accounting spinnor (legal spinnee) is larger than the accounting spinnee (legal spinnor). The determination of which entity is larger is based on a comparison of the assets, revenues, and earnings of the two entities. There are no established bright lines that shall be used to determine which entity is the larger of the two.

b. The fair value of the legal spinnor and the legal spinnee. All other factors being equal, in a reverse spinoff, the fair value of the accounting spinnor (legal spinnee) is greater than that of the accounting spinnee (legal spinnor).

c. Senior management. All other factors being equal, in a reverse spinoff, the accounting spinnor (legal spinnee) retains the senior management of the formerly combined entity. Senior management generally consists of the chairman of the board, chief executive officer, chief operating officer, chief financial officer, and those divisional heads reporting directly to them, or the executive committee if one exists.

d. Length of time to be held. All other factors being equal, in a reverse spinoff, the accounting spinnor (legal spinnee) is held for a longer period than the accounting spinnee (legal spinnor). A proposed or approved plan of sale for one of the separate entities concurrent with the spinoff may identify that entity as the accounting spinnee.

For SEC registrants that have concluded that a transaction should be accounted for as a reverse spinoff, a question arises as to whether the financial statements of the existing registrant (i.e., the legal spinnor/accounting spinnee) can be used to satisfy the financial statement requirements of the entity that will be spun off (i.e., the accounting spinnor/legal spinnee). In an SEC staff speech, the staff expressed its view that this assessment should be based on the unique facts and circumstances of each transaction, and there may be situations in which carve-out financial statements are required for the accounting spinnor/legal spinnee. See FSP 27.4.3.1 for further discussion of the presentation of spinoff transactions.

6.3.3 Nonreciprocal transfer of assets in a split-off

A nonreciprocal transfer of assets to owners of a reporting entity could be in the form of a pro rata spinoff or a non-pro rata split-off. Nonreciprocal transfers of assets in a spinoff are discussed in PPE 6.3.2.

A split-off transaction is a non-pro rata distribution that may or may not involve all shareholders. A split-off transaction usually involves a substantive parent entity offering its noncontrolling shareholders the ability to exchange any or all of their equity shares of the parent entity, subject to a cap if oversubscribed, for shares of a subsidiary at a specified exchange rate. A non-pro rata split-off is akin to a sale. ASC 845-10-20 defines a split-off.

Definition from ASC 845-10-20

Split-off: A transaction in which a parent entity exchanges its stock in a subsidiary for parent entity stock held by its shareholders.

Non-pro rata split-off transactions that are accounted for under ASC 845-10-30-12 are based on the fair value of the assets transferred, regardless of whether the subsidiary being split-off constitutes a business in a corporate plan of reorganization. A split-off of nonfinancial assets and in substance nonfinancial assets is accounted for under ASC 610-20. See PPE 6.2.5 for details regarding the determination of the transaction price. A split-off to a controlling shareholder is a common control transaction and would be accounted for based on the recorded amount of the assets transferred.

Since a split-off transaction is akin to a sale transaction, the long-lived asset impairment test should be performed in accordance with the held for sale guidance at the time the long-lived asset is classified as held for sale. See PPE 5.3.3.

6.3.4 Involuntary conversions

Involuntary conversions of nonmonetary assets to monetary assets are considered monetary transactions. Examples of such conversions are total or partial destruction or theft of insured long-lived assets and the condemnation of property in eminent domain proceedings. Any gain or loss from the conversion should be fully recognized as a component of income, even if the reporting entity reinvests or is obligated to reinvest the recovery in a replacement long-lived asset. Often, losses from involuntary conversions are covered by insurance. See PPE 8.2 for further information on insurance recoveries. See FSP 3.6.10 for discussion of the income statement classification of gains or losses resulting from an involuntary conversion and FSP 6.9.22 for discussion of the cash flow presentation of insurance proceeds. Additionally, ASC 606 reorganized the guidance for involuntary conversions, moving it from ASC 605-40 to ASC 610-30.

6.3.5 Donations of long-lived assets

The donation of a long-lived asset or disposal group is also considered a disposal by other than sale and would follow the held and used accounting model until disposal in accordance with ASC 360-10-45-15.

6.3.6 Exchanges of nonmonetary assets

Subsequent to the adoption of ASC 606 and ASC 610-20, the guidance in ASC 845 will exclude transactions with customer or non-customers in exchange for noncash consideration. Accordingly, many nonmonetary transactions will be in the scope of ASC 606 and ASC 610-20. The consideration transferred will include noncash consideration (i.e., nonmonetary assets) measured at its fair value at contract inception (see RR 4.5.1 for details). ASC 610-20 does not amend existing practice for nonreciprocal transfers with owners (see PPE 6.3.2 and PPE 6.3.3) and non-derivative purchases and sales of inventory with the same counterparty, in which case qualifying transactions are recognized at the carrying amount of the inventory transferred (see ASC 845-10-30-15 through ASC 845-10-30-16). See PPE 2.3.1.1 for details regarding the accounting for an asset acquired in a nonmonetary exchange.

6.4 Disposal activities, exit costs, and restructuring charges

ASC 420-10, *Exit or Disposal Cost Obligations*, addresses significant issues related to the recognition, measurement, and reporting of costs associated with exit and disposal activities, including restructuring activities. ASC 420-10 focuses on the recognition of liabilities, specifically requiring that companies only record liabilities when they are incurred.

ASC 360-10, not ASC 420-10, governs the accounting for the impairment of long-lived assets and assets to be disposed of. See PPE 5 for further discussion on identifying, measuring, recording, and classifying impairment charges.

Prior to adopting ASC 842, *Leases*, lease termination costs were accounted for under ASC 420-10. With the adoption of ASC 842, the guidance in ASC 420-10 has been modified to remove leases from its scope. Refer to LG 4.4 for further details regarding the subsequent recognition and measurement of a lease and LG 5 for further details regarding modification and remeasurement of a lease. See PPE 4.2.4 for details regarding the subsequent accounting for right-of-use assets, PPE 5.2.6 for lease impairment considerations, and PPE 6.3.1.1 for a discussion of lease abandonments. See FSP 11.4.4.1 for a discussion of the presentation and disclosures of exit and disposal cost obligations.

When deliberating ASC 420-10, the FASB discussed whether a definition of restructuring should be developed, but believed an operational definition of restructuring for accounting purposes was not feasible. ASC 420-10 does, however, indicate that an exit activity includes, but is not limited to, a restructuring as defined in International Accounting Standard No. 37 (IAS 37), *Provisions, Contingent Liabilities and Contingent Assets*. As a result, costs associated with exit or disposal activities under ASC 420-10 include, but are not limited to: (1) involuntary employee termination benefits pursuant to one-time termination plans (i.e., other than pre- existing arrangements or a new plan that is expected to be ongoing, the accounting for which is addressed in ASC 710), (2) costs to terminate a contract that is not a lease, and (3) other exit costs.

IAS 37 defines restructuring as "a programme that is planned and controlled by management, and materially changes either: (a) the scope of a business undertaken by an entity; or (b) the manner in which that business is conducted." A restructuring covered by IAS 37 includes the sale or termination of a line of business, the closure of business activities in a particular location, the relocation of business activities from one location to another, changes in management structure, and a fundamental reorganization that affects the nature and focus of operations.

6.4.1 Costs associated with exit or disposal activities

ASC 420-10 incorporates many of the views of the SEC staff that were previously included in SAB 100. The issuance of SAB 103 in May 2003 resulted in the deletion of SAB 100 guidance previously included under SAB Topic 5.P.1 and SAB Topic 5.P.2. However, there continue to be specific areas and issues included in the previous guidance that provide additional insights beyond that in ASC 420-10 and have been included in the discussion that follows.

Certain costs that may be associated with exit or disposal activities are not included in the scope of ASC 420-10. Examples of these costs include:

- Termination benefits that are provided to employees under the terms of an ongoing benefit arrangement (or enhancements to an ongoing benefit arrangement) or an individual deferred compensation contract covered by other accounting pronouncements. If termination benefits are offered in exchange for an employee’s voluntary termination of service, the liability for such voluntary termination benefits should be recognized in accordance with ASC 712-10.

- Costs to terminate a lease are to be accounted for in accordance with ASC 842-20 (after adoption of ASC 842). Costs to terminate a capital lease are to be accounted for in accordance with ASC 840-10 (prior to adoption of ASC 842).

- Costs associated with the retirement of a long-lived asset are to be accounted for in accordance with ASC 410-20.
- Impairment of long-lived assets and long-lived asset disposal groups are to be accounted for in accordance with ASC 360-10.

See BCG 2.5.15 for guidance with respect to the recognition of liabilities related to restructurings or exit costs in a business combination.

6.4.1.1 *Initial recognition of liabilities for exit/disposal activities*

ASC 420-10 incorporates the liability recognition concepts embodied in CON 6. Accordingly, a liability associated with an exit or disposal activity should be recognized only when an event has occurred that creates a present obligation to transfer assets or provide services in the future that meets the definition of a liability set forth in CON 6. ASC 420-10 emphasizes that the present obligation must be to others and result from the occurrence of a past event. In this regard, ASC 420-10 makes it clear that an entity's commitment to an exit plan, in and of itself, does not create a present obligation to others for the costs expected to be incurred under the plan. Under ASC 420-10, a liability for costs associated with an exit or disposal activity is incurred when the three characteristics of a liability cited in CON 6, par. 36 are present. Specifically, an entity must:

- Have a “present duty or responsibility to one or more entities that entails settlement by probable future transfer, or the use of assets at a specified or determinable date, on occurrence of a specified event, or on demand”. ("Probable" is used with its general meaning and not in the specific technical sense that it is used in ASC 450-10, *Contingencies, Overall*. Thus, it does not imply the same "high degree of expectation" that its use in ASC 450-10 implies.)
- Have little or no discretion in avoiding a future transfer of assets or providing services
- Determine that an obligating event has already happened

The requirement to recognize costs associated with exit or disposal activities at fair value differs from the probability notion in ASC 450-10. Using that criteria, a liability for costs associated with disposal activities would have been initially recognized when (1) the future transfer of assets or provision of services was probable (as that term is used in ASC 450-10), and (2) the amount could be reasonably estimated. However, as noted above, recognition of exit costs under ASC 420-10 is not based on the probable and reasonably estimable model. ASC 450-10 deals with uncertainty by using a probability threshold for recognition of a loss contingency. In the estimation of the fair value of a liability for exit costs under ASC 420-10, uncertainty in the amount and timing of the future cash flows necessary to settle a liability is addressed by incorporating that uncertainty in the measurement of the fair value of the liability following the principles of CON 7.

6.4.1.2 *Fair value of liabilities for exit/disposal activities*

ASC 420-10 requires that a liability for a cost that is associated with an exit or disposal activity be recognized at its fair value when incurred. That is, it should be recognized when the cost meets the definition of a liability (as set out in CON 6, par. 35). See the *Fair value measurements* guide for additional guidance on measuring the fair value of the liability.

6.4.1.3 *Subsequent accounting for exit/disposal activity accruals*

ASC 420-10 provides guidance regarding the subsequent accounting for liabilities associated with exit or disposal activities. Companies are required to subsequently adjust accruals established under ASC 420-10 for changes resulting from revisions to either the timing or the amount of estimated cash flows. That change should be measured using the credit-adjusted risk-free rate that was used to initially measure the liability. Accordingly, subsequent measurement of the liability is not at fair value. The adjustment should be recognized in the period of change and reported in the same line item as the original costs were classified at initial recognition.

ASC 420-10 also requires the liability to be adjusted due to the passage of time as an increase in the liability and as an expense (e.g., accretion expense). Interest on the liability would be accreted using the original effective rate, and recognized as an operating expense in the income statement (or statement of activities). This guidance is similar to that in ASC 410-20, *Asset Retirement and Environmental Obligations, Asset Retirement Obligations*.

6.4.2 *Employee termination costs*

ASC 420-10 addresses the accounting for involuntary employee termination costs that are provided pursuant to a one-time benefit arrangement. A one-time benefit arrangement is an arrangement established by a plan of termination that applies for a specified termination event or for a specified future period. For further details on employee termination costs, including one-time benefit arrangements, refer to PEB 8.5.

6.4.3 *Contract termination costs (under ASC 842)*

With the adoption of ASC 842, *Leases*, the guidance in ASC 420-10 was modified to remove leases from its scope. See the *Leases* guide and PPE 4.2.4 for further details on the accounting for leases after the adoption of ASC 842.

ASC 420-10 applies to costs to terminate a contract that is not a lease and that existed prior to the entity's commitment to a plan of disposal. Contract termination costs that may be incurred in connection with an exit or disposal activity are (a) costs to terminate the contract before the end of its term or (b) costs that will continue to be incurred under the contract for its remaining term without economic benefit to the entity.

Costs to terminate a contract before the end of its term should be recognized and measured at their fair value when the entity terminates the contract in accordance with the contract terms. Costs that will continue to be incurred under a noncancelable contract should be recognized and measured at fair value when the entity ceases using the right conveyed by the contract (e.g., the right to receive future goods or services).

Under ASC 842, a lessee may elect an accounting policy, by asset class, to include both the lease and nonlease components as a single component and account for it as a lease. When a lessee has not elected this practical expedient, nonlease components (e.g., common area maintenance, security services) are not accounted for as a lease. Costs to terminate these nonlease components should continue to be accounted for under ASC 420-10, even after the adoption of ASC 842.

6.4.3A Lease and other contract termination costs (prior to ASC 842)

Prior to adopting the new leases standard, lease termination costs were accounted for under ASC 420-10. The remainder of this section discusses the accounting prior to adoption of ASC 842.

ASC 420-10 also applies to costs to terminate an operating lease or other contract that existed prior to the entity's commitment to a plan of disposal. Circumstances in which there is a termination of an operating lease not involving a restructuring activity are also to be accounted for pursuant to ASC 420-10. Contract termination costs that may be incurred in connection with an exit or disposal activity are (a) costs to terminate the contract before the end of its term or (b) costs that will continue to be incurred under the contract for its remaining term without economic benefit to the entity (e.g., lease rental payments that will continue after an entity ceases to use the property).

ASC 420-10 provides guidance related to the recognition and measurement of liabilities for lease and contract terminations. Costs to terminate a contract before the end of its term should be recognized and measured at their fair value when the entity terminates the contract in accordance with the contract terms. Costs that will continue to be incurred under a noncancelable contract should be recognized and measured at fair value when the entity ceases using the right conveyed by the contract (e.g., the right to use a leased property or to receive future goods or services). When the contract is an operating lease that is terminated, a liability based on the remaining lease rental should be measured at its fair value when the entity ceases using the rights conveyed by the contract (the "cease-use" date) based on the remaining lease rentals, adjusted for the effects of any prepaid or deferred items recognized under the lease, and reduced by estimated sublease rentals that could be reasonably obtained for the property. Recording a liability at the cease-use date is only appropriate for the cease of use of functionally independent assets (i.e., the assets could be fully utilized by another party) when the lessee is permanently ceasing use. The liability for remaining rentals should be reduced by any estimated sublease rentals, net of direct costs incurred to obtain the sublease (but not reduced to an amount less than zero), regardless of whether the entity intends to enter into a sublease or whether the terms of the lease allow the lessee to sublease the asset. This is due to the fact that the lessor may be required by law to mitigate its damages, as is common in the US. However, ASC 420-10 limits the circumstances in which sublease rentals should reduce the liability by stating that entities must consider estimated sublease rentals only to the extent that they could reasonably be obtained for the property.

With respect to leases, a liability should be recognized at the cease-use date only if the terms of an operating lease are unfavorable relative to the terms of a new lease for similar property. This implies recognition of a liability only if the lease terms are not at prevailing market terms. When estimating the fair value of a liability for costs to terminate an operating lease, an issue arises regarding whether executory costs (that is, property taxes, insurance, maintenance costs) should be included as part of the fair value of the liability. Whether executory costs are considered costs required to be expensed as incurred under ASC 420-10 or costs of the lease termination is not normally relevant, as such costs are inherent in the terms of any lease or sublease and a third party lessee or sublessee would be required to assume them, either directly or indirectly, in connection with any lease or sublease of the property. Consequently, we believe it should be assumed that any obligation to pay executory costs in connection with the termination of an operating lease could be passed through to a subtenant on a sublease. Stated another way, payments for executory costs are generally at prevailing market prices and we would not expect these costs to increase the fair value of an exit liability. Therefore, they are not likely to be accrued at the cease use date. In addition, executory costs not directly related to the

leased asset (e.g., personal property taxes or insurance on the lessee's assets located in the leased location) are not accruable as contract (lease) termination costs under ASC 420-10.

The FASB decided that ASC 420-10 would not be limited to lease termination costs and, as a result, the guidance in ASC 420-10 applies to all contract terminations. Accordingly, when an entity ceases using a property that is leased under an operating lease before the end of its term, the approach in ASC 420-10 contemplates that a liability should be recognized for lease termination costs when the leased property has no substantial future use or benefit to the lessee. Furthermore, ASC 420-10's "cease-use" date requires that the liability for all lease termination costs be recognized and measured when the rights provided for under the contract are no longer used by an entity in operations. This guidance, however, does not relate to the "impairment" of an operating lease or executory contract. The key point is that ASC 420-10 should not be analogized to losses on executory contracts. The SEC has stated that it is generally inappropriate to recognize impairments on executory contracts unless such losses are specifically prescribed in authoritative literature (e.g., a loss on a sub-lease arrangement not involving a disposal (ASC 840-20-25-15) or a firm commitment to purchase inventory that, when acquired, would be subject to an immediate lower of cost or market write-down (ASC 330-10)).

For further considerations of lease and other contract termination costs, see Question PPE 6-1, Question PPE 6-2, Question PPE 6-3, Question PPE 6-4, Question PPE 6-5, and Question PPE 6-6.

Question PPE 6-1 (prior to ASC 842)

An exit plan includes a reduction in the operations currently performed in a leased facility comprised of five floors. The lease is an operating lease, expiring three years from the date management commits to an exit plan and communicates the plan. At that date, all five floors are fully used in operations and will continue to be used for one year. When the exit plan is completed in one year, only three floors of the leased space will be used. The remaining two floors will be permanently idle. Assuming all other provisions of ASC 420-10 have been met, may the company recognize a liability at the communication date for the exit costs associated with the two floors of the building that will be permanently idle?

PwC response

No. As of the communication date, the company has not incurred a liability. Communication of a commitment to cease using two floors of the building in the future does not, in and of itself, create a current obligation of the company. Further, those floors continue to be used in operations for one year from the commitment date. Under ASC 420-10, contract termination costs that continue to be incurred under the contract for its remaining term without economic benefit to the entity can be recognized when the company ceases using the right conveyed by the contract. Accordingly, in year two, the company may be able to recognize the liability for costs associated with the permanently idle floors of the building, once the company ceases using those floors. In addition, the company must prove that the two floors of the building are functionally independent from the rest of the building (e.g., they have a separate entrance to the floor) and will not be used in operations (e.g., they are not being used as storage). The measurement is based on the fair value of the remaining lease rentals, reduced by estimated sublease rentals that could be reasonably obtained for the property.

Question PPE 6-2 (prior to ASC 842)

A lessee of commercial office space leases several floors of a multi-tenant office building. The lessee has ceased using certain floors and portions of other floors in the building. Should a liability for contract termination costs be recognized under ASC 420-10?

PwC response

A liability should be recognized under ASC 420-10 for the costs associated with one or more floors or portions of floors, provided they are functionally independent assets (i.e., they could be fully utilized by another party because, for example, they have separate entrances, access to restrooms, etc.) and the lessee intends to cease using them permanently. Usage would not be considered to cease permanently if the lessee intends to resume using the assets prior to the end of the lease term, the assets cannot be leased in its present condition, or the lessee has not determined whether it will resume using the assets at a loss. If usage is not considered to cease permanently and the lessee subleases the assets, ASC 840-20-25 would apply at the time the asset is subleased.

Notwithstanding the FASB's use of the term "operating lease or other contract," we believe that it did not intend to change the accounting based on whether a lessee leased a group of functionally independent assets in a single lease transaction or in a number of related lease transactions, all entered into at the same time. Accordingly, we believe the accounting should be the same for both situations. ASC 420-10 should be applied to the functionally independent assets on an asset-by-asset basis.

Question PPE 6-3 (prior to ASC 842)

If Company A ceases use of a leased building, should it calculate the fair value of the liability under ASC 420-10 by reducing the remaining lease rentals by the current fair market rental for equivalent space, assuming that the leased building could be subleased at the current fair market rental, regardless of whether the terms of the lease allow the lessee to sublease the asset?

PwC response

Yes. We believe that, even if the terms of the lease preclude the lessee from subleasing the building, potential sub-lease rentals should be considered in measuring the liability if the building could be re-leased by the lessor to another lessee during the remaining term of the lease and the lessor is legally required to mitigate the amount of damages in the event of lessee default, as is typical in the United States.

In determining the amount of sublease rentals that could be obtained for the building, we believe Company A should consider all of the relevant facts and circumstances. These would include, among others: (1) the length of the remaining term of the lease, (2) the cost to obtain one or more lessees or sublessees, including brokerage commissions and leasehold improvements that would be required, and (3) any other market or other external impediments to re-leasing or subleasing the property. Company A should not consider any internal or self-imposed impediments to subleasing, such as (1) precluding a competitor from being a sublessee candidate, or (2) deciding to forego the pursuit of sublease rentals in order to focus its efforts on its primary business. Company A should consider the current fair market rental for equivalent property and assess the ability to obtain sublease rentals for the specific property under lease within the context of the overall local real estate market. A liability

should be recognized at the cease-use date only if the terms of an operating lease are unfavorable relative to the terms of a new lease for similar property.

An expected present value technique will often be the best measure to estimate the liability.

Question PPE 6-4 (prior to ASC 842)

On January 1, 20X1, Company A commits to a plan to exit a facility on June 30, 20X1. The facility is subject to an operating lease that Company A will continue to use until June 30, and will then sub-lease to an unrelated third party. The lease facility is part of a larger asset group, for which there is no impairment. Company A will meet the criteria within ASC 420 for recognizing a liability associated with the lease only when Company A reaches the cease-use date of June 30, 20X1. Payments received by Company A under the sublease will be less than the amount paid by Company A under the original lease and are believed to represent estimated sublease rentals that could be reasonably obtained for the property. Company A has $100 of leasehold improvements (net of accumulated amortization) associated with the leased building at January 1, 20X1, with four years of original useful life remaining. The fair value of the leasehold improvements is expected to be de minimus at the date of exit.

How should Company A account for their leasehold improvements?

PwC response

Company A should review its amortization estimates on January 1, 20X1, pursuant to ASC 250, and accelerate amortization over the revised remaining useful life of six months, through June 30, 20X1. Company A's plan to exit the building earlier than anticipated and enter into the sublease at a loss provides evidence that the useful life of the leasehold improvements is shorter than the remaining original life of four years.

Question PPE 6-5 (prior to ASC 842)

In 20X1, a company reached a decision to exit a leased facility. The company met the "cease-use" criteria in accordance with ASC 420-10, and properly recorded a liability based on the remaining lease rentals reduced by the estimated sub-lease rentals that could be reasonably obtained for the property. After the restructuring, the company executed a sub-lease for this space. In July 20X3, the company and the sub-lessee failed to renew the sub-lease agreement and the sublessee vacated the facility. At the same time, the company had positive news related to their business that would require additional physical capacity. In September 20X3, as part of their annual long-term strategic plan, company management and the Board decided they would no longer seek to sub-let the remaining space and instead use the remaining space for their own business needs. What criteria should the company use to evaluate when to reverse a restructuring accrual?

PwC response

ASC 420-10-40-1 makes it clear that a liability should be reversed if an event or circumstance occurs that discharges or removes an entity’s responsibility to settle a liability for a cost associated with an exit or disposal activity recognized in a prior period. ASC 420-10, however, is not clear as to what criteria should be used to evaluate when the accrual should be reversed. We believe that the guidance provided in ASC 420-10 in determining when to recognize costs associated with exit or disposal activities should also be considered to determine when, if applicable, such a charge should be reversed.

The reversal of the exit activity is initiated when either (1) management, having the authority to approve the action, commits to a plan that utilizes the space or (2) management otherwise begins to

use the space. Therefore, in this set of facts and circumstances, the liability would be reversed in September 20X3 once the Board approved the action to re-enter the space and could no longer assert the accrual for an exit activity was necessary.

Question PPE 6-6 (prior to ASC 842)

Company A leases three floors of office space over a ten year non-cancelable operating lease term. In year five, Company A decides to downsize its operations and vacate one of the floors. Each of the leased floors is considered functionally independent. On June 30, 20X1, approximately one month before vacating the floor, Company A enters into a sublease with an unrelated third party, whereby the floor Company A is planning to vacate is leased for a period of three years of the remaining five years of the head lease term. The sublease rent per square foot is less than the head lease rent per square foot paid by Company A, and the sublessee does not have any renewal options. On July 31, 20X1, Company A downsizes its operations and vacates the leased floor.

For the sublet space, should the Company account for the transaction as the termination of a contract under ASC 420, *Exit or Disposal Cost Obligations*, or as a loss on a sublease in accordance with ASC 840-20-25-15?

PwC response

Company A should first evaluate whether its sublease constitutes a permanent or temporary exit of the vacated floor. Consideration should be given to management's plans and intent for the two years remaining on the lease term after the end of the sublease. If management considers the exit to be temporary because management intends to reoccupy the space at some future date or has not made a decision to permanently exit the space, the threshold for applying ASC 420-10 for a contract termination is not met. Accordingly, ASC 840-20-25-15 would be applicable. Under ASC 840-20-25-15, at June 30, 20X1 (the date of the execution of the sublease), a loss on sublease would be recorded.

If management commits to exiting the space permanently, Company A should make an accounting policy election to either (a) record a liability upon execution of a sublease in accordance with ASC 840-20-25-15 or (b) record a liability upon its cease-use date in accordance with ASC 420-10. If Company A's policy is to account for the loss on a sublease in accordance with ASC 840-20-25-15, a liability should be recorded on June 30, 20X1 (the execution date of the sublease). The liability should be measured based on the three-year sublease period. On July 31, 20X1, when Company A ceases using the floor, ASC 420-10 applies and the liability would be adjusted to its fair value in accordance with ASC 420-10. The liability would be based on the remaining lease rentals, over the remaining five-year term of the head lease, reduced by actual or estimated sublease rentals at the cease-use date.

If, on the other hand, Company A's policy when permanently exiting a space is to follow ASC 420-10, a loss should not be recorded upon execution of a sublease. Company A would record a liability under ASC 420-10 for the termination of the contract on July 31, 20X1, the cease-use date. Under either accounting policy election, the liability balance under ASC 420-10 would be the same at July 31, 20X1.

The cease-use date is the date Company A physically vacates the space. Only when Company A executes a sublease on the same date it ceases using the space would the execution and cease-use dates coincide.

6.4.4 *Recording other costs related to exit/disposal activities*

ASC 420-10 also applies to other costs associated with an exit or disposal activity, including costs incurred for (1) protecting and maintaining an asset while held for sale, (2) plant closings, and (3) employee or facility relocations. Typically, these costs are not associated with, and will not be incurred to generate revenues following an entity's commitment to a plan, and are incremental to other costs incurred by the entity (i.e., the costs will be incurred as a direct result of that plan).

With respect to other exit costs, irrespective of the direct nature of these costs, ASC 420-10 requires that a liability for such costs only be recognized when they meet the definition of a liability in CON 6, rather than upon commitment to an exit or disposal plan. The primary basis for recognition lies in the present obligation to others based on a requisite past transaction or event. Accordingly, a company's intention, which is reflected in the commitment to a plan, does not in and of itself create a present obligation to others.

ASC 420-10 requires that other costs related to exit or disposal activities be accounted for at fair value (see PPE 6.4.1.2). In addition, ASC 420-10 provides guidance for the subsequent accounting for those costs (see PPE 6.4.1.3).

Although ASC 420-10 does not allow for costs associated with exit or disposal activities to be recognized until incurred, we believe that the criteria included in SAB 100 provide guidance in determining which costs are considered exit-related cost and can be presented and disclosed in the financial statements as restructuring costs. (Note that the term "commitment" (used in the SAB) has been replaced with the term "communication" in the list below, to comply with ASC 420-10.)

- The cost is not associated with or is not incurred to generate revenues after the communication date, and either:
    - The cost is incremental to other costs incurred by the company prior to the communication date and will be incurred as a direct result of an exit plan; or
    - The cost represents amounts to be incurred under a contractual obligation that existed prior to the communication date and will either continue after the exit plan is completed with no economic benefit to the company or be a penalty incurred by the company to cancel the contractual obligation.

For further considerations of the accounting for other exit costs, see Question PPE 6-7, Question PPE 6-8, and Question PPE 6-9.

Question PPE 6-7 (prior to ASC 842)

If a company adopts a restructuring plan that calls for the consolidation of eight facilities into four facilities, can management accrue all costs of consolidating the facilities at the communication date under ASC 420-10?

PwC response

No. Only those costs for which the liability is incurred can be classified as exit costs and should be accrued at fair value at the communication date. For example, costs such as those associated with the relocation of people or equipment, with the disposal of equipment that has no value, or with closing a

facility that is removed from operations, should not be accrued at the communication date. Costs associated with terminating a lease should be recognized and measured at its fair value at the cease-use date, or when the entity terminates the contract in accordance with the contract terms (e.g., when the entity explicitly gives written notice to the counterparty within the notification period specified by the contract, or has otherwise negotiated a termination with the counterparty).

Question PPE 6-8

A company operates 100 retail outlets and has identified the specific location of 60 out of 70 stores that it intends to close pursuant to a store consolidation plan. The exit plan for the 60 stores identifies all significant actions and related costs in budget line item detail. Management believes the average cost to close the additional 10 stores will approximate the average cost of closing the identified 60 stores. Assuming that all other provisions of ASC 420-10 have been met, may the company recognize a liability at the communication date for the exit costs and involuntary termination benefits associated with all 70 stores?

PwC response

No. While recognition of estimated exit costs and involuntary termination benefits for the 60 identified stores is appropriate, the requirements of ASC 420-10 have not been met for the remaining 10 stores.

If the company decides not to close one of the 60 stores in a period following it recognizing the liability, the related accrued exit costs and involuntary employee termination benefits for the one store must be reversed; the liability cannot be maintained in anticipation of the costs expected to be incurred when other stores are identified for closing.

Question PPE 6-9

A company enters into a long-term supply contract with a vendor for a component part previously produced internally. In connection with the contract, the company decides to close one of its plants that produced the component and the vendor agrees to reimburse all plant closing and employee severance costs. The vendor will not purchase any underlying plant assets and the company is not obligated to provide any separate services to or for the vendor such as marketing or advertising services. The vendor simply has agreed to reimburse the company for the costs associated with the closure of the plant as long as the company enters into a supply contract arrangement with the vendor. How should the company account for the vendor's reimbursement of its plant closing and severance costs?

PwC response

The vendor's reimbursement for plant closing and severance cost falls under the scope of ASC 705-20. Cash consideration received by a customer from a vendor is presumed to be a reduction of the prices of the vendor's products or services and should, therefore, be characterized as a reduction of cost of sales when recognized in the customer's income statement, unless the criteria in ASC 705-20 are met. The presumption could not be overcome in this circumstance as the vendor does not receive a distinct benefit (goods or services) in exchange for the consideration. Although there is agreement to reimburse the company for the costs, the reimbursement is for cost associated with the closure of the plant as long as the company enters into a supply contract arrangement with the vendor, not specifically for the sale of the vendor’s products, as contemplated in ASC 705-20-25-1. The last criteria

in ASC 705-20 is also not met, as the reimbursement is not for sales incentives offered to customers by manufacturers.

The company should separately assess the accounting for costs associated with the plant closure under applicable literature (e.g., ASC 420, ASC 712, ASC 715, ASC 450) and the vendor's reimbursement under ASC 705-20, and not as an offset to each other. The vendor's reimbursement should be treated as a reduction of cost of sales over the life of the supply contract entered into between the company and the vendor in this arrangement, as the nature of the incentive is for the company to continue in a supply agreement.

6.4.5 Costs that do not qualify as exit costs under ASC 420-10

Similar to costs that are associated with exit or disposal activities, other costs that are not part of these activities are only recognized as liabilities when incurred. Such costs that are not associated with the one-time termination benefits include, among others, repairs and maintenance, software development, moving, relocation, training (which is not part of a termination benefit), and hiring costs. Examples of costs that do not qualify as exit costs include:

- costs to transition customers to a new product line or service;
- franchisee incentive payments for equipment upgrades;
- costs to modify executory contract arrangements (e.g., license and royalty arrangements, purchase or sales commitments, servicing arrangements); and
- asset impairments for facilities that should follow the guidance in ASC 360-10.

These costs generally do not qualify as exit costs because they are generally incurred in order to benefit future periods. Accordingly, these costs should generally not be included in the presentation and disclosure of costs accounted for under ASC 420-10. As described in ASC 420-10-25-14 and ASC 420-10-25-15 and based on conversations with the SEC staff, employee relocation costs that are incremental and a direct result of an exit plan may be included in the presentation and disclosure of exit and other associated costs under ASC 420-10 if the inclusion of such costs is adequately disclosed (such costs must still be expensed as incurred pursuant to ASC 420-10-25-14 and ASC 420-10-25-15).

For further considerations regarding costs that do not qualify as exit costs, see Question PPE 6-10, Question PPE 6-11, Question PPE 6-12, Question PPE 6-13, and Question PPE 6-14.

Question PPE 6-10

As part of its plan to consolidate manufacturing plants, a company intends to hire 300 individuals for its new facility. The company normally has a good flow of applications to draw from when routinely hiring employees. However, due to time constraints associated with the opening of the new facility, the company has engaged a recruiting firm to assist in the hiring of employees. The company expects that its hiring costs will increase significantly and wants to accrue the incremental amount over its normal hiring costs as part of its restructuring charge. Do such costs qualify as exit costs that can be accrued in accordance with the provisions of ASC 420-10?

PwC response

No. Such costs are related to ongoing or future operations and, therefore, would not qualify as exit costs.

Question PPE 6-11

The company expects to hire 40 hourly people to replace employees who left the company for employment elsewhere when they learned that the facility would be shut down as part of a restructuring plan. The new hires will be responsible for the clerical processing of sales, accounts receivable, and accounts payable at the facility for six months until the facility is shut down. Can the payroll costs of the new hourly hires be accrued as part of a restructuring charge?

PwC response

No. Such costs are associated with the ongoing operations of the company and as such would not be accrued as part of the restructuring charge.

Question PPE 6-12 (prior to ASC 842)

Company A exited its corporate facility on March 31, 20X1 under the terms of its operating lease. The lease agreement requires Company A to return the facility to the lessor in its original leased condition (i.e., the condition of the property at the inception of the lease). There are no significant leasehold improvements added by Company A that need to be removed; however, certain repairs and maintenance activities are required, such as repairing minor damage, painting, and other clean-up activities. Under ASC 420-10, can Company A accrue the estimated costs of repairing the facility as of March 31, 20X1, given its obligation for these costs under the lease?

PwC response

No. Repairs and maintenance costs are not "contract termination costs" as defined by ASC 420-10-25-11. Rather, repairs and maintenance are considered "other associated costs" pursuant to ASC 420-10-25-14. Accordingly, a liability for such costs should be recognized and measured at its fair value in the period in which the liability is incurred, which is generally when the associated activities are performed, even if the costs are incremental to other operating costs and will be incurred as a direct result of a plan to exit. It should also be noted that repairs and maintenance costs are not included in the scope of ASC 420-10-15-3.

Question PPE 6-13 (prior to ASC 842)

Company X ceased operations at its Belgian manufacturing center. Certain assets with a remaining net book value of $350,000 used for production have been dismantled and are being shipped to Brazil where they will be installed in the company's Brazilian plant and used for production. Total cost to relocate this equipment is expected to be $1.5 million. Management expects to use the equipment for five years in Brazil. The total cost of moving the old equipment to Brazil is significantly less than what it would cost to buy new equipment and have it installed.

Should the costs to dismantle, transport, and reassemble the manufacturing equipment be capitalized?

PwC response

No. The costs to dismantle, transport, and reassemble the manufacturing equipment should be expensed as incurred. The costs are for moving the equipment; they do not extend the useful life of the equipment or improve the quantity or quality of goods produced by the equipment. Additionally, a proposed SOP, *Accounting For Certain Costs and Activities Related to Property, Plant and Equipment*, which was approved by FinRec in 2003 but not approved by FASB, addressed the accounting for dismantling, transportation, and reassembly costs. The view expressed in the SOP, while not authoritative, was that the costs described above should be expensed when incurred.

If some of the costs incurred increased the assets' useful life or increased the quantity or quality of units produced, a portion of those costs might be capitalizable and depreciated over the assets' remaining useful life.

Question PPE 6-14 (prior to ASC 842)

Company A operates in the on-line photo business. Company A offers a wide-range of services, including the cloud-based storage of digital pictures, printing hard copies of pictures and printing hard copy picture books for customers. Each of the product lines constitutes a separate division within the company. Company A has an agreement with a sole-source provider ("vendor") to provide the materials utilized in the company's business (e.g., paper, ink, cardboard). As an incentive for Company A, under the firmly committed supply agreement, the vendor agreed to provide significant discounts on the price of future purchases of paper and ink if Company A agreed to also purchase a minimum amount of cardboard every month. There is no termination clause that would allow Company A to buy out of the arrangement, or reduce the amount of cardboard to be purchased per month (i.e., the agreement is non-cancelable).

On January 1, 20X1, the Board of Directors, along with management, enters into a plan to restructure the business and exit the picture book creation business. The company intends to continue to purchase paper and ink from the vendor, but will discontinue the purchase of cardboard. However, according to the agreement, the company is still required to pay for a minimum amount of cardboard per month.

How should Company A account for the remaining contract charges for the minimum required purchases of cardboard?

PwC response

The noncancelable payments for the cardboard under the supply agreement do not constitute exit costs under ASC 420 and, therefore, should be excluded from the restructuring charge. Although Company A will continue to incur the costs of purchasing cardboard without taking delivery (i.e., no future benefit), the company will still receive the discounts on the purchase of paper and ink. The discount constitutes an economic benefit of the contract. As continued economic benefit is derived from the agreement, the costs related to the purchase of the monthly cardboard volumes should be reflected as a component of the costs of purchasing paper and ink on an ongoing basis and reflected in operating profit; if Company A includes a "restructuring" line item in its income statement, it should not include the costs related to the cardboard.

Since the payments to the vendor for the cardboard are made to obtain a discounted price on the paper and ink, a portion of those payments may be allocable to the inventory cost of paper and ink. The guidance in ASC 330 should be considered in determining what would be included as an inventoriable cost.

Chapter 7: Capitalized software—updated March 2021

7.1 Capitalized software—chapter overview

Reporting entities continue to make investments in technologies that include software and software-related services. The accounting guidance for software-related costs is generally modeled after the inventory guidance (for software that is sold to customers) or the fixed assets guidance (for software that is used internally). The guidance also addresses situations where a reporting entity is accessing software through a hosting arrangement and provides criteria to determine whether a reporting entity is obtaining software (an asset) or solely receiving a service.

ASC 985-20, *Software—Costs of Software to Be Sold, Leased, or Marketed,* applies to software development costs of software to be sold, leased, or otherwise marketed as a separate product or embedded within a product or process. The revenue generated from the on-premise software licensed (on a term-based or perpetual basis) is subject to the revenue recognition guidance in ASC 606, *Revenue from Contracts with Customers*. For guidance on accounting for revenue from software to be sold, leased, or otherwise marketed, refer to PwC's *Revenue from contracts with customers* guide. The cost guidance in ASC 985-20 follows an inventory model with respect to what software costs are capitalized and how the costs are eventually derecognized and recognized as cost of revenue or cost of sales.

ASC 350-40, *Intangibles—Goodwill and Other, Internal-Use Software,* applies to software that is acquired, internally developed, or modified to solely meet the reporting entity's internal needs. Software used to provide a service to a customer (for example, through a cloud computing arrangement) is software that is considered to meet an internal need of the service provider and should be accounted for as internal-use software. ASC 350-40 also includes guidance on a customer's accounting for implementation, setup, and other upfront costs (collectively implementation costs) incurred when purchasing a hosting arrangement that is a service contract.

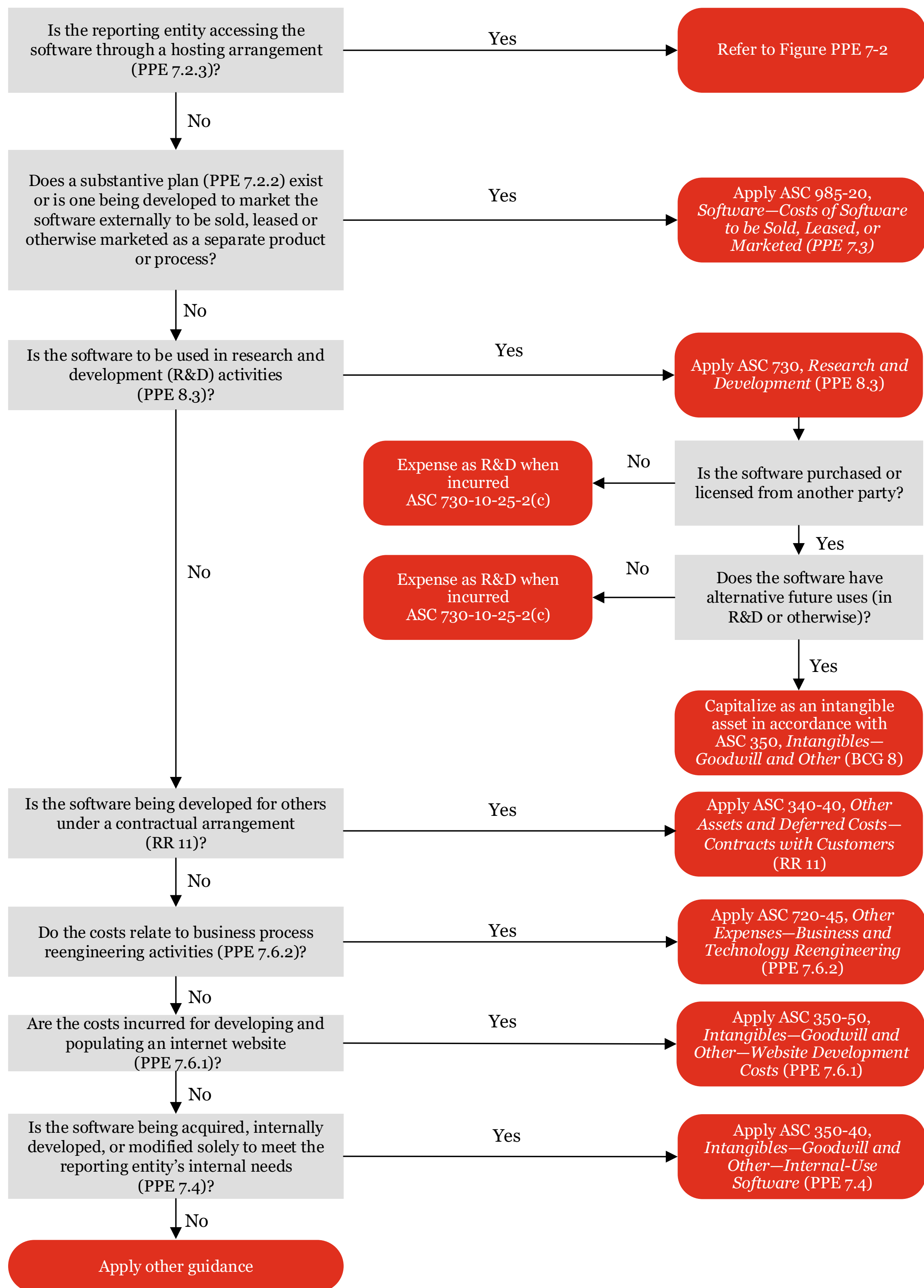
The presentation of software-related costs in the financial statements differs depending on the nature of the costs and how the software will be used. For guidance on the presentation and disclosure of software costs, see FSP 8.8.

7.2 Scope of capitalized software guidance

Specific guidance exists to address accounting for costs related to software that is (1) sold, leased, or otherwise marketed, (2) developed or obtained for internal use, and (3) accessed through a cloud computing arrangement. Other specific types of software costs that could qualify for capitalization, such as website development costs, costs of business process reengineering activities, and costs to develop mobile applications, are described in PPE 7.6.

The decision tree in Figure PPE 7-1 provides a summary for determining the relevant guidance for costs incurred to obtain or develop software.

Figure PPE 7-1
Costs incurred to obtain or develop software decision tree



7.2.1 *Software to be sold, leased, or marketed—scope*

ASC 985-20 establishes the accounting and reporting for the costs of software to be sold, leased, or otherwise marketed as a separate product or as part of a product or process, whether internally developed or purchased. An example of externally marketed software, described in ASC 350-40-15-5, is software embedded in a semiconductor chip that is used as a component of a product that is sold to a customer (e.g., automobile electronic systems). Another example is costs incurred to develop a mobile game to be sold through an app store, which should also be accounted in accordance with ASC 985-20.

Typically, costs related to software that is used by the vendor in the production of a good or for providing a service does not meet the criteria of software to be sold, leased, or otherwise marketed, unless that software is included or part of the actual good or service sold. Software that is not intended to be sold, leased, or otherwise marketed separately or as part of a product should be accounted for in accordance with the guidance for internal-use software in ASC 350-40. Refer to PPE 7.2.2 for further discussion of the distinction between software to be sold, leased, or otherwise marketed and software that is developed or obtained for internal use.

Refer to PPE 7.3 for discussion of the accounting for costs of software to be sold, leased, or otherwise marketed.

7.2.2 *Software developed or obtained for internal use—scope*

ASC 350-40 provides guidance on accounting for the costs of software developed or obtained for internal use.

ASC 350-40-15-2A

Internal-use software has both of the following characteristics:

a. The software is acquired, internally developed, or modified solely to meet the entity's internal needs.

b. During the software's development or modification, no substantive plan exists or is being developed to market the software externally.

A plan to market software externally would be considered substantive if its implementation is reasonably possible. A substantive plan could include the selection of marketing channels with identified promotional, delivery, billing, and support activities. Typically, reporting entities planning to sell or license software externally would have potential customers identified and resources contributed to a salesforce and marketing activities.

A reporting entity should also consider its past practices related to selling software. For example, if the reporting entity has a history of selling software to a third party that was originally being developed to use internally, there is a rebuttable presumption that any software developed by that reporting entity is intended for sale, lease, or other marketing.

ASC 350-40-55-1 provides a list of examples of software developed or obtained for internal use.

ASC 350-40-55-1

The following is a list of examples illustrating when computer software is for internal-use:

a. A manufacturing entity purchases robots and customizes the software that the robots use to function. The robots are used in a manufacturing process that results in finished goods.

b. An entity develops software that helps it improve its cash management, which may allow the entity to earn more revenue.

c. An entity purchases or develops software to process payroll, accounts payable, and accounts receivable.

d. An entity purchases software related to the installation of an online system used to keep membership data.

e. A travel agency purchases a software system to price vacation packages and obtain airfares.

f. A bank develops software that allows a customer to withdraw cash, inquire about balances, make loan payments, and execute wire transfers.

g. A mortgage loan servicing entity develops or purchases computer software to enhance the speed of services provided to customers.

h. A telecommunications entity develops software to run its switches that are necessary for various telephone services such as voice mail and call forwarding.

i. An entity is in the process of developing an accounts receivable system. The software specifications meet the entity's internal needs and the entity did not have a marketing plan before or during the development of the software. In addition, the entity has not sold any of its internal-use software in the past. Two years after completion of the project, the entity decided to market the product to recoup some or all of its costs.

j. A broker-dealer entity develops a software database and charges for financial information distributed through the database.

k. An entity develops software to be used to create components of music videos (for example, the software used to blend and change the faces of models in music videos). The entity then sells the final music videos, which do not contain the software, to another entity.

l. An entity purchases software to computerize a manual catalog and then sells the manual catalog to the public.

m. A law firm develops an intranet research tool that allows firm members to locate and search the firm's databases for information relevant to their cases. The system provides users with the ability to print cases, search for related topics, and annotate their personal copies of the database.

ASC 350-40-55-2 helps clarify the determination by providing a list of examples of software that is not considered developed for internal use.

ASC 350-40-55-2

The following list provides examples of computer software that is not for internal-use:

a. An entity sells software required to operate its products, such as robots, electronic game systems, video cassette recorders, automobiles, voice-mail systems, satellites, and cash registers.

b. A pharmaceutical entity buys machines and writes all of the software that allows the machines to function. The pharmaceutical entity then sells the machines, which help control the dispensation of medication to patients and help control inventory, to hospitals.

c. A semiconductor entity develops software embedded in a microcomputer chip used in automobile electronic systems.

d. An entity purchases software to computerize a manual catalog and then sells the computer version and the related software to the public.

e. A software entity develops an operating system for sale and for internal-use. Though the specifications of the software meet the entity's internal needs, the entity had a marketing plan before the project was complete. In addition, the entity has a history of selling software that it also uses internally and the plan has a reasonable possibility of being implemented.

f. An entity is developing software for a point-of-sale system. The system is for internal-use; however, a marketing plan is being developed concurrently with the software development. The plan has a reasonable possibility of being implemented.

g. A telecommunications entity purchases computer software to be used in research and development activities.

h. An entity incurs costs to develop computer software for another entity under a contract with that other entity.

In practice, the primary consideration for determining whether software is developed or obtained for internal use is whether the software will ultimately be transferred and sold to a customer (either on its own or integrated as part of a product). If the software is transferred to a customer, it is generally not considered to have been developed solely to meet the reporting entity's internal needs (and, therefore, is not internal-use software), unless the only purpose of the software is to connect to and receive a service from the vendor. Two contrasting examples of internal-use software and software to be sold, leased, or otherwise marketed in the context of mobile applications are included in PPE 7.6.3.

A reporting entity providing software-as-a-service (SaaS) or similar services to a customer that does not meet the conditions in ASC 350-40-15-4A (see PPE 7.2.3) is only providing a service and is not licensing software to its customers. Thus, the reporting entity should apply the guidance in ASC 350-40 to software costs.

Refer to PPE 7.4 for discussion of the accounting for costs of internal-use software.

7.2.3 Cloud computing arrangements–scope

A cloud computing arrangement (CCA) includes software-as-a-service and other SaaS-type services, including platform as a service, infrastructure as a service, and other hosting arrangements. "Hosting" refers to situations in which the end user does not take possession of the software; instead, the software resides on the vendor's or a third party's hardware, and the customer accesses the software remotely. Some CCAs include a traditional license to the software in addition to the remote service. It is important to determine whether the CCA includes a software license in addition to the service or if it is only a service. If the below criteria are not met (regardless of whether a CCA contains a contractual software license), the CCA is only a service.

ASC 350-40-15-4A states that a CCA includes a software license if the customer:

- Has the contractual right to take possession of the software at any time during the hosting period without significant penalty (i.e., the penalty, monetary or nonmonetary, is sufficiently significant to disincentivize the customer from taking possession of the software), and

- It is feasible for the customer to either run the software on its own hardware or contract with a third party unrelated to the vendor to host the software.

The phrase "without significant penalty" refers to the ability to (1) take delivery of the software without incurring significant cost and (2) use the software separately without a significant diminution in utility or value. "Diminution" generally refers to a reduction in the size, extent, or importance of the software, such as losses in feature, function, processing speed, or computing power. Determining whether the customer is taking possession of the software without significant penalty requires judgment. We believe that "at any time during the hosting period" is generally equivalent with "all the time or at every point during the hosting period."

If the CCA meets both of the above criteria, it includes a software license in addition to the hosting service. Refer to PPE 7.4.4 for guidance on costs incurred for multi-element software arrangements. The software license costs could be in the scope of the internal-use software or software to be sold, leased, or otherwise marketed guidance, depending on the reporting entity's use of the software. Refer to PPE 7.2.1 and PPE 7.2.2 for discussion of scoping consideration for software costs.

A CCA not meeting both of the above criteria should be accounted for solely as a service contract. The implementation costs of a CCA are subject to the internal-use software guidance, as discussed in PPE 7.5. The ongoing cost for the CCA services is expensed as the service is received similar to other service contracts.

7.3 Software to be sold, leased, or marketed

ASC 985-20 applies to development costs for software that the vendor intends to sell, lease, or otherwise market separately or as part of a product. The cost guidance in ASC 985-20 follows an inventory model with respect to what software costs are capitalized and how the costs are eventually derecognized and recognized as cost of revenue or cost of sales. Costs incurred are capitalized once technological feasibility is reached, and capitalization of costs ceases when the product is available for general release.

For guidance on the presentation and disclosure of software to be sold, leased, or otherwise marketed, see FSP 8.8.

7.3.1 *Establishing technological feasibility*

Except when acquired in a business combination, ASC 985-20-25-1 requires that all costs incurred to establish the technological feasibility of software to be sold, leased, or otherwise marketed be charged to expense as research and development (R&D) when incurred. Refer to PPE 8.3 for additional discussion on R&D costs. Refer to BCG 4 for additional information on intangible assets acquired in a business combination.

Technological feasibility "is established when the entity has completed all planning, designing, coding, and testing" necessary to determine that the product will meet its design specifications, including functions, features, and technical performance specifications. Once technological feasibility has been established, subsequent costs should be capitalized until the software begins to be marketed.

Technological feasibility is a critical determination for the accounting for software to be sold, leased, or otherwise marketed to others. The two criteria for establishing technological feasibility are discussed in ASC 985-20-25-2.

ASC 985-20-25-2

For purposes of this Subtopic, the technological feasibility of a computer software product is established when the entity has completed all planning, designing, coding, and testing activities that are necessary to establish that the product can be produced to meet its design specifications including functions, features, and technical performance requirements. At a minimum, the entity shall have performed the activities in either (a) or (b) as evidence that technological feasibility has been established:

a. If the process of creating the computer software product includes a detail program design, all of the following:

   1. The product design and the detail program design have been completed, and the entity has established that the necessary skills, hardware, and software technology are available to the entity to produce the product.

   2. The completeness of the detail program design and its consistency with the product design have been confirmed by documenting and tracing the detail program design to product specifications.

   3. The detail program design has been reviewed for high-risk development issues (for example, novel, unique, unproven functions and features or technological innovations), and any uncertainties related to identified high-risk development issues have been resolved through coding and testing.

b. If the process of creating the computer software product does not include a detail program design with the features identified in (a), both of the following:

   1. A product design and a working model of the software product have been completed.

   2. The completeness of the working model and its consistency with the product design have been confirmed by testing.

See PPE 7.3.1.1 and PPE 7.3.1.2 for further details on the two criteria described above in ASC 985-20-25-2.

As ASC 985-20-25-2 indicates, technological feasibility is established through completion of a detailed program design or a working model. This is not an accounting policy election. Rather, which milestone establishes technological feasibility is a function of the reporting entity's software development process for each project.

In practice, the process of establishing when technological feasibility occurs is varied. Many software companies do not have significant capitalized software because they define technological feasibility as the creation of a working model, which often occurs late in the development cycle. ASC 985-20-55-7 addresses how to determine technological feasibility when a product comprises various modules.

ASC 985-20-55-7

When a product comprises various modules that are not separately saleable, technological feasibility is established for the product as a whole, not on a module-by-module basis. The detail program design or the working model of the entire product (all modules linked together) must be completed before capitalization.

7.3.1.1 Technological feasibility supported by detailed program design

As detailed in ASC 985-20-25-2, in order to achieve technological feasibility by reference to a detailed program design, the product design must be complete, all resources necessary to produce the product must be available, the completeness of the detailed program design must have been confirmed by documenting and tracing to product specifications, and all high-risk development issues must have been resolved through coding and testing.

In the unusual case when a high-risk development issue arises after management has established technological feasibility, the provisions of ASC 250-10-45-17 for changes in accounting estimates would apply to the previously capitalized costs, as well as the costs to resolve any high-risk development issue. Any previously capitalized costs for that product, as well as any additional costs incurred to re-establish technological feasibility, should be charged to expense as research and development costs.

Detailed program design requirements are generally not met simply by a chart outlining work plan tasks or an overview flowchart or diagram of the product. Conceptually, a detailed program design is analogous to an engineering blueprint.

In each development environment, the form of a detailed program design will vary; however, it should typically include:

- A detailed description of product specifications (the product design)

- Detailed program design and detailed flowcharts documenting the program procedures, data flow, and interaction with other applications. This documentation should take product function, feature, and technical requirements to their most detailed, logical form and should be ready for coding.

- Documentation of the consideration and resolution of high-risk development issues through coding and testing

- Actual coding and testing of specific program sections, when warranted

Once technological feasibility has been attained by development of an appropriately detailed program design, capitalization of software costs should begin. In other words, reporting entities cannot elect to delay capitalization until a working model has been completed. Refer to PPE 7.3.1.2 for further details on technological feasibility supported by a working model.

7.3.1.2 *Technological feasibility supported by a working model*

If the working model approach is used (i.e., when the development process does not include a detail program design with the characteristics described in PPE 7.3.1.1), ASC 985-20 requires that the completeness of the working model and its consistency with the product design be confirmed by testing before capitalization begins. A working model is not the same as a prototype; a working model is typically available only near the end of the development process and is generally the beta testing version of the software.

Definition from ASC Master Glossary

Working Model: An operative version of the computer software product that is completed in the same software language as the product to be ultimately marketed, performs all the major functions planned for the product, and is ready for initial customer testing (usually identified as beta testing).

7.3.2 *Types of capitalizable costs for externally marketed software*

ASC 985-20 states that all costs incurred to establish technological feasibility of a software product must be charged to expense. Once technological feasibility is established, subsequent costs that directly relate to the project should be capitalized until the product is available for general release to customers. This is when the externally marketed software or the product which contains the externally marketed software is available for purchase. ASC 985-20-25-2 through ASC 985-20-25-5 discusses the types of costs that should be capitalized once technological feasibility is established. These costs include costs to perform coding and testing activities, including employee costs directly associated with those tasks. Both direct and indirect costs, such as overhead related to programmers and the dedicated computer hardware and systems they utilize, would qualify for capitalization. However, an allocation of general and administrative expenses would not be appropriate because those costs are not directly related to the project.

Question PPE 7-1 addresses whether a reporting entity could elect to expense all software development costs incurred.

Question PPE 7-1

May a reporting entity elect to expense all software development costs?

PwC response

No. A reporting entity should capitalize those costs that meet the criteria of ASC 985-20 for capitalization (or ASC 350-40 for internal-use software). However, in practice, many reporting entities utilize the working model to establish technological feasibility for software, which generally results in technological feasibility being established later than under the detailed program design approach. As a result, the working model approach usually results in a shorter capitalization window and the costs to be capitalized during this period may be immaterial.

7.3.3 Purchased software to be externally marketed

The cost of purchased software to be sold, leased, or otherwise marketed that has no alternative future use is accounted for in the same manner as costs incurred to develop such software internally (unless it is acquired in a business combination). See BCG 4 for information on in-process research and development assets acquired in a business combination. If technological feasibility of the product to be ultimately marketed has been established, the cost should be capitalized; if technological feasibility has not been established, the costs are R&D expenses until technological feasibility is established.

If the purchased software, acquired before technological feasibility was established, has an alternative future use, the cost should be capitalized when acquired and accounted for in accordance with its alternative use. However, the amount capitalized would be limited to the amount realizable from the alternative future use. This scenario is described in ASC 985-20-55-14.

ASC 985-20-55-14

An entity may purchase software before technological feasibility has been established. For example, an entity purchases software for $100,000 that can be resold for $75,000. The amount of $25,000 would be charged to research and development, and $75,000 would be capitalized. If the software product reached technological feasibility, the $75,000 would be included in the cost of the software product. If the technological feasibility of the software was never established, the $75,000 would be classified as inventory.

7.3.4 Amortization of capitalized cost of externally marketed software

Amortization of software should commence when the product is available for general release to customers. The method of amortizing costs capitalized for software to be sold, leased, or otherwise marketed to others is discussed in ASC 985-20-35-1 through ASC 985-20-35-2.

ASC 985-20-35-1

Capitalized software costs shall be amortized on a product-by-product basis. The annual amortization shall be the greater of the amounts computed using the following:

a. The ratio that current gross revenues for a product bear to the total of current and anticipated future gross revenues for that product.

b. The straight-line method over the remaining estimated economic life of the product including the period being reported on.

ASC 985-20-35-2

Because a net realizable value test, which considers future revenues and costs, must be applied to capitalized costs (see paragraph ASC 985-20-35-4), amortization shall be based on estimated future revenues. In recognition of the uncertainties involved in estimating revenue, amortization shall not be less than straight-line amortization over the product's remaining estimated economic life.

The straight-line computation is the minimum annual amortization. Because the requirement is to use the greater of the amortization calculated using the ratio method or the straight-line amount, changing between the methods to meet this requirement is not considered a change in accounting principle. However, if comparability is materially impacted, disclosure may be appropriate.

Example PPE 7-1, Example PPE 7-2, and Example PPE 7-3 illustrate the calculation of software amortization.

EXAMPLE PPE 7-1

Software amortization example – year 1

PPE Corp has capitalized costs associated with software to be sold in accordance with ASC 985-20. At the beginning of 20X1, PPE Corp has capitalized $100 of software costs and has determined that amortization should begin because the product is available to customers.

PPE Corp estimates $625 of revenue to be recorded over the software's 5-year economic life. PPE Corp expects the revenue to be recorded as follows:

20X1	$100
20X2	$150
20X3	$200
20X4	$100
20X5	$75
Total	**$625**

During 20X1, PPE Corp recorded revenue of $100 (which is in line with its expectation). PPE Corp's future revenue projections are unchanged.

What is PPE Corp's amortization expense for 20X1?

Analysis

ASC 985-20-35-1 indicates that amortization should be the greater of (1) the ratio that current gross revenues for a product bear to the total of current and anticipated future gross revenues for that

product or (2) the straight-line method over the remaining estimated economic life of the product including the period being reported on.

Those amounts would be calculated as follows.

Ratio Method: ($100 current year revenue / ($100 current year revenue + $525 anticipated future revenue)) × $100 capitalized software = $16

Straight-Line Method: $100 / 5 years = $20

As a result, during 20X1, PPE Corp should record amortization of $20.

EXAMPLE PPE 7-2

Software amortization example – year 2

PPE Corp has capitalized costs associated with software to be sold in accordance with ASC 985-20. At the beginning of 20X1, PPE Corp has capitalized $100 of software costs and has determined that amortization should begin because the product is available to customers.

PPE Corp estimates $625 of revenue to be recorded over the software's 5-year economic life. PPE Corp expects the revenue to be recorded as follows:

20X1	$100
20X2	$150
20X3	$200
20X4	$100
20X5	$75
Total	**$625**

During 20X2, PPE Corp exceeds budget and records revenue of $325. Additionally, PPE Corp revises its future revenue projections as follows:

20X3	$350
20X4	$200
20X5	$125
Total	**$675**

What is PPE Corp's amortization expense for 20X2?

Analysis

At the beginning of 20X2, PPE Corp had unamortized capitalized software of $80 ($100 cost less $20 amortization in 20X1). PPE Corp would determine amortization expense in 20X2 as follows.

Ratio Method: ($325 current year revenue / ($325 current year revenue + $675 anticipated future revenue)) × $80 unamortized capitalized software = $26

Straight-Line Method: $80 / 4 years = $20

As a result, during 20X2, PPE Corp would record amortization of $26.

EXAMPLE PPE 7-3

Software amortization example – year 3

PPE Corp has capitalized costs associated with software to be sold in accordance with ASC 985-20. At the beginning of 20X1, PPE Corp has capitalized $100 of software costs and has determined that amortization should begin because the product is available to customers.

PPE Corp estimates $625 of revenue to be recorded over the software's 5-year economic life. PPE Corp expects the revenue to be recorded as follows:

20X1	$100
20X2	$150
20X3	$200
20X4	$100
20X5	$75
Total	**$625**

During 20X3, PPE Corp does not meet budget and records revenue of $125. However, PPE Corp estimates that revision of its anticipated future revenue is not required, which are as follows:

Year 4	$200
Year 5	$125
Total	**$325**

What is PPE Corp's amortization expense for 20X3?

Analysis

At the beginning of 20X3, PPE Corp had unamortized software capitalized cost of $54 ($100 less accumulated depreciation of $46). PPE Corp would determine amortization expense in 20X3 as follows.

Ratio Method: ($125 current year revenue / ($125 current year revenue + $325 anticipated future revenue)) × $54 unamortized capitalized software = $15

Straight-Line Method: $54 / 3 years = $18

As a result, during 20X3, PPE Corp would record amortization of $18.

7.3.5 Impairment of capitalized cost of externally marketed software

The impairment test for software to be sold, leased, or otherwise marketed follows the net realizable value (NRV) test described in ASC 985-20-35-4. Considerations when estimating future revenues for the purposes of the NRV test are explored in Question PPE 7-2 and Question PPE 7-3.

ASC 985-20-35-4

At each balance sheet date, the unamortized capitalized costs of a computer software product shall be compared to the net realizable value of that product. The amount by which the unamortized capitalized costs of a computer software product exceed the net realizable value of that asset shall be written off. The net realizable value is the estimated future gross revenues from that product reduced by the estimated future costs of completing and disposing of that product, including the costs of performing maintenance and customer support required to satisfy the entity's responsibility set forth at the time of sale. The reduced amount of capitalized computer software costs that have been written down to net realizable value at the close of an annual fiscal period shall be considered to be the cost for subsequent accounting purposes, and the amount of the write-down shall not be subsequently restored.

The NRV test is required to be performed at each balance sheet date. ASC 985-20 indicates that the unamortized capitalized costs to be used for subsequent accounting purposes (i.e., subsequent NRV tests) is the amount determined by the NRV test performed at the close of the previous annual fiscal period. Thus, capitalized costs that are written down to NRV during an interim period may be written back up during that same fiscal year to an amount not to exceed the current year write-down. Any adjustments to subsequently restore write-downs should be recorded in the interim period in which the revised estimates of future gross revenues are made; previously reported interim amounts should not be restated.

If it is no longer probable the software will be completed, the asset should be written down to the lower of cost or fair value less cost to sell. If the software will be completed but will not include all of the features included in the original product design, the lower of cost or fair value model does not need to be applied as long as the product will continue to be saleable without the omitted features. However, the capitalized costs would still be subject to a net realizable value test, which may require write-down based on changes in projected revenue as a result of the modified features.

Question PPE 7-2 addresses the type of revenues that should be included in the NRV test.

Question PPE 7-2

In performing the NRV test, may estimated future revenues include both revenues from sales of products and post-contract customer support (PCS) revenues?

PwC response

Yes. ASC 985-20-35-4 states that the future gross revenues from the product should be used in applying the NRV test. The product's future revenues should be reduced by the estimated future costs of completing and disposing of the product, including maintenance and other PCS.

PCS revenues are often intended to recover not only capitalized costs, but also to fund the future development of upgrades and enhancements covered by the PCS arrangement. In applying the NRV test, it would be appropriate to include PCS revenues that have a capitalized cost recovery element. However, if PCS revenues are included in the test, then those revenues should be reduced by the expected future costs of completing the upgrades or enhancements covered by the PCS arrangement. Future costs should include all costs that will be incurred to support the PCS arrangement and the costs of any upgrades that will be provided to the customer.

Question PPE 7-3 addresses whether the revenue projections included in the NRV test should be discounted.

Question PPE 7-3

In performing the NRV test, should the estimated future gross revenues be discounted to their present value?

PwC response

No. ASC 985-20 does not discuss the discounting of gross revenues (unlike Step 2 in the impairment test for long-lived assets under ASC 360-10, *Property, Plant, and Equipment—Overall* which requires discounting). Conceptually, costs of software to be sold, leased, or otherwise marketed are similar to inventory costs for non-software products. ASC 330-10, *Inventory—Overall* does not discuss the discounting of inventory when performing the net realizable value test. As such, the NRV test for software to be sold, leased, or otherwise marketed should be performed on an undiscounted basis.

7.3.6 Costs incurred after general release to customers

Judgment will be required to determine whether additional costs incurred after general release to customers relate to product enhancements or maintenance and customer support. Product enhancements are explicitly included in the scope of ASC 985-20 and may qualify for cost capitalization; maintenance and customer support are generally charged to expense when those costs are incurred.

The evaluations of whether costs are incurred relate to maintenance or enhancements is similar to that used for capital improvements. In general, costs for elements that can be marketed separately or create a new revenue stream can be capitalized as a product enhancement. For example, if a reporting entity commits to maintaining compatibility between its systems software and the related hardware, the costs of doing so would generally meet the definition of maintenance. However, if an existing

product is modified to run on a different type of hardware, thereby expanding the market for the product, this activity would generally be classified as product enhancement. Costs relating to product enhancement should be charged to expense until the technological feasibility of the enhancement is established. Once established, capitalization and amortization of the product enhancement costs over the estimated life of the enhancement would be required.

Software or data modifications are minor changes in either the software or data. The changes are not considered product enhancements, since they do not extend the life or improve the marketability of the product. They usually relate to a specific customer's application of the product and would not require a product design.

Technological feasibility may be more easily established for a product enhancement than for a new product, and capitalization of costs may, therefore, begin relatively earlier in the software development process. For example, an enhancement that adds one function to an already successful product may require only minor modifications to the original product's detailed program design to establish technological feasibility. Similarly, in some cases, software that is ported (made available for a different piece of hardware or operating system) may not require a new detailed program design; thus, capitalization of the enhancement costs may begin once any high-risk development issues have been resolved.

7.3.6.1 Amortization of software product enhancement costs

Once a product enhancement has been completed, if the original product will no longer be separately marketed, any unamortized cost of the original product should be included with the cost of the enhancement for purposes of applying the NRV test and amortization provisions. If the original product will remain on the market along with the enhancement, an allocation of the unamortized cost of the original product between the original product and the enhancement will be necessary.

In other words, depending on whether the original product will remain on the market, two methods are commonly used in practice for the amortization of product enhancement costs. The first method, often referred to as the “vintage” method, is used when the original product will continue to be available. In this method, the costs of the initial product and the product enhancement are amortized separately. The initial software would continue to be amortized over its remaining useful life while the enhancement would be separately tracked and amortized over its own remaining useful life.

The second method, often referred to as the “carryover” method, is utilized when the original product will no longer be marketed separately. This method of amortization cannot be applied to other types of assets. Under the carryover method, the costs of the enhancement are added to the unamortized costs of the previous version and the combined amount is amortized over the remaining useful life of the new product. The estimated useful life of a product enhancement should be determined without reference to the estimated future revenue or economic life of the original product.

Amortization of the costs of an enhancement that will be separately marketed follows the same model used for the original product. Refer to PPE 7.3.4 for additional information on amortization.

7.3.7 Software not sold, leased, or marketed as a discrete product

ASC 985-20 establishes technological feasibility as the threshold before software costs can begin to be capitalized. However, when the software is sold as firmware (i.e., embedded in a product and sold as

part of the product as a whole), establishing technological feasibility of the software component is not sufficient. The accounting for software that is integral to the product is addressed in ASC 985-20-25-4.

ASC 985-20-25-4

Software production costs for computer software that is to be used as an integral part of a product or process shall not be capitalized until both of the following conditions have been met:

a. Technological feasibility has been established for the software.

b. All research and development activities for the other components of the product or process have been completed.

For an integrated product, even if technological feasibility has been established, software development costs should be expensed as incurred until all research and development for the integrated product are complete. For example, software may be developed that will be embedded in a semiconductor that in turn will be incorporated into a specific piece of hardware. If the semiconductor is not marketable as a stand-alone product, even though the technological feasibility of the software is evident, further software costs would continue to be subject to accounting under ASC 730, *Research and Development*, until the related hardware in which it will be sold is no longer in the development stage. That may occur well after the point at which the software reached technological feasibility.

This same notion is embodied in ASC 985-20-55-7, which addresses a software product that comprises various modules that are not sold separately (as discussed in PPE 7.3.1), and concludes that technological feasibility must be established for the product as a whole, not on a module-by-module basis. Consistent with ASC 985-20-25-2, the detail program design or the working model of the entire product (all modules linked together) must be completed before software costs can be capitalized.

7.4 Software developed or obtained for internal use

ASC 350-40 provides the guidance for software developed or obtained for internal use. The cost guidance in ASC 350-40 is similar to the cost guidance for other long-lived assets with respect to what costs are capitalized and how the costs are subsequently amortized and tested for impairment.

A software license purchased for internal use should be accounted for as an asset for the acquisition of an intangible and a liability, to the extent any or all of the software licensing fees are still outstanding on the acquisition date of the license. The intangible asset acquired should be recognized and measured in accordance with ASC 350-30, *Intangibles—Goodwill and Other—General Intangibles Other than Goodwill*. See BCG 8.

If a reporting entity is developing, modifying, or implementing software for internal use, the assessment of whether costs should be expensed or capitalized depends on the project stage during which the costs are incurred. The guidance describes the development of internal-use software as having three stages:

- Preliminary project (refer to PPE 7.4.1)

- Application development (refer to PPE 7.4.2)

- Post-implementation/operation (refer to PPE 7.4.3)

Only costs incurred during the application development stage are eligible for capitalization.

When the software development process does not follow the same order as outlined above, reporting entities should apply the guidance in ASC 350-40 based on the nature of the costs incurred. For example, an agile or iterative software development approach may not have the distinct project stages contemplated in ASC 350-40. In that case, the reporting entity should apply judgment to categorize costs based on the activities being performed (e.g., coding or testing). See PPE 7.4.1 through PPE 7.4.3 for a description of each project stage and examples of activities associated with each stage.

For guidance on the presentation and disclosure of software developed or obtained for internal use, see FSP 8.8.

7.4.1 Accounting for costs in the preliminary project stage

The first stage of development described in ASC 350-40-25 is the preliminary project stage.

Definition from ASC Master Glossary

Preliminary Project Stage: When a computer software project is in the preliminary project stage, entities will likely do the following:

a. Make strategic decisions to allocate resources between alternative projects at a given point in time. For example, should programmers develop a new payroll system or direct their efforts toward correcting existing problems in an operating payroll system?

b. Determine the performance requirements (that is, what it is that they need the software to do) and systems requirements for the computer software project it has proposed to undertake.

c. Invite vendors to perform demonstrations of how their software will fulfill an entity's needs.

d. Explore alternative means of achieving specified performance requirements. For example, should an entity make or buy the software? Should the software run on a mainframe or a client server system?

e. Determine that the technology needed to achieve performance requirements exists.

f. Select a vendor if an entity chooses to obtain software.

g. Select a consultant to assist in the development or installation of the software.

The following activities are considered to be within the preliminary project stage:

- Conceptual formulation of ideas and alternatives
- Evaluation of alternatives
- Determination of existence of needed technology

- Final selection of alternatives

These costs are generally incurred in the early stages of a project, when the reporting entity is exploring its technological needs and exploring various alternatives.

Internal and external costs incurred during the preliminary project stage should be expensed as incurred.

7.4.2 *Accounting for costs in the application development stage*

Once the preliminary project phase has been completed, the next stage of development described in ASC 350-40-25 is the application development stage. This stage is the period between when the preliminary project phase ends (once the specifics of the software have been decided and the software is being developed) and prior to the software being completed and ready for its intended use.

The following activities are considered to be within the application development stage:

- Design of chosen path, including software configuration and interfaces
- Coding
- Installation of hardware
- Testing, including parallel processing

During this stage, some costs should be capitalized while other costs should be expensed as incurred. ASC 350-40-30-1 specifies the types of costs that can be capitalized.

ASC 350-40-30-1

Costs of computer software developed or obtained for internal-use that shall be capitalized include only the following:

a. External direct costs of materials and services consumed in developing or obtaining internal-use computer software. Examples of those costs include but are not limited to the following:

   1. Fees paid to third parties for services provided to develop the software during the application development stage
   2. Costs incurred to obtain computer software from third parties
   3. Travel expenses incurred by employees in their duties directly associated with developing software.

b. Payroll and payroll-related costs (for example, costs of employee benefits) for employees who are directly associated with and who devote time to the internal-use computer software project, to the extent of the time spent directly on the project. Examples of employee activities include but are not limited to coding and testing during the application development stage.

c. Interest costs incurred while developing internal-use computer software. Interest shall be capitalized in accordance with the provisions of Subtopic 835-20.

The following types of costs are expensed as incurred, even during the application development stage:

- Training costs
- Data conversion costs (such as employee time spent physically converting data), except for costs to develop or obtain software that allows for access or conversion of old data by new systems. The process of data conversion from an old system to a new one may include purging or cleansing existing data, reconciling the data in the old and new systems, creating new or additional data, and converting old data to the new system.
- General and administrative costs and overhead costs

If the reporting entity suspends substantially all of the software development activities, interest capitalization should cease until activities are resumed.

In summary, costs that are directly correlated to the actual development of the software application should be capitalized, while indirect costs related to the software development (e.g., data conversion, general and administrative, overhead) should be expensed as incurred during the application development stage.

Capitalization of qualifying costs during the application development stage should begin when both of the following occur:

- The preliminary project phase is completed, and
- Management, with the relevant authority, implicitly or explicitly authorizes and commits to funding a project and it is probable that the project will be completed and the software will be used to perform the function intended (e.g., execution of a contract with a third party, approval of expenditures related to internal development, or a commitment to obtain software from a third party).

Capitalization should cease no later than the point at which a software project is substantially completed and ready for its intended use. Software is ready for its intended use after all substantial testing is completed. This may occur before the software is placed in service.

If it is no longer probable that a software project will be completed and placed into service, costs should no longer be capitalized. At that point, the software should be assessed for impairment. Refer to PPE 7.4.6 for additional discussion on the impairment of capitalized internal-use software.

7.4.3 Costs incurred in the post-implementation/operation stage

The next stage of development described in ASC 350-40-25, the post-implementation/operation stage, begins when the internal-use software is ready for its intended use. During this stage, all internal and external training and routine maintenance costs should be expensed as incurred.

7.4.3.1 Accounting for internal-use software upgrades and enhancements

In contrast to maintenance costs (which are expensed as incurred during the post implementation/operation stage), the accounting for specified upgrades and enhancements to internal-use software should follow the same accounting model as that used for new internal-use software (i.e., qualifying costs for the upgrade/enhancement should be capitalized during the application development stage), provided it is probable that the expenditures will result in additional functionality. Additional functionality means that the software modifications enable the software to perform tasks that it previously was not capable of performing. Software enhancement costs incurred that extend the useful life of the software product may qualify for capitalization. ASC 350-40-25-10 indicates that if reporting entities cannot separate costs on a reasonable basis between maintenance and relatively minor upgrades and enhancements, the costs should be expensed as incurred.

7.4.4 Costs incurred for multi-element software arrangements

A reporting entity may enter into a contract with a third party that includes multiple elements, such as a software license, implementation services, hosting services, and training. The consideration paid to the third party should be allocated to each element based on its relative standalone price. After allocation, the accounting for each element (e.g., whether the costs should be capitalized or expensed) will depend on the nature of the cost incurred.

ASC 350-40-30-4 provides guidance on allocating costs to multiple elements in an arrangement.

ASC 350-40-30-4

Entities may purchase internal-use computer software from a third party or may enter into a hosting arrangement. In some cases, the price includes multiple elements, such as the license or hosting, training for the software, maintenance fees for routine maintenance work to be performed by the third party, data conversion costs, reengineering costs, and rights to future upgrades and enhancements. Entities shall allocate the cost among all individual elements. The allocation shall be based on the relative standalone price of the elements in the contract, not necessarily separate prices stated within the contract for each element. Those elements included in the scope of this Subtopic shall be accounted for in accordance with the provisions of this Subtopic.

The concept of "relative standalone price" is similar to the concept of "relative standalone selling price" described in ASC 606 (see RR 5.2 and RR 5.3). It represents the price at which a reporting entity would purchase an element of a contract separately. Determining the relative standalone price of the various elements in the contract may require the use of estimates. Management should consider all relevant information, such as information from the negotiation process with the vendor, in estimating the standalone price. A reporting entity should not assume that the price stated within the contract represents the standalone price.

In some arrangements, a reporting entity may pay a third party one monthly payment for services received under a cloud computing arrangement (see PPE 7.5). A reporting entity should consider whether the monthly fee includes payment for upfront services, such as implementation services, and allocate the consideration accordingly.

Example PPE 7-4 illustrates the accounting for the different elements within a multi-element software arrangement.

EXAMPLE PPE 7-4

Accounting for the elements within a multi-element software arrangement

Data Analytics Co enters into an agreement with Software Co to license on-premise data analytics software. The contract also includes routine maintenance of the software and training for employees of Data Analytics Co. Additionally, Data Analytics Co engages the same vendor to perform data migration and configuration services as part of implementing the new software. The total contract price is $101,000.

Software Co offers the software and maintenance services separately for $84,000 and $10,500, respectively. Software Co does not offer the training, data conversion, and configuration services separately; however, Data Analytics Co obtained information about pricing from other vendors in the vendor selection process. Data Analytics Co uses this information to estimate standalone prices for the training, data conversion, and configuration of $8,000, $10,000, and $4,500, respectively.

What is the appropriate accounting for each element in the agreement by Data Analytics Co?

Analysis

Data Analytics Co should allocate the contract price of $101,000 to each of the elements in the contract based on their relative standalone price.

Software license:	$72,513	($101,000 x ($84,000 / $117,000))
Maintenance:	$9,064	($101,000 x ($10,500 / $117,000))
Training:	$6,906	($101,000 x ($8,000 / $117,000))
Data conversion:	$8,632	($101,000 x ($10,000 / $117,000))
Configuration:	$3,885	($101,000 x ($4,500 / $117,000))

The amounts allocated to the on-premise software license, as well as the configuration services, should be capitalized in accordance with internal-use software guidance. The amount allocated to maintenance, training, and data conversion services should be expensed as incurred. If Data Analytics Co prepays for these services, they should be initially recognized as a prepaid expense.

7.4.5 *Amortization of capitalized internal-use software*

Capitalized internal-use software costs should be amortized over the estimated useful life of the software, generally on a straight-line basis, unless another systematic and rational basis is more

representative of the software's use. ASC 350-40-35-5 provides the factors to consider in determining the appropriate life.

ASC 350-40-35-5

In determining and periodically reassessing the estimated useful life over which the costs incurred for internal-use computer software will be amortized, entities shall consider the effects of all of the following:

a. Obsolescence

b. Technology

c. Competition

d. Other economic factors

e. Rapid changes that may be occurring in the development of software products, software operating systems, or computer hardware and whether management intends to replace any technologically inferior software or hardware.

Given the history of rapid changes in technology, software often has had a relatively short useful life.

Amortization of internal-use software should begin when the software is ready for its intended use, regardless of whether the software has actually been placed in service. As discussed in PPE 7.4.2, software is ready for its intended use after all substantial testing is completed.

Commencement of amortization should be assessed at the module or component level. ASC 350-40-15-2 provides an example of an accounting software system that contains separate modules, including a general ledger, an accounts payable subledger, and an accounts receivable subledger. In this example, each element might be viewed as a module of the entire accounting software system.

When the functionality of a software module is entirely dependent on the completion of other modules (that are not yet designed, but for which completion is probable), amortization should not begin until all of the modules on which functionality is dependent are ready for their intended use.

Question PPE 7-4 addresses when amortization should begin on a developed software module that is not dependent on the completion of other modules.

Question PPE 7-4

Company A begins to use software that it developed and is functional on a standalone basis. Company A plans to develop four additional modules that will provide additional functionality to the software. When should amortization begin on the developed software module?

PwC response

Because the initial software module has standalone functionality that is not dependent on the completion of the other modules, amortization should begin when the initial software module is completed and ready for its intended use.

7.4.6 Impairment of capitalized internal-use software

Internal-use software assets generally should be tested for impairment in accordance with the guidance in ASC 360-10-35 related to the impairment of long-lived assets. This guidance applies to software that has been developed (or is probable of being completed). See PPE 5 for more information on long-lived asset impairments.

In order to assess long-lived assets for impairment, assets are required to be grouped at the lowest level for which there are identifiable cash flows that are largely independent of the cash flows from other groups of assets (i.e., the asset group level). Internal-use software should be assigned to the applicable asset group when the reporting entity performs its long-lived asset impairment tests. See PPE 5.2.1 for details regarding the determination of the asset group.

Impairment testing is performed when a triggering event has been identified. ASC 360-10-35-21 provides examples of when to test long-lived assets for recoverability and impairment. For further discussion regarding long-lived asset impairment triggers, see PPE 5.2.3. ASC 350-40-35-1 includes additional triggering event considerations for capitalized software.

Excerpt from ASC 350-40-35-1

The guidance is applicable, for example, when one of the following events or changes in circumstances occurs related to computer software being developed or currently in use indicating that the carrying amount may not be recoverable:

a. Internal-use computer software is not expected to provide substantive service potential.

b. A significant change occurs in the extent or manner in which the software is used or is expected to be used.

c. A significant change is made or will be made to the software program.

d. Costs of developing or modifying internal-use computer software significantly exceed the amount originally expected to develop or modify the software.

7.4.6.1 *Internal-use software not probable of completion*

Even when an asset group containing internal-use software is recoverable, capitalized software may need to be impaired if it is no longer probable that the software being developed will be completed. This guidance differs from the model utilized when it remains probable that the software being developed will be completed and placed into service. ASC 350-40-35-3 discusses the accounting when development of the software is no longer probable.

ASC 350-40-35-3

When it is no longer probable that computer software being developed will be completed and placed in service, the asset shall be reported at the lower of the carrying amount or fair value, if any, less costs to sell. The rebuttable presumption is that such uncompleted software has a fair value of zero. Indications that the software may no longer be expected to be completed and placed in service include the following:

a. A lack of expenditures budgeted or incurred for the project.

b. Programming difficulties that cannot be resolved on a timely basis.

c. Significant cost overruns.

d. Information has been obtained indicating that the costs of internally developed software will significantly exceed the cost of comparable third-party software or software products, so that management intends to obtain the third-party software or software products instead of completing the internally developed software.

e. Technologies are introduced in the marketplace, so that management intends to obtain the third-party software or software products instead of completing the internally developed software.

f. Business segment or unit to which the software relates is unprofitable or has been or will be discontinued.

As indicated in the guidance, software being developed that is no longer probable of development should be reported at the lower of cost or fair value less cost to sell. There is a rebuttable presumption that uncompleted software has no value.

Similar to the assessment of amortization commencement, the assessment of impairment for uncompleted software is performed at the module or component level.

7.4.7 *Licensing internal-use software to customers*

As discussed at PPE 7.2.2, if a reporting entity has a substantive plan to market internal-use software to customers, the software costs are in the scope of ASC 985-20 (refer to PPE 7.3). In some circumstances, a reporting entity that previously had no plan to license internal-use software to other parties will make a subsequent decision to license or sell that software. If a reporting entity licenses the internal-use software to another party, the proceeds received from the license of the software, net of direct incremental costs of marketing (e.g., commissions, software reproduction costs, warranty and service obligations, installation costs) should be applied first against the book value of the capitalized

internal-use software costs. No profit should be recognized until aggregate proceeds from the licenses and amortization have reduced the carrying amount of the software to zero. Subsequent proceeds should be recognized as earned.

If during the development of internal-use software, a reporting entity decides to market the software to others, the software industry guidance in ASC 985-20 should be followed on a prospective basis. As discussed in PPE 7.2.2, if the decision to market internal-use software becomes a pattern, it may be difficult to assert that the reporting entity does not intend to sell, lease, or otherwise market future software development projects. Refer to PPE 7.3 for additional information on software to be sold, leased, or otherwise marketed.

Example PPE 7-5 illustrates the accounting for the subsequent license of internal-use software to other parties.

EXAMPLE PPE 7-5

Accounting for the license of internal-use software to other parties

Retail Co is a national retail enterprise that has agreed to sell its stores located in the northeast region to a third-party purchaser. As part of this sale, the purchaser will license a software package that Retail Co had previously developed for its internal use. Retail Co had never intended to market/license the software externally; therefore, the software development costs were capitalized based on the guidance for internal-use software. To facilitate the transfer of the purchased operations, Retail Co has agreed to license the software to the purchaser for one year at a market rate of $100,000. The book value of the internally developed software is $5,000.

What is the appropriate accounting for the licensing of Retail Co's internal-use software?

Analysis

In accordance with ASC 350-40-35-7, the $100,000 received from the license of the software should be applied first against the book value of the capitalized internal-use software development costs ($5,000). The remaining $95,000 should be recognized in revenue as earned.

7.5 Cloud computing arrangements

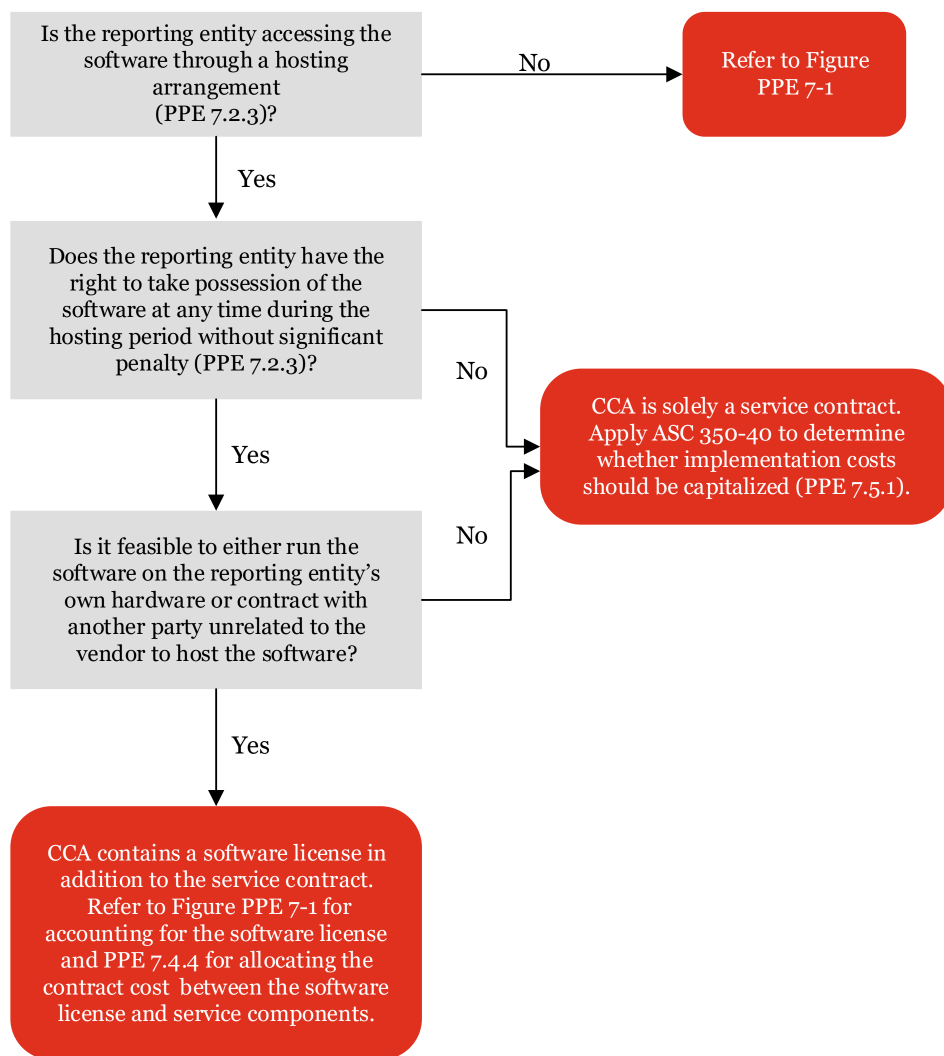
As described in PPE 7.2.3, some cloud computing arrangements include a software license. If the CCA includes a software license, the software license costs incurred by the customer could be in the scope of the internal-use software (refer to PPE 7.4) or software to be sold, leased, or otherwise marketed (refer to PPE 7.3) guidance, depending on the customer’s use of the software. If the CCA does not include a software license, it is only a service contract; however, implementation costs incurred by the customer related to a CCA that is a service contract are accounted for under ASC 350-40. PPE 7.5 discusses the customer’s accounting for implementation costs when the CCA is only a service contract.

It is important to note that while the accounting for CCA implementation costs follows the internal-use software model (e.g., the determination of whether costs should be capitalized), the presentation of costs is similar to other services. For example, the amortization of capitalized implementation costs is presented in the same line item as the CCA service. See FSP 8.8 for further discussion of presentation and disclosure requirements for CCA costs.

Figure PPE 7-2 illustrates the considerations when determining whether a CCA includes only a service or includes a software license in addition to the service component.

Figure PPE 7-2

Cloud computing arrangements decision tree



7.5.1 *Implementation costs of a CCA post adoption of ASU 2018-15*

The accounting for costs to implement a cloud computing arrangement that is a service contract follows the guidance in ASC 350-40, which is described in PPE 7.4. Implementation costs are capitalized or expensed depending on the nature of the costs and the project stage during which they are incurred. Determining which costs in the implementation process should be capitalized may require judgment.

Costs in preliminary project stage (generally consisting of planning activities) and the post implementation stage (generally consisting of maintenance activities) are expensed as incurred. Costs during the application development stage (generally consisting of configuration and customization activities) are eligible for capitalization.

Both internal and external implementation costs (incurred by the CCA service provider or other third parties) are eligible for capitalization. The general guidelines included within the internal-use software guidance should be considered, and include:

- Costs related to coding and testing activities during the application development stage are capitalized–for a CCA these costs include configuration and customization

- Costs related to training activities are expensed as incurred

- Costs related to data conversion activities are expensed as incurred

CCAs with third-party service providers often include multiple elements; therefore, total consideration paid to the CCA service provider may need to be allocated to the different activities as discussed in PPE 7.4.4. ASC 350-40 does not provide guidance on how to account for the costs of the ongoing CCA service (i.e., the payment(s) to the service provider for the ongoing CCA service). The customer should account for these costs similarly to costs for other service contracts, which are generally expensed as incurred. Payments made in advance should generally be recorded as a prepaid expense.

Transition guidance for ASU 2018-15 – CCA implementation costs

ASU 2018-15, *Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract* was issued in August 2018 by FASB. This update amended ASC 350-40 to provide accounting guidance for implementation costs of a hosting arrangement that is a service contract. Refer to PPE 7.5.1.

ASU 2018-15 was effective for public business entities for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. For all other entities, the amendments are effective for fiscal years beginning after December 15, 2020, and interim periods within fiscal years beginning after December 15, 2021. Early adoption is permitted, including adoption in any interim period for which financial statements have not been issued. Reporting entities can choose to adopt the new guidance prospectively to eligible costs incurred on or after the date the guidance is first applied or retrospectively.

Reporting entities electing prospective adoption are required to disclose, in the interim and annual periods of adoption, the nature of and reason for the change in accounting principle, the transition method elected, and a qualitative description of the financial statement line items affected by the change.

Reporting entities electing retrospective adoption are required to disclose, in the first annual period after the reporting entity's adoption date and in the interim periods within the first annual period, the nature of and reason for the change in accounting principle, the transition method, a qualitative description of the financial statement line items affected by the change, and quantitative information about the effects of the change.

7.5.2 Amortization of capitalized CCA implementation costs

Capitalized implementation costs from a cloud-based service should be amortized over the term of the related cloud-based service arrangement. Amortization expense should be recognized on a straight-line basis, unless another systematic and rational basis is more representative of the pattern in which the reporting entity expects to benefit from its right to access to the hosted software. The pattern of

amortization should not be based on expectations about the reporting entity's usage of the hosted software (e.g., how many transactions the reporting entity processes or how many users access the hosted software).

The term of the service for amortization purposes should include the initial noncancelable service term and all of following:

- Periods covered by an option to extend if the reporting entity is reasonably certain to exercise that option
- Periods covered by an option to terminate if the reporting entity is reasonably certain not to exercise that option
- Periods covered by an option to extend (or not to terminate) the service in which exercise of the option is controlled by the vendor

The amortization period should be periodically reassessed to determine if it continues to be reasonable. If the estimated amortization period changes (based on new or more recent information), that change should be accounted for prospectively in accordance with ASC 250, *Accounting Changes and Error Corrections*.

When reassessing the term of the hosting arrangement, a reporting entity should consider the effects of the factors described in PPE 7.4.5, which include obsolescence, technology, competition, other economic factors, and any rapid changes that may be occurring in the development of the arrangement. Additionally, a reporting entity should also consider the effect of any significant implementation costs that are expected to have significant economic value to the reporting entity when the option to extend or terminate the cloud computing arrangement becomes exercisable.

The commencement date for amortization of capitalized CCA implementation costs is determined separately for each module or component; therefore, amortization will begin when a module or component of the CCA is ready for its intended use. This might not be concurrent with the commencement of the CCA service, unless the functionality of a module or component is entirely dependent on the completion of other components.

Although the guidance refers to "amortization" of capitalized implementation costs, the expense should not be included with other long-lived asset amortization and depreciation. Instead, this expense should be presented in the same line item as the CCA service. For more information on presentation and disclosure of CCA costs, see FSP 8.8.

7.5.3 Impairment of capitalized CCA implementation costs

Capitalized implementation costs should be assessed for impairment in accordance with the guidance in ASC 360-10-35 on impairment of long-lived assets. That is, reporting entities should group capitalized implementation costs with other assets and liabilities at the lowest level for which identifiable cash flows exist independent of the cash flows of other assets and liabilities. Impairment is assessed when events or circumstances occur that indicate the carrying amount of the asset (asset group) may not be recoverable. ASC 350-40-35-11 includes some examples of events or circumstances when reporting entities should assess impairment of the capitalized implementation costs:

- The hosted cloud computing arrangement service is not expected to provide substantive service potential
- A significant change occurs in the extent or manner in which the hosting arrangement is used or expected to be used
- A significant change is made or will be made to the hosting arrangement, including early termination

When a CCA is terminated early, the capitalized implementation costs should be treated like an asset being disposed of by abandonment. That is, the implementation costs should be expensed when the related cloud-based service ceases to be used.

As described in ASC 350-40-35-12, "implementation costs related to each module or component of a hosting arrangement that is a service contract shall be evaluated separately as to when it ceases to be used." Therefore, in the case of a partial termination of the arrangement, the reporting entity should impair the capitalized implementation costs related to the component(s) for which the reporting entity's right to access the hosted software was terminated.

7.6 Other software-related costs

Reporting entities might incur other software-related costs that require capitalization, including website development costs (see PPE 7.6.1), costs of business process reengineering activities (see PPE 7.6.2), and costs to develop mobile applications (see PPE 7.6.3).

7.6.1 Website development costs

The accounting for costs associated with developing and populating an internet website differs in some respects from the guidance on other types of software development. ASC 350-50-25 sets forth the appropriate method of accounting for costs incurred in each of the five stages of website development. The stages of website development are:

- Planning (see PPE 7.6.1.1)
- Website application and infrastructure development (see PPE 7.6.1.2)
- Graphics development (see PPE 7.6.1.3)
- Content development (see PPE 7.6.1.4)
- Operating (see PPE 7.6.1.5)

7.6.1.1 Website development planning stage

The first stage for website development is the planning stage, which includes activities to plan the website development as described within ASC 350-50-55-2.

ASC 350-50-55-2

Planning stage activities include the following:

a. Develop a business, project plan, or both. This may include identification of specific goals for the website (for example, to provide information, supplant manual processes, conduct e-commerce, and so forth), a competitive analysis, identification of the target audience, creation of time and cost budgets, and estimates of the risks and benefits.

b. Determine the functionalities (for example, order placement, order and shipment tracking, search engine, email, chat rooms, and so forth) of the website.

c. Identify necessary hardware (for example, the server) and web applications. Web applications are the software needed for the website's functionalities. Examples of web applications are search engines, interfaces with inventory or other back-end systems, as well as systems for registration and authentication of users, commerce, content management, usage analysis, and so forth.

d. Determine that the technology necessary to achieve the desired functionalities exists. Factors might include, for example, target audience numbers, user traffic patterns, response time expectations, and security requirements.

e. Explore alternatives for achieving functionalities (for example, internal versus external resources, custom-developed versus licensed software, company-owned versus third-party-hosted applications and servers).

f. Conceptually formulate and/or identify graphics and content (see ASC 350-50-25-8 through 25-13).

g. Invite vendors to demonstrate how their web applications, hardware, or service will help achieve the website's functionalities.

h. Select external vendors or consultants.

i. Identify internal resources for work on the website design and development.

j. Identify software tools and packages required for development purposes.

k. Address legal considerations such as privacy, copyright, trademark, and compliance.

The costs incurred during the planning stage should be expensed as incurred.

7.6.1.2 Website application and infrastructure development stage

The second stage for website development is the application and infrastructure development stage, which includes activities to acquire or develop hardware and software to operate the website. ASC 350-50-55-3 describes the activities usually performed during this stage.

ASC 350-50-55-3

The website application and infrastructure development stage involves acquiring or developing hardware and software to operate the website. The activities in this stage include the following:

a. Acquire or develop the software tools required for the development work (for example, HTML editor, software to convert existing data to HTML form, graphics software, multimedia software, and so forth).

b. Obtain and register an Internet domain name.

c. Acquire or develop software necessary for general website operations, including server operating system software, Internet server software, web browser software, and Internet protocol software.

d. Develop or acquire and customize code for web applications (for example, catalog software, search engines, order processing systems, sales tax calculation software, payment systems, shipment tracking applications or interfaces, email software, and related security features).

e. Develop or acquire and customize database software and software to integrate distributed applications (for example, corporate databases and accounting systems) into web applications.

f. Develop HTML web pages or develop templates and write code to automatically create HTML pages.

g. Purchase the web and application server(s), Internet connection (bandwidth), routers, staging servers (where preliminary changes to the website are made in a test environment), and production servers (accessible to customers using the website). Alternatively, these services may be provided by a third party via a hosting arrangement.

h. Install developed applications on the web server(s).

i. Create initial hypertext links to other websites or to destinations within the website. Depending on the site, links may be extensive or minimal.

j. Test the website applications (for example, stress testing).

The costs incurred for activities during the website application and infrastructure development stage should be capitalized in accordance with the guidance on internal-use software in ASC 350-40. This assumes the website is not being developed to be marketed externally (e.g., a vendor sells a website template to a customer, to be used in the customer's business).

Costs incurred for website hosting are generally capitalized and recognized over the period of economic benefit. Costs to obtain or register an internet domain name are also generally capitalized and amortized over the estimated useful life of the website.

7.6.1.3 Website graphics development stage

The third stage for website development is the graphics development stage. ASC 350-50-55-4 and ASC 350-50-55-5 describes the activities generally performed in this stage, which include designing the graphics, layout, and look and feel of the website.

ASC 350-50-55-4

For the purposes of this Subtopic, graphics involve the overall design of the web page (use of borders, background and text colors, fonts, frames, buttons, and so forth) that affect the look and feel of the web page and generally remain consistent regardless of changes made to the content.

ASC 350-50-55-5

Graphics include the design or layout of each page (that is, the graphical user interface), color, images, and the overall look and feel and usability of the website. Creation of graphics may involve coding of software, either directly or through the use of graphic software tools. The amount of coding depends on the complexity of the graphics.

Costs incurred during the graphics development stage for the creation of initial graphics for the website should be capitalized. Subsequent updates to the initial graphics should be expensed as incurred, unless they provide additional functionality. In other words, subsequent updates to the initial graphics should follow the upgrades and enhancements model discussed in PPE 7.4.3.1.

7.6.1.4 Website content development stage

The fourth stage for website development is the content development stage. This stage begins after the layout of the website has been designed and includes activities to develop the content which will be displayed. ASC 350-50-55-6 through ASC 350-50-55-8 describes the activities generally performed during this stage.

ASC 350-50-55-6

Content refers to information included on the website, which may be textual or graphical in nature (although the specific graphics described in ASC 350-50-55-4 are excluded from content). For example, articles, product photos, maps, and stock quotes and charts are all forms of content. Content may reside in separate databases that are integrated into (or accessed from) the web page with software, or it may be coded directly into the web pages.

ASC 350-50-55-7

Content may be created or acquired to populate databases or web pages. Content may be acquired from unrelated parties or may be internally developed.

ASC 350-50-55-8

Content is text or graphical information (exclusive of graphics described in ASC 350-50-55-4 through 55-5) on the website which may include information on the entity, products offered, information sources that the user subscribes to, and so forth. Content may originate from databases that must be converted to HTML pages or databases that are linked to HTML pages through integration software. Content also may be coded directly into web pages.

Costs incurred to input content into a website (i.e., not for the content itself) and data conversion costs should be expensed as incurred. Software used to integrate a database with a website should be accounted for in accordance with the internal-use software guidance (see PPE 7.4).

7.6.1.5 Website operating stage

The last stage for website development is the operating stage, which occurs once the website has been fully designed and is operational. ASC 350-50-55-9 describes the activities usually performed during this stage.

ASC 350-50-55-9

Costs incurred during the operating stage include training, administration, maintenance, and other costs to operate an existing website. Activities in the operating stage include the following:

a. Train employees involved in support of the website.

b. Register the website with Internet search engines.

c. Perform user administration activities.

d. Update site graphics (for updates of graphics related to major enhancements, see [h]).

e. Perform regular backups.

f. Create new links.

g. Verify that links are functioning properly and update existing links (that is, link management or maintenance).

h. Add additional functionalities or features.

i. Perform routine security reviews of the website and, if applicable, of the third-party host.

j. Perform usage analysis.

Generally, the costs incurred during the operating stage (including costs to register the website with internet search engines) should be expensed as incurred. However, if costs incurred during this stage involve providing additional functions or features, those costs should be evaluated under the upgrades and enhancements model (as discussed in PPE 7.4.3.1) to determine whether they should be capitalized or expensed. ASC 350-50-25-16 addresses the accounting in instances when it may be difficult to determine whether costs relate to an upgrade or an enhancement.

ASC 350-50-25-16

The determination of whether a change to website software results in an upgrade or enhancement (if internal-use software), or a product enhancement (if externally marketed software), is a matter of judgment based on the specific facts and circumstances. ASC 350-40-25-10 states that entities that cannot separate internal costs on a reasonably cost-effective basis between maintenance and relatively minor upgrades and enhancements shall expense such costs as incurred.

7.6.2 *Costs of business process reengineering activities*

The costs of business process reengineering activities, whether incurred internally or by third parties, should be expensed as incurred. This also applies when the business process reengineering activities are part of a project that includes plans to acquire, develop, or implement internal-use software. This guidance on reengineering costs within ASC 720-45-25-2 does not change the accounting for internal-use software development costs or the acquisition of long-lived assets.

ASC 720-45-25-2

The following third-party or internally generated costs typically associated with business process reengineering shall be expensed as incurred:

a. Preparation of request for proposal—the process of preparing a proposal.

b. Current state assessment—the process of documenting the entity's current business process, except as it relates to current software structure. This activity is sometimes called mapping, developing an as-is baseline, flow charting, and determining current business process structure.

c. Process reengineering—the effort to reengineer the entity's business process to increase efficiency and effectiveness. This activity is sometimes called analysis, determining best-in-class, profit and performance improvement development, and developing should-be processes.

d. Restructuring the workforce—the effort to determine what employee makeup is necessary to operate the reengineered business processes.

Costs typically associated with the acquisition or the construction of property and equipment related to a business process reengineering project should be accounted for in accordance with the reporting entity's existing policies for accounting for productive assets. Refer to PPE 1 for information on the capitalization of costs associated with long-lived assets.

See ASC 720-45, *Other Expenses—Business and Technology Reengineering*, for examples of costs incurred for business process reengineering and information technology transformation projects and the related accounting conclusions.

7.6.3 *Costs to develop mobile applications*

Mobile applications are becoming increasingly common across all industries. Mobile applications are forms of software and as such, would follow the applicable software guidance.

The applicable accounting for the costs to develop mobile applications depends on whether the application is utilized for internal use (e.g., a mobile banking application used by customers to manage their bank accounts) or intended to be sold, leased, or otherwise marketed (e.g., a mobile game to be sold through an app store). Refer to PPE 7.3 and PPE 7.4 for details on accounting for costs incurred for software to be sold, leased, or otherwise marketed and internal-use software, respectively. The determination of what guidance applies may not always be clear and therefore reporting entities must determine whether the mobile application is more akin to internal-use software or software to be sold, leased, or otherwise marketed.

Chapter 8: Other assets–updated March 2021

8.1 Other assets — chapter overview

This chapter discusses the accounting for purchased insurance arrangements, research and development costs, and emission allowances.

8.2 Purchased insurance arrangements

Reporting entities often manage risk by purchasing insurance. Common types of purchased insurance arrangements include property loss, business interruption, and claims-made insurance policies. However, purchasing insurance rarely changes the primary obligation of the reporting entity in the event of a loss. The reporting entity is required to reflect the impact of a loss event even when insurance is available to cover the loss and separately account for the impact of the insurance policy. Generally, offsetting insurance receivables for expected recoveries against liabilities recognized for a loss contingency would not be appropriate.

While this chapter discusses the accounting for purchased insurance arrangements in the event of a loss, there may be additional accounting and reporting implications companies should consider when a loss event (e.g., natural disaster) occurs. Examples of additional accounting and reporting guidance to consider in these scenarios may include:

- Long-lived asset impairment under ASC 360, *Property, Plant, and Equipment* (PPE 5)
- Indefinite-lived intangibles and goodwill impairment under ASC 350, *Intangibles – Goodwill and Other* (BCG 8 and BCG 9)
- Environmental obligations under ASC 410-30, *Asset Retirement and Environmental Obligations, Environmental Obligations* (PPE 9)
- Asset retirement obligations under ASC 410-20, *Asset Retirement and Environmental Obligations, Asset Retirement Obligations* (PPE 3)
- Exit and disposal cost obligations, including contract termination costs under ASC 420, *Exit or Disposal Cost Obligations* (PPE 6.5)
- Debt and liquidity issues, including debt covenant compliance under ASC 470, *Debt* (PwC's *Financing Transactions* guide)
- Derivative and hedging considerations under ASC 815, *Derivatives and Hedging* (PwC's *Derivatives and Hedging* guide)
- Going concern considerations under ASC 205-40, *Presentation of Financial Statements, Going Concern* (FSP 24.5)
- Subsequent event considerations under ASC 855, *Subsequent Events* (FSP 28)

8.2.1 Recognition of insurance recoveries—updated November 2021

An insurance recoverable asset can be recorded when there is an enforceable insurance contract in place that covers the event causing the loss. The timing of the initial recognition of an insurance

recovery asset depends on assessing the enforceability of the claim being covered by the insurance policy and whether the expected proceeds would result in a recovery of a recognized loss or represent a gain contingency. No recoverable can be recorded if coverage is either in dispute or unclear in the policy.

A gain contingency exists when the insured entity expects recovery of a loss not yet recognized in the financial statements (e.g., a business interruption policy that covers margin expected to be lost) or when the insured entity expects to recover an amount in excess of a loss recognized in the financial statements (e.g., replacement cost of a damaged fixed asset that exceeds the carrying value). Conversely, the recovery of a recognized loss is not a gain contingency.

Unless the conditions in ASC 210-20, *Balance Sheet, Offsetting*, are met, offsetting prepaid insurance and receivables for expected recoveries from insurers against a recognized liability or the liability incurred as a result of a past insurable event would not be appropriate. ASC 210-20 allows the offsetting of assets and liabilities only when the right of setoff exists. The right of setoff exists when (1) each of the two parties owes a determinable amount, (2) the setoff is enforceable at law, and (3) the reporting entity has the ability and intent to set off. Generally, the loss accrual resulting from an insurable event and any related insurance receivable under an insurance contract are with different parties; therefore, the requirements for the right of offsetting the balances are not met. See FSP 2.4 for additional information on requirements for balance sheet offsetting.

In the event of an insured loss, the amount of the recorded recoverable will depend on the assumptions used in recording the underlying covered loss and the realization of any proceeds in excess of recognized losses from the event. When a loss is covered by insurance and the amount and timing of the reimbursement from the insurance company depends on the amount and timing of the related loss event payments, a reporting entity should measure the insurance receivable using the same assumptions used to measure the associated recognized loss. An example of a reimbursement that depends on timing would be when claims are paid when submitted to the insurance company (vs. a policy that pays claims on a specific, pre-determined date).

8.2.1.1 Recovery of recognized losses versus gain contingencies

A gain contingency should not be recognized prior to being realized, nor should a minimum amount of gain be recognized based on a probability assessment. A gain is realized when cash (or other assets, such as claims to cash) has been received, or is contractually due, without expectation of repayment. A single expected insurance recovery may represent both a recovery of a loss and a gain contingency. Each component should be analyzed separately for recognition purposes.

A gain related to an insurance recovery is not realized until all contingencies relating to the insurance claim have been resolved. For example, a gain could be recorded at the balance sheet date if (1) it is acknowledged that the loss event is covered, (2) information is received prior to the release of the financial statements that will confirm the amount to be received, and (3) collection is probable. However, if the existence of the claim or the applicability of coverage is being disputed by the insurance company or the amount of the claim has not been finalized, the gain would not be considered realized and should not be recognized until final settlement.

Recovery of a recognized loss is not a gain contingency. If there is (1) a legally enforceable contract that stipulates the terms of the insurance coverage, (2) the terms are not in dispute and there is no reason to believe they would be disputed, and (3) there is reason to believe recovery is collectible, a receivable

for the recovery of a recognized loss should be recorded, even if final settlement amounts are not yet determined.

8.2.1.2 *Gain or loss on involuntary conversions*

When an insurance receivable is recorded as a result of theft or damage to a nonmonetary asset (e.g., a building), it is considered to be an involuntary conversion of the nonmonetary asset (i.e., the building) to a monetary asset (i.e., the receivable for insurance proceeds). Such events are considered monetary transactions and should be measured at the value of the monetary consideration received and not considered an exchange of nonmonetary assets, even if the proceeds from the insurance policy will be used to construct a replacement asset (e.g., to construct a new building).

Recognition of a gain or loss on an involuntary conversion is measured as the difference between the carrying amount of the nonmonetary asset and the amount of monetary assets received. See FSP 3.6.10 for discussion of the income statement classification of gains or losses resulting from an involuntary conversion and FSP 6.9.22 for discussion of the cash flow presentation of insurance proceeds.

Example PPE 8-1 illustrates the recognition and measurement of an equipment casualty loss and the related potential insurance recovery from an insurance policy with no deductible. Example PPE 8-2 illustrates the recognition and measurement of an equipment casualty loss and the related potential insurance recovery from an insurance policy with a deductible. Note that although Example PPE 8-1 and Example PPE 8-2 assume the complete destruction of the insured property, the same concepts would apply to a partial destruction of the insured property.

EXAMPLE PPE 8-1

Accounting for casualty loss with an insurance recovery – no deductible

On June 1, 20X4, PPE Corp's equipment is heavily damaged while being transported from its manufacturing facility to its retail facility. Due to the nature of the damage, PPE Corp determines that there is a total loss. The equipment had a net book value of $7 million and an estimated replacement value of $6 million as of the date of loss. PPE Corp files a property and casualty claim with its insurer for recovery of the $6 million replacement value. Based on its discussions with the insurer and review of the policy by in-house experts, PPE Corp concludes that it has a covered loss under the policy and that it is probable the insurer will settle the claim for at least $5 million. There is no deductible under the insurance policy. The insurer has communicated to PPE Corp that the amount of final settlement is only subject to verification of the identity of the equipment damaged and the receipt of additional market data regarding its replacement value.

How should PPE Corp recognize and measure the loss of the equipment and the potential insurance recovery?

Analysis

PPE Corp would write-off the net book value of the equipment of $7 million and recognize an insurance recoverable asset of $5 million for the probable recovery of its loss. PPE Corp would recognize any remaining recovery (i.e., any excess over the initial $5 million recoverable recognized) when recovery of an additional amount is probable (e.g., when the identity of the damaged equipment has been established and additional market data confirm its value).

If it were probable PPE Corp would receive $8 million to settle the claim (rather than $5 million), PPE Corp would record an insurance recoverable asset of $7 million, equal to the amount of the recognized loss. The excess insurance proceeds of $1 million ($8 million settlement compared to the $7 million recognized loss) would be recognized as a gain when all contingencies related to receiving the $1 million are resolved. The $1 million of insurance proceeds in excess of the recognized loss should not be deferred and amortized over the future periods nor applied to the cost basis of the new asset.

EXAMPLE PPE 8-2

Accounting for casualty loss with an insurance recovery – with deductible

On November 1, 20X4, PPE Corp's warehouse is heavily damaged by a tornado. Due to the nature of the damage, PPE Corp determines that there is a total loss. The warehouse had a net book value of $100 million and an estimated replacement value of $105 million as of the date of loss. PPE Corp files a property and casualty claim with its insurer for recovery of $105 million, as the insurance policy is for replacement cost. Based on its discussions with the insurer and review of the policy by in-house experts, PPE Corp concludes that it has a covered loss under the policy and that it is probable the insurer will settle the claim for the replacement cost of $105 million. There is a $2 million deductible under the insurance policy. The insurer has communicated to PPE Corp that the amount of final settlement is only subject to verification of the identity of the warehouse damaged and the receipt of additional market data regarding its value. The insurance proceeds are received on April 1, 20X5.

How should PPE Corp recognize and measure the loss of the equipment and the potential insurance recovery?

Analysis

PPE Corp should write-off the net book value of the warehouse of $100 million and recognize an insurance recoverable asset of $100 million for the probable recovery of its loss on November 1, 20X4. Upon receipt of the insurance proceeds of $103 million on April 1, 20X5 ($105 million gross receipts, less $2 million deductible), PPE Corp would record an additional gain of $3 million, representing the excess of the replacement cost proceeds received over the net book value of the warehouse, less the $2 million deductible. The gain should not be deferred and amortized over the future periods nor applied to the cost basis of the new asset.

Alternatively, PPE Corp could write-off the net book value of the warehouse of $100 million and recognize an insurance recoverable asset of $98 million (representing the proceeds to be received up to the net book value of the warehouse of $100 million, less the $2 million deductible) on November 1, 20X4. Upon receipt of the insurance proceeds of $103 million ($105 million gross receipts, less $2 million deductible) on April 1, 20X5, PPE Corp could then record an additional gain of $5 million, representing the excess of the replacement cost proceeds received over the net book value of the warehouse. The gain should not be deferred and amortized over the future periods nor applied to the cost basis of the new asset.

8.2.1.3 Discounting insurance recoverables

Whether the time value of money should be considered in the determination of the recorded amount of a potential recovery is addressed in ASC 410-30-35-11.

Excerpt from ASC 410-30-35-11

[T]he time value of money should not be considered in the determination of the timing of the recorded amount of a potential recovery if the liability is not discounted and the timing of the recovery is dependent on the timing of the payment of the liability.

Often a contingent liability for litigation exposure is not discounted because the timing of the settlement of the liability is uncertain. If the related insurance reimbursement for the liability will be paid only when the covered liability is settled, then the insurance recoverable asset should not be discounted (as the timing of settlement and thus reimbursement is uncertain).

Conversely, if the insurance policy pays all covered claims at the end of a defined time period (e.g., a five-year policy period, with insurance settlement occurring at the end of the policy period), the expected future payment would need to be a discounted, even if the underlying litigation liability is not discounted. This is because the timing of the insurance reimbursement is known and is not dependent on the timing of liability settlement.

8.2.2 Retroactive and prospective insurance policies

An insurance policy can be retroactive, prospective, or both. A retroactive contract covers past insurable events and a prospective contract covers future insurable events. Some contracts may contain both retroactive and prospective provisions.

Under a retroactive insurance policy, a reporting entity may purchase insurance to cover a loss after it has occurred to protect against the possibility that the estimates of loss could increase or mitigate the uncertainty of when the needed payouts will be made in the future. For example, a company may purchase insurance to cover the liabilities associated with a chemical spill that has already occurred.

Premiums paid for retroactive insurance should be expensed immediately and a receivable should be recorded for expected recoveries based on the amount of the recorded obligation that is covered by the insurance. If the receivable established exceeds the amounts paid for the insurance, the gain from the excess proceeds should be deferred and amortized either (1) using the interest method over the estimated period over which the entity expects to recover substantially all amounts due under the terms of the insurance contract, or (2) following the proportion of actual recoveries to total estimated recoveries. See ASC 720-20-35-2 for considerations when determining how such a gain should amortized. Immediate gain recognition and liability derecognition would not be appropriate as the liability has not been extinguished and the reporting entity has not been fully relieved of its obligation. If the retroactive insurance policy includes coverage for legal and other costs, the accounting for those costs should be consistent. See ASC 720-20-25-3 through ASC 720-20-25-5 for further information.

Example PPE 8-3 illustrates the recognition of gains on retroactive insurance.

EXAMPLE PPE 8-3

Recognizing gains on retroactive insurance

PPE Corp records a liability of $120 million for a loss incurred from a past event and buys an insurance policy for a $90 million premium with a $20 million deductible to cover that loss. It is probable the company will receive $100 million, net of the deductible from the insurance company.

How should the gain on the retroactive insurance policy be recorded?

Analysis

The $10 million excess of the $100 million expected recovery over the $90 million premium is a gain. The gain would be deferred and recognized over the expected settlement period of the direct obligation. See ASC 720-20-35-2 for information on the method for amortizing the deferred gain.

Often the gain, if any, from purchasing insurance is the result of the recorded liability not being discounted while the pricing of the insurance is based on discounted cash flows, because the insurance payments will be paid over time. Subsequent increases in the estimate of the recoverable amount would also be deferred and recognized over the settlement period.

If the policy contains no retroactive provision, then it should be accounted for as a prospective policy. Premiums paid for prospective policies should be expensed over the policy coverage period in proportion to the amount of insurance protection provided, generally on a straight-line basis. Losses are recorded as incurred and changes in estimates are recorded when facts and circumstances change. As discussed in PPE 8.2.1, insurance recoverables are recorded based on the estimated covered loss amount related to the insured event.

8.2.3 Representations and warranties insurance policies

Representations and warranties (R&W) insurance is an insurance policy used in acquisition transactions to protect the acquirer against losses arising due to the seller's breach of certain of its representations and warranties in the acquisition agreement. Examples of covered representations under R&W insurance policies may include the completeness and accuracy of financial statement representations, disclosure of material contracts, and the seller's compliance with laws and regulations, including tax compliance. The acquirer typically pays a one-time, upfront premium to the insurance carrier for a policy covering a period of time (i.e., multiple years). As R&W insurance policies typically only cover losses from matters existing prior to or as of the acquisition date, premiums paid for retroactive insurance should generally be expensed immediately following the retroactive insurance policy guidance of ASC 720-20-25-3. However, reporting entities should consider the coverage under R&W insurance policies to determine whether any prospective insurance provisions exist within the policy.

8.2.4 Claims-made insurance policies

Most insurance is occurrence-based, which means the policy covers claims resulting from events occurring during the policy coverage period, regardless of when the claims are reported to the insurance carrier. In contrast, under claims-made insurance, an entity is covered for any claims reported during the policy period, including events that occurred prior to the policy effective date (but after a specified retroactive date). Reporting entities may purchase claims-made insurance for certain exposures when the occurrence date is difficult to determine, or the occurrence may span over a long period of time. For example, claims-made insurance is typically purchased for directors and officers (D&O), product, and malpractice liabilities. This type of insurance can mitigate coverage disputes between policies because the occurrence date of the event is generally not relevant in determining the coverage.

8.2.4.1 Retroactive date for claims-made insurance policies

The retroactive date is the earliest date an incident could have occurred to be covered by a claims-made policy. The policy covers claims reported to the insurance company during the policy period for an incident that occurred after the policy's retroactive date. For example, if the retroactive date were January 1, 20X6, the claims-made policy would not cover any occurrences prior to January 1, 20X6, even if the claim were reported during the policy period. Instead, the reporting entity's prior occurrence-based policy would cover that loss. To prevent any gaps in coverage or overlapping coverage with previous insurance, the retroactive date is generally the last date covered under a previous occurrence-date policy.

Upon renewal, whether the retroactive date is updated or remains the inception date of the initial claims-made policy will impact whether there are any gaps in coverage. The renewal policy would cover claims reported for incidents that occurred during the policy period and since the retroactive date. If the retroactive date is changed to the inception date of the renewal policy, coverage would only apply for incidents occurring after the new retroactive date. Claims reported for prior occurrences would not be covered and a gap in coverage would result.

For example, assume an initial claims-made policy period of January 1, 20X5 to December 31, 20X5 with a retroactive date of January 1, 20X5. The renewal policy period is January 1, 20X6 to December 31, 20X6 and the retroactive date is unchanged. If an incident occurred on October 1, 20X5 and was reported on February 2, 20X6, the claim would be covered as the incident occurred after the retroactive date and was reported during the policy period. However, if upon the renewal, the retroactive date was changed to January 1, 20X6, the October 1, 20X5 incident would not be covered.

8.2.4.2 Tail coverage for claims-made insurance policies

Claims-made policies may contain an extended reporting period or tail coverage provision. If an incident occurs before the end of the policy period, this type of provision extends the claims reporting period for a specific time beyond the policy expiration date. The effect of purchasing tail coverage is to convert the previous claims-made policies to occurrence-based coverage. Some typical forms of extended reporting period or tail coverage include:

- Mini-tail: automatic noncancelable 60-day coverage, which begins at the end of the policy period if new coverage is not obtained

- Five-year tail: noncancelable coverage, which covers claims reported within five years after the end of the policy period resulting from events that occurred during the policy period

- Full tail: unlimited time coverage, which allows claims incurred during the claim-made policy period to be reported at any time

8.2.4.3 Accounting for claims-made insurance policies

Having insurance does not relieve the requirement to account for any direct contingent liabilities. As claims-made policies with no tail coverage do not cover losses incurred in the current policy period if they are reported in a future policy period, any portion of recognized losses that represents incurred but not reported (IBNR) losses will not be covered by the current insurance policy.

By its nature, claims-made insurance is a combination of retroactive and prospective insurance coverage. If at inception of the claims-made contract, no known asserted or unasserted claims for events that might result in a specific claim exist, prospective insurance accounting is appropriate. If there are known claims that will be covered, or the pricing has other indications of considering more than historical normal claims, retroactive insurance accounting will be required. See PPE 8.2.2 for the accounting for retroactive and prospective insurance.

As described in ASC 720-20-05-6, if the reporting entity can renew the claims-made policy and can purchase tail coverage if desired, such a strategy will effectively convert the coverage to occurrence-based. As a result, the reporting entity could record a receivable for expected insurance recoveries for the portion of the IBNR liability that is insured under the renewal policy. In some cases, the reporting entity would also need to record the cost of the expected premium for the coverage (see ASC 720-20-30-2).

A reporting entity would be eligible to purchase tail coverage when the claims-made coverage ends (e.g., due to cancellation, nonrenewal, advancement of the retroactive date, a gap in coverage, or replacement by an occurrence-based policy). If the reporting entity decides to change its program in a way that will create a gap in coverage and expects to purchase tail coverage (at a premium not to exceed the maximum specified in the claims-made policy), the reporting entity would record an expected insurance recoverable for the portion of the IBNR liability that is insured under the tail coverage. The expected premium would need to be expensed, as described in ASC 720-20-30-2.

ASC 720-20-30-2

The estimated cost of purchasing tail coverage is not relevant in determining the loss to be accrued because paragraph 210-20-45-1 prohibits netting the insurance receivable against the claim liability. However, if the insured entity had the unilateral option to purchase tail coverage at a premium not to exceed a specified fixed maximum, then the insured entity could record a receivable for expected insurance recoveries (after considering deductibles and policy limits) for the portion of the incurred but not reported liability that is insurable under the tail coverage. In that case, the entity would need to record as a cost the expected premium for the tail coverage. The purchase of tail coverage does not eliminate the need to determine if an additional liability should be accrued because of policy limits or other factors.

Prospective insurance accounting when the fiscal year and policy year coincide

When the reporting entity's fiscal year and the claims-made policy year coincide, the year-end IBNR liability relates to obligations for claims and incidents incurred prior to year-end that will be reported after year-end. The annual expense for the current year will be comprised of the claims-made insurance premium for the year, the change in IBNR from the previous year-end, and any change in the insurance recoverable related to the IBNR liability.

ASC 720-20-35-4 allows the estimated annual expense that is not related to specific losses to be recognized over the fiscal year. Any material, unusual losses and related insurance recoverable should be recorded in the quarter in which they occur. Figure PPE 8-1 summarizes an appropriate method to estimate and record each of the components of the annual expense.

Figure PPE 8-1

Methods of estimating and recording components of annual expense

Expense	Description
Premium paid for the claims-made policy	The premium paid at the beginning of the fiscal year for the new claims-made insurance policy should be recognized as a prepaid expense and amortized to expense over the policy year.
Change in estimated IBNR liability	At the beginning of the fiscal year, the reporting entity should project its IBNR liability for the end of the fiscal year, which involves estimating the claims and incidents that are expected to be incurred prior to fiscal year-end but reportable after fiscal year-end. The projected year-end IBNR liability would be adjusted for relevant historical patterns such as changes in products, manufacturing processes, or risk management systems. The change in projected IBNR liability from the previous year-end would be expensed during the year.
Change in estimated insurance recoverable related to the IBNR liability	The reporting entity should determine the insurance recoverable under the insurance policy related to the claims projected. The recoverable should be adjusted each period based on changes in circumstances, changes in estimates of liabilities, and amounts that will be received.

The estimated annual expense is recognized during interim periods based on a methodology that best reflects how the benefits of the insurance coverage are consumed and the IBNR liability is incurred.

The estimate for the year-end IBNR liability should be reviewed whenever interim financial statements are prepared. If events and circumstances in the interim period indicate that unusual claims and incidents have been incurred prior to the end of the interim period, the entity should recognize any related significant adjustments of the estimated year-end IBNR liability in that interim period. Any routine adjustments to the estimated liability should continue to be recognized ratably in each of the remaining interim periods. Claims incurred during the year that are not specifically included in the IBNR estimate should be recognized as an expense in the interim period in which they are incurred.

The reporting entity should adjust any insurance recoverable recognized, either related to the IBNR or to a specific incurred claim, based on changes in circumstances.

Example PPE 8-4 illustrates prospective insurance accounting when the fiscal year and policy year coincide.

EXAMPLE PPE 8-4

Prospective insurance accounting when the fiscal year and policy year coincide

In prior years, PPE Corp had occurrence-based coverage. On January 1, 20X6, it purchased its first D&O claims-made policy for the policy year January 1, 20X6 to December 31, 20X6. PPE Corp follows a calendar year-end, and therefore, the fiscal year and policy year coincide.

The following table summarizes relevant information at the end of the first quarter of fiscal year 20X6.

IBNR liability as of December 31, 20X5	$2,000,000
Receivable for insurance recoverable as of December 31, 20X5	$1,000,000
Insurance premium - paid at inception	$1,800,000
Estimated IBNR liability at December 31, 20X6	$2,400,000
Estimated receivable for insurance recoverable at December 31, 20X6	$1,300,000
Amount of claim for an unusual incident reported in the 1st quarter not included in the projected IBNR	$250,000

Assume there is no deductible per incident, no policy limits, and amortization of the premium and IBNR liability are on a straight-line basis. Also assume PPE Corp expects to renew the claims-made coverage in the future.

What is the estimated annual and quarterly expense for PPE Corp in 20X6 and what are the journal entries to be recorded for the claims-made expense in the first quarter of 20X6?

Analysis

The annual estimated expense is $1,900,000, consisting of:

- The annual premium cost of $1,800,000; plus
- The expected increase in the IBNR liability of $400,000 ($2,400,000 updated estimate less $2,000,000 estimate at December 31, 20X5); less
- The expected increase in the receivable for insurance recoverable of $300,000 ($1,300,000 updated estimate less $1,000,000 estimate at December 31, 20X5)

The expected quarterly expense is $475,000 ($1,900,000/4).

The following journal entries would be recorded in the first quarter of 20X6.

Dr. Prepaid insurance asset	$1,800,000	
Cr. Cash		$1,800,000

To record the purchase of the claims-made insurance at policy inception

Dr. Insurance premium expense	$450,000	
Cr. Prepaid insurance asset		$450,000

To record the quarterly amortization of the prepaid insurance asset ($1,800,000/4)

Dr. Loss expense	$100,000	
Cr. IBNR liability		$100,000

To record the first quarter impact of the $400,000 expected increase in the IBNR liability ($400,000/4)

Dr. Insurance recoverable	$75,000	
Cr. Loss expense		$75,000

To record the quarterly increase in the $300,000 expected insurance recoveries ($300,000/4)

Dr. Loss expense	$250,000	
Cr. Claim payable		$250,000

To record the unusual claim reported in the first quarter

Dr. Insurance recoverable	$250,000	
Cr. Loss expense		$250,000

To record the expected insurance recoveries for the unusual claim reported in the first quarter

Prospective insurance accounting when policy year and fiscal year do not coincide

As discussed in ASC 720-20-35-08, when the policy year and fiscal year do not coincide, the only difference in prospective insurance accounting is that the premium cost for the year should include a portion of next year's renewal claims-made policy if one is expected to be purchased. At the beginning of the fiscal year, the reporting entity should estimate its future premium costs of the new claims-made policy it expects to purchase during the fiscal year. The reporting entity should also estimate the portion of the future premium cost related to claims and incidents that will be incurred after the end of the fiscal year. That portion represents the estimated prepaid asset at the end of the fiscal year. The future premium cost involves estimating the effect of past claims and incidents, historical patterns, and any new factors.

Example PPE 8-5 illustrates prospective insurance accounting when the fiscal year and policy year do not coincide.

EXAMPLE PPE 8-5

Prospective insurance accounting when the fiscal year and policy year do not coincide

In prior years, PPE Corp had occurrence-based coverage. On January 1, 20X6, it purchased its first directors and officers (D&O) claims-made policy for the policy year June 30, 20X5 to July 31, 20X6. PPE Corp follows a calendar year end, and therefore, the fiscal year and policy year do not coincide.

The following table summarizes relevant information at the end of the first quarter of fiscal year 20X6.

IBNR liability as of December 31, 20X5	$2,000,000
Receivable for insurance recoverable as of December 31, 20X5	$1,000,000
Estimated premium for the renewal policy commencing July 1, 20X6	$2,200,000
Insurance premium - paid at inception (current policy)	$1,800,000
Estimated IBNR liability at December 31, 20X6	$2,400,000
Estimated receivable for insurance recoverable at December 31, 20X6	$1,300,000
Amount of claim for an unusual incident reported in the 1st quarter not included in the projected IBNR	$250,000

Assume there is no deductible per incident, no policy limits, and amortization of the premium and IBNR liability are on a straight-line basis. Also assume PPE Corp expects to renew the claims-made coverage in the future.

What is the estimated annual expense for PPE Corp in 20X6?

Analysis

The annual estimated is expense is $2,100,000, comprised of:

- Six months of the current policy premium of $900,000 ($1,800,000 × (6/12)); plus
- Six months of the estimated premium of the new policy of $1,100,000 ($2,200,000 × (6/12)); plus
- The increase in the IBNR liability of $400,000 (as calculated in Example PPE 8-3); less
- The expected increase in the receivable for insurance recoverable of $300,000 (as calculated in Example PPE 8-3)

8.2.5 Business interruption insurance policies

Business interruption insurance may provide coverage if business operations are suspended due to the loss of use of property or equipment, cybersecurity attacks, events damaging brands or tradenames, or other covered losses that result in the suspension of business. This type of insurance generally covers loss of gross profit or reimbursement of certain expenses while a reporting entity is unable to conduct its business. Some business interruption coverage may also extend coverage to include damage at the location of customers or suppliers. Due to the varying nature of business interruption policy terms and coverages, these policies should be carefully analyzed to determine covered events.

When a business interruption event occurs, the absence of expected revenue or income is not a loss recognized in the financial statements. As a result, recoveries of lost profits or revenue under business interruption policies are considered to be a gain contingency and should not be recognized until the gain contingency is resolved. Typically, a business interruption recovery gain should not be recognized prior to the insurance carrier acknowledging that the claim is covered and communicating the amount to be paid to the company. Any stipulation from the carrier (e.g., "pending final review") should be reviewed to determine whether it is an indication the claim may not be realizable. The reporting entity's history in collecting such claims should also be considered. When the insured has received payment without the expectation of repayment or refund, the contingency is considered resolved and the gain should be recognized immediately. Business interruption recovery gains should not be deferred and amortized over the future periods of expected lost revenues or profit margins, including in scenarios when a reporting entity receives an up-front, nonrefundable settlement payment for estimated future losses.

Unlike lost profits or revenues, the impairment of an asset or other directly-related fixed costs incurred while the business is interrupted (e.g., salaries paid to idle workers, relocation costs incurred) are considered a loss recognized in the financial statements. As discussed in PPE 8.2.2, an insurance recovery should be recorded for such losses when realization of the claim for recovery is probable.

For guidance on the classification of insurance proceeds in the income statement and cash flow statement, see FSP 3.6.10 and FSP 6.9.22, respectively.

8.2.6 *Residual value insurance contracts*

Residual value insurance contracts guarantee that a properly maintained asset will not be worth less than a specified amount on a specified date (e.g., on the termination date of a lease agreement). The insurance protects the insured (i.e., the lessor) from losses due to greater than expected declines in the market value of an asset. Premiums are typically paid by the lessor to an insurance carrier at the inception of the insurance policy. Settlement is usually based on comparing the insured value agreed upon at the inception of the policy to the amount determined by one of the following common settlement provisions:

- Specific asset appraisals or actual proceeds from the sale of the asset;
- The higher of the specific asset appraisal, actual proceeds from a sale, or value established by reference to an asset valuation guide (such as Blue Book); and/or
- The asset value as indicated by an agreed-upon asset valuation guide (such as Blue Book)

Residual value guarantees between a lessor and a lessee in a lease arrangement are not residual value insurance contracts and instead should be accounted for under the guidance of ASC 842, *Leases* (or ASC 840, *Leases*, prior to the effective date of ASC 842). See LG 3.3.4.4 for information on the accounting for residual value guarantees in a lease arrangement.

Residual value insurance contracts between a lessor and an insurance carrier (i.e., when a lessor independently purchases residual value insurance) are accounted for as either purchased insurance contracts or derivatives under ASC 815, *Derivatives and Hedging*, depending on the contract's characteristics. Residual value insurance guarantee contracts are generally accounted for as derivatives unless they qualify for the scope exception in ASC 815-10-15-59.

Excerpt from ASC 815-10-15-59

Contracts that are not exchange-traded are not subject to the requirements of this Subtopic if the underlying on which the settlement is based is any one of the following:

[…]

b. The price or value of a nonfinancial asset of one of the parties to the contract provided that the asset is not readily convertible to cash. This scope exception applies only if both of the following are true:

   1. The nonfinancial assets are unique.
   2. The nonfinancial asset related to the underlying is owned by the party that would not benefit under the contract from an increase in the fair value of the nonfinancial asset. (If the contract is a call option, the scope exception applies only if that nonfinancial asset is owned by the party that would not benefit under the contract from an increase in the fair value of the nonfinancial asset above the option's strike price.)

When payment under the residual value insurance contract is not based on the value of a specific nonfinancial asset, but instead based on an index (e.g., the Blue Book value for automobiles), the contract would not qualify for the scope exception under ASC 815-10-15-59 and would be accounted for as a derivative. However, settlement based on using the appraisal value or the sales proceeds of the

specified asset owned by the party would meet the scope exception in ASC 815-10-15-59 and the contract would be accounted for as purchased insurance.

In instances when settlement is based on the higher of multiple amounts (e.g., the higher of the specific asset appraisal, actual proceeds from a sale, or value established by reference to an asset valuation guide), the contract is considered to have multiple underlyings. The contract is subject to ASC 815 if all of the underlyings behave in a manner that is highly correlated with any of the underlyings that do not qualify for the scope exception. For example, a Blue Book value for automobiles and actual sales proceeds are deemed to be highly correlated as the Blue Book values are based on actual sales and transactions or new manufacturer price information. If a contract settles based on a comparison of the insured value with the higher of sales proceeds or asset valuation guide, the reporting entity would compare the results under the contract using the combined underlyings with the result using only the asset valuation guide. If the two underlyings are highly correlated, the contracts would not meet the ASC 815-10-15-59 scope exception and would be accounted for as a derivative.

Example PPE 8-6 illustrates the accounting for a residual value insurance contract.

EXAMPLE PPE 8-6

Accounting for a residual value insurance contract

Lessor Corp purchased residual value insurance to protect against greater than expected declines in the market values of their trucks, trailers, and construction equipment that are leased to local construction companies. The policy terms of the insurance contract state that settlement is based on the higher of specific asset appraisal, actual proceeds from a sale, or the value established by reference to Blue Book value.

Should Lessor Corp account for the residual value insurance contract as purchased insurance or as a derivative under ASC 815?

Analysis

Lessor Corp should account for the contract as a derivative under ASC 815. Settlement is based on the higher of actual proceeds from sales, appraisals of the Lessor's trucks, trailers, and construction equipment, or reference to Blue Book value for similar assets. The contract has multiple underlyings, which are all considered highly correlated to the Blue Book value since Blue Book value is based on actual sales and transactions of similar assets in the region. As the underlyings are highly correlated to the index value, the contract does not qualify for the ASC 815-10-15-59 scope exception.

If settlement was based solely on actual sales or specific appraisal values, the contract would qualify for the ASC 815-10-15-59 scope exception and would be accounted for as a purchased insurance contract. See DH 3.2.14 for further discussion of residual value guarantees.

8.2.7 *Retrospectively-rated insurance contracts*

Retrospectively-rated insurance contracts, commonly referred to as "loss sensitive contracts," are policies when the insurance premiums adjust according to covered loss experience, rather than being a fixed amount set at the inception of the insurance contract. Retrospectively rated insurance is used when the insured and the insurer cannot agree on a fixed price for the risk or the insured wants to

participate in the benefits of controlling its claims. Based on the contract's loss experience, the insurance contract will provide for changes in the amount or timing of future contractual cash flows, including adjusting the original premium or changing the amount of covered claims.

The initial premium is paid at the beginning of the coverage period, which consists of a minimum premium plus an additional amount subject to experience adjustment. The claim experience portion may be based on the loss history of the insured or on the collective claim experience of a group of insureds.

8.2.7.1 Accounting for retrospectively rated insurance contracts

The portion of the premium that is subject to adjustment based on actual claims essentially is a funding mechanism for self-insurance. The money will be returned to the insured as either as a claim reimbursement or premium adjustment and therefore is treated as a deposit asset. The minimum premium portion of the initial premium is the price of the insurance risk purchased and should be expensed ratably over the policy term.

As insured losses are incurred and recognized in the income statement, the amount recoverable from the insurer is recorded as a reduction to the deposit asset instead of as an insurance reimbursement in the income statement. The result is that until the deposit asset is exhausted, the income statement will not reflect an insurance coverage offset to the loss expense incurred. There are additional complexities in accounting for retrospectively rated insurance contracts. See ASC 720-20-25-15 and ASC 720-20-30-3 through ASC 720-20-30-4 for further information.

8.2.8 Changing insurers and insurance settlements

An insurer and insured may negotiate an early payment of a claim in return for ending an insurance contract. This could be due to many reasons, such as concerns about the insurer's credit or to limit ongoing legal or administrative costs. Such a settlement would be treated as a termination of the insurance contract and all balances related to the contract would be written-off. Any difference between those balances and the proceeds received would be recognized immediately in the income statement without regard to the intended use of the proceeds.

When a reporting entity uses the proceeds for the purchase of retroactive insurance coverage (i.e., replacing one insurer for another), the reporting entity has settled an insurance contract with the original insurance company, and the insurance receivable would be relieved. The settlement gain or a loss would be recognized immediately and should not be deferred over the settlement period of the underlying accrued liabilities. The purchase of new insurance coverage is a separate transaction and would not result in an immediate gain or loss upon purchase. Instead, retroactive insurance accounting would be followed for the new insurance contract.

8.2.9 Changing an insurance program

Changing an insurance program can result in modifications to coverage for certain risks and events that can lead to noninsured or underinsured risks. It is appropriate to consider disclosures in circumstances when the insurance coverage is significantly less than prior years or the type of policy is changed from occurrence to a claims-made policy. However, ASC 450-20-50-7 indicates that disclosures are not required for noninsured or underinsured risks that have not changed.

8.3 Research and development costs

Research and development (R&D) costs need to be considered to determine whether they should be capitalized or expensed as incurred. Additionally, arrangements with other parties to perform R&D activities for an entity are often complex and judgment is required to determine the appropriate accounting treatment.

8.3.1 Accounting for R&D costs

R&D costs may be incurred by performing R&D directly, contracting with another party to perform R&D activities, or purchasing completed or partially completed R&D from another party. This section discusses R&D activities performed directly by an entity or contracted to another party.

R&D costs are accounted for in accordance with ASC 730, *Research and Development*. ASC 730-10-25 requires that all R&D costs be recognized as an expense as incurred. However, some costs associated with R&D activities that have an alternative future use (e.g., materials, equipment, facilities) may be capitalizable. See PPE 8.3.3 for additional information on costs associated with R&D activities that may qualify for capitalization.

ASC 730-10-25 does not apply to other costs that might fit a broader definition of R&D, such as market research and testing, routine product testing and quality control, routine design of tools, and trouble shooting in connection with commercial production. Additionally, ASC 730 does not apply to the following types of costs:

- R&D activities conducted for others under a contractual arrangement, including indirect costs that are specifically reimbursable under the terms of a contract
- The acquisition, development, or improvement of internal processes, including costs for computer software, that are to be used in selling or administrative activities (ASC 350-40)
- Activities unique to the extractive industries, such as prospecting, acquiring mineral rights, exploration, drilling, mining, and related mineral development
- Routine or periodic alterations to existing products, production lines, manufacturing processes, and other ongoing operations, even though those alterations may represent improvements
- Market research or market testing activities
- Research and development assets acquired in a business combination

See BCG 4.3.4.1 for information about the accounting for completed or partially completed R&D acquired in a business combination, PPE 2.4.3 and PPE 2.7 for information about the accounting for completed or partially completed R&D acquired in an asset acquisition, and PPE 7.3.1 and PPE 7.3.3 for information about costs incurred (including R&D costs) relating to software.

Additionally, the AICPA has issued the AICPA Accounting and Valuation Guide: Assets Acquired to Be Used in Research and Development Activities. While the AICPA guide is non-authoritative, it reflects the input of financial statement preparers, auditors, and regulators and serves as a resource for reporting entities that acquire in-process R&D.

8.3.2 *Definition of R&D costs*

R&D costs are defined in ASC 730.

Definition from ASC 730-10-20

Research and Development: Research is planned search or critical investigation aimed at discovery of new knowledge with the hope that such knowledge will be useful in developing a new product or service (referred to as product) or a new process or technique (referred to as process) or in bringing about a significant improvement to an existing product or process.

Development is the translation of research findings or other knowledge into a plan or design for a new product or process or for a significant improvement to an existing product or process whether intended for sale or use. It includes the conceptual formulation, design, and testing of product alternatives, construction of prototypes, and operation of pilot plants.

The definition of development in ASC 730-10-20 refers to a plan or design for a new product or process or for a significant improvement to an existing product or process whether intended for sale or use. Reference to "or use" would appear to broaden the definition of development costs beyond products or processes intended for sale. However, ASC 730 generally focuses on product-oriented R&D activities, with ASC 985-20-25 confirming that development costs contemplated by ASC 730 are those connected with products to be sold, leased, or otherwise marketed to others. Development of internal processes for use in selling, general, and administrative activities are not considered R&D.

Refer to ASC 730-10-25-2 for categories of costs identified as R&D activities. Figure PPE 8-2 includes examples from ASC 730-10-55-1 through ASC 730-10-55-2 of activities typically included in and excluded from R&D.

Figure PPE 8-2
Identification of R&D activities

Included	Excluded
Laboratory research aimed at discovery of new knowledge	Engineering follow-through in an early phase of commercial production
Searching for applications of new research findings or other knowledge	Quality control during commercial production including routine testing of products
Conceptual formulation and design of possible product or process alternatives	Trouble shooting in connection with breakdowns during commercial production
Testing in search for or evaluation of product or process alternatives	Routine, ongoing efforts to refine, enrich, or otherwise improve upon the qualities of an existing product

Included	Excluded
Modification of the formulation or design of a product or process	Adaptation of an existing capability to a particular requirement or customer's need as part of a continuing commercial activity
Design, construction, and testing of pre-production prototypes and models	Seasonal or other periodic design changes to existing products
Design of tools, jigs, molds, and dies involving new technology	Routine design of tools, jigs, molds, and dies
Design, construction, and operation of a pilot plant that is not of a scale economically feasible to the enterprise for commercial production	Activity, including design and construction engineering, related to the construction, relocation, rearrangement, or start-up of facilities or equipment other than (1) pilot plants and (2) facilities or equipment whose sole use is for a particular research and development project
Engineering activity required to advance the design of a product to the point that it meets specific functional and economic requirements and is ready for manufacture	Legal work in connection with patent applications or litigation, and the sale or licensing of patents
Tools used to facilitate research and development or components of a product or process that are undergoing research and development activities	

8.3.3 Capitalization of R&D costs

ASC 730-10-25-2 indicates that capitalization is appropriate only for those expenditures on materials, equipment, and facilities that are acquired or constructed for R&D activities and that have an alternative future use. Similarly, intangible assets acquired through an asset acquisition for use in R&D activities that have an alternative future use should be capitalized. After capitalization, the cost of materials consumed in R&D activities, the depreciation of equipment or facilities used in R&D activities, and the amortization of intangible assets used in R&D activities should be expensed as R&D costs.

Materials, equipment, and facilities acquired or constructed for R&D activities and acquired intangible assets to be used in R&D activities that have no alternative future use, and therefore no separate economic value, should be expensed as R&D costs as incurred. Personnel costs, contract services for R&D activities performed by others, and indirect costs relating to R&D activities should also be expensed as R&D costs as incurred.

An exception to the alternative future use requirement exists for intangible assets acquired in a business combination for use in R&D activities. These acquired intangible assets should be capitalized (i.e., recognized in acquisition accounting) regardless of whether they have an alternative future use. See BCG 4.3.4.1 for additional information on R&D intangible assets acquired in a business combination.

Chapter 3 of the AICPA's *Accounting and Valuation Guide: Assets Acquired to Be Used in Research and Development Activities* includes interpretive guidance to assist in determining whether tangible assets acquired that will be used in R&D activities meet the criterion of having an "alternative future use." Judgment is required to determine whether the "alternative future use" criterion has been met and conclusions should be based on entity-specific facts and circumstances.

Example PPE 8-7 illustrates R&D capitalization vs. expense considerations and Example PPE 8-8 illustrates the accounting for R&D costs.

EXAMPLE PPE 8-7

R&D capitalization vs. expense considerations

PPE Corp incurs costs to construct assets that will be used to produce a drug that is in the final stages of Food and Drug Administration (FDA) regulatory approval. These costs represent expenditures necessary to construct the plant and facility that will be used to produce the drug at commercially viable levels once regulatory approval has been obtained. The project is in an advanced stage and PPE Corp believes regulatory approval will be obtained and that recovery of the costs to construct the assets via future cash flows is probable.

How should PPE Corp account for the costs associated with the construction of the facility?

Analysis

The important distinction is whether the above activities represent research and development costs subject to the guidance in ASC 730. Since the construction activities pertain to tangible assets that will be used to produce the end product at commercially viable levels, rather than costs associated with testing the drug or the construction of a pilot facility or pre-production prototype, the construction project would not be considered a research and development cost as contemplated in ASC 730-10-55-1. Instead, the costs are subject to the general concepts of fixed asset accounting and impairment considerations of ASC 360-10.

In this fact pattern, the company is in an advanced stage and regulatory approval is probable. As PPE Corp believes that use of the assets and recovery of the costs via future cash flows is probable, it would be appropriate for PPE Corp to capitalize the construction costs incurred as plant and equipment. The assets would be subject to impairment testing under ASC 360 based on the expected future cash flows of the appropriate asset grouping, which would consider the various potential outcomes of the regulatory approval process and their associated likelihoods.

EXAMPLE PPE 8-8

Accounting for R&D costs

PPE Corp manufactures GPS technology products for use on golf courses. PPE Corp has been in existence for many years and has multiple products available on the market that use similar

underlying technology (primarily its GPS technology along with its proprietary course-mapping content). PPE Corp has begun investing in the future generation of products, some of which utilize similar underlying technology (but contain new features) and others that are completely new products, both to the company and the market. Costs incurred to date are $6 million, of which $4 million is related to the development of enhancements to existing products, and $2 million is related to the development of new products.

How should PPE Corp account for the $6 million of product development costs?

Analysis

ASC 730-10-55-1 provides a list of items typically included in R&D, which includes conceptual formulation and design of possible product alternatives and modification of the design of a product. ASC 730-10-05-2 indicates that future economic benefits are uncertain for most research and development costs, which is the driving force in the immediate expense recognition for R&D costs. Since the product development costs incurred by PPE Corp are related to both the modification of existing products as well as the conceptual formulation of new products, these product development costs would be within the scope of ASC 730 and classified as research and development costs. Accordingly, the product development costs should be expensed as incurred.

8.3.4 R&D funding arrangements - overview

R&D funding arrangements between a reporting entity and partners or investors, who are often financial or passive investors, typically involve the reporting entity receiving funding in exchange for an obligation to share the financial risks and rewards of the R&D efforts. When negotiating these funding arrangements, reporting entities and financial investors often have different priorities, which may lead to a need for judgment to determine the appropriate accounting for these arrangements.

R&D funding arrangements may extend over different phases of a product's life cycle, from early stage development to the marketing of a finished product. Different levels of risk and reward may be transferred between parties depending on the stage in a product's life cycle in which an agreement is established. At one end of the spectrum, an arrangement may be a debt financing for R&D with a well-defined obligation for repayment. At the other end of the spectrum, an arrangement may involve R&D risk sharing between the parties and encompass complex components, such as new legal entities, put and call options on an entity's equity or intellectual property, debt, or equity instruments, and royalty arrangements. There is no "one size fits all" solution or a "prepackaged" R&D funding strategy. Each arrangement should be evaluated by considering its specific facts and circumstances to determine the accounting and financial reporting impacts.

8.3.4.1 R&D funding arrangements – consolidation considerations

One common form of an R&D funding arrangement includes the creation of a new entity ("NewCo") with the specific purpose of facilitating the arrangement (e.g., a limited partnership). Typically, NewCo would be responsible for performing R&D (which may be outsourced) and often there is a predetermined exit (e.g., providing the reporting entity with a contingent call option or contingent forward purchase obligation on either the asset or the shares of the NewCo) only upon successful completion of the R&D.

When an R&D arrangement is established through a NewCo, companies with an interest in the NewCo should evaluate whether they are required to consolidate the entity under the guidance in ASC 810, *Consolidation*, and whether they are still subject to ASC 730-20 (see PPE 8.3.4.2). This determination will typically require assessing if the NewCo is a variable interest entity (VIE), whether the reporting entity holds a variable interest in the NewCo, and, if so, whether the reporting entity is the primary beneficiary of the VIE. See CG 2 for additional information on accounting for VIEs, the guidance for which should be applied to NewCo funding arrangements.

8.3.4.2 R&D funding arrangements – direct R&D funding

Another common form of an R&D funding arrangement is often referred to as "direct" R&D funding. Typically, direct R&D funding arrangements involve an investor providing direct funding to the reporting entity for a specified R&D project in return for future payments (e.g., milestone payments, royalties on sales) contingent upon successful completion of the R&D. When evaluating the accounting model for direct R&D funding arrangements (particularly in situations when a new legal entity is not established), a reporting entity should assess whether the arrangement is within the scope of ASC 730-20, *Research and Development Arrangements*, or ASC 470-10, *Debt - Overall*. In addition, a reporting entity should consider whether the arrangement either meets all of the characteristics of a derivative or contains an embedded derivative, and if so, whether any of the scope exceptions to derivative accounting are applicable.

ASC 730-20 provides guidance on the accounting by an entity that is a party to an R&D arrangement in which it can obtain control of the results of R&D that is funded partially or entirely by others. ASC 470-10-25 (the "sales of future revenues guidance") provides guidance on the accounting by an entity that receives a payment of cash from an investor and in exchange, agrees to pay the investor a specified percentage or amount of revenue for a particular product line, business segment, trademark, patent, or contractual right for a defined period of time.

To determine which guidance should be applied to the arrangement, the entity receiving funding must first evaluate the nature and substance of the risk associated with the stage of development of the R&D program being funded. If the reporting entity concludes that successful completion of the R&D program is probable at the inception of the arrangement, or the R&D program has already been completed and the related product has been approved (e.g., FDA approval of a new drug), ASC 470-10-25 should be applied. Under this guidance, the classification of the proceeds from an investor as either debt or deferred income will depend on the specific facts and circumstances of the arrangement. However, ASC 470-10-25-2 includes several factors that would create a presumption that the proceeds received should be classified as debt.

Alternatively, ASC 730-20 should be applied if, at the inception of the funding arrangement, the R&D risk is substantive and it is not yet probable that development will be successful. If any conditions exist that suggest it is probable an entity will repay any or all of the funds provided by another party regardless of the outcome of the R&D, an obligation should be recorded by the R&D entity for the amount to be repaid, even if there is no contractual obligation to repay. See PPE 8.3.4.3 for additional information on determining whether an arrangement represents an obligation to repay the funding party or a contract to perform services.

Certain funding arrangements that incorporate other significant risks (including legal, business, operational, time-to-market, etc.) should be evaluated to determine the applicable guidance. For example, if the predominant risk to the third-party investor's ability to recoup its investment relates to

the outcome of patent litigation, it may not be appropriate to evaluate the arrangement under ASC 730-20.

8.3.4.3 *R&D funding arrangements - liability vs. contractual services*

ASC 730-20 requires a reporting entity to determine the nature of the obligation it incurs when it enters an R&D funding arrangement. This guidance requires consideration of whether that arrangement is (1) an obligation to repay the funding party or (2) a contract to perform services.

In order to conclude that an obligation to repay the funding party does not exist under ASC 730-20, the transfer of financial risk associated solely with R&D from the reporting entity to the financial investor (or another counterparty) must be substantive and genuine. A critical factor is to determine who bears the risk of R&D failure and whether the reporting entity is obligated to repay any of the funds, regardless of the outcome of the research and development.

The transfer of financial risk associated with R&D may not be genuine if the reporting entity is committed to repay any of the funds provided by the other parties regardless of the outcome of the R&D. ASC 730-20-25-4 includes examples in which the reporting entity is committed to repay, which include:

- the entity guarantees, or has a contractual commitment that assures repayment of the funds provided by the financial investor regardless of the outcome of the R&D;
- the financial investor has rights to substitute R&D projects if the initial project is not successful and such substitution provides the financial investor with the ability to recoup some or all its funding;
- the financial investor can require the reporting entity to purchase their interest in the R&D regardless of the outcome; or
- the financial investor automatically receives debt or equity securities of the reporting entity upon termination or completion of the R&D regardless of the outcome.

In addition, although R&D funding arrangements may not include contractual provisions that require the reporting entity to repay any of the funds, conditions may indicate that the reporting entity is likely to bear the risk of failure of the R&D and will be required to repay all or a portion of the funds. If any portion of the funds provided by the investor must be repaid regardless of the outcome of the R&D activities, a repayment liability has been incurred under ASC 730-20.

ASC 730-20-25-6 includes examples of such conditions leading to the presumption that the reporting entity will repay the counterparties, including:

- the reporting entity has indicated its intent to repay all or a portion of the funds provided regardless of the outcome of the R&D;
- the reporting entity would suffer a severe economic penalty if it failed to repay any or all of the funds provided to it regardless of the outcome of the R&D;
- a significant related party relationship between the company and the party funding the R&D exists at the time the company enters into the arrangement; or

- the reporting entity has essentially completed the project before entering into the arrangement.

As indicated above, is if there is a significant related party relationship between the reporting entity and the parties funding the R&D activities, there is a presumption that the reporting entity will repay the counterparties. Whether a related party relationship is “significant” is a matter of judgment that will be influenced by the relative interests of the related parties in the funding parties and the R&D entity, as well as the presence of any influential parties (e.g., officers or directors of the funding parties) as investors in the R&D entity. ASC 730-20-S99-1 provides the SEC staff's views on what constitutes a significant related party relationship.

Excerpt from ASC 730-20-S99-1

Question 1: What does the staff consider a "significant related party relationship" as that term is used in FASB ASC subparagraph 730-20-25-6(c)?

Interpretive Response: The staff believes that a significant related party relationship exists when 10 percent or more of the entity providing the funds is owned by related parties. In unusual circumstances, the staff may also question the appropriateness of treating a research and development arrangement as a contract to perform service for others at the less than 10 percent level. In reviewing these matters the staff will consider, among other factors, the percentage of the funding entity owned by the related parties in relationship to their ownership in and degree of influence or control over the enterprise receiving the funds.

In some R&D arrangements, particularly those involving start-up companies, it may be unlikely the reporting entity will have the financial resources to repay the funds when the R&D efforts are completed. However, this does not eliminate the requirement for the reporting entity to record a repayment liability for the R&D funds received, since ASC 730-20-25-3 acknowledges that the liability may be repaid by the issuance of securities or by some other means. This is consistent with ASC 730-20-S99-1, which states that "an apparent or projected inability to repay the funds with cash (or debt which would later be paid with cash) does not necessarily demonstrate that the funding parties were accepting the entire risks of the activities."

Other examples in ASC 730-20-25-6 of conditions leading to the presumption that the R&D funds will be repaid is an indication of an intent to repay some or all of the funds, a "severe economic penalty" that would be suffered by the funding party if the funds were not repaid (e.g., loss of rights to a proprietary technology), or an R&D project that is “essentially completed” before entering into the arrangement. The list of examples included in ASC 730-20-25-6 is not all-inclusive and new provisions included in agreements or new conditions may arise that could have substantially the same effect. As a result of the general nature of the discussion in ASC 730-20-25-6, judgment may be required to determine whether the presumption that the enterprise has an obligation to repay the other parties has been overcome.

If a substantive and genuine transfer of financial risk to the funding parties has occurred because repayment of any of the funds depends solely on the results of the R&D having future economic benefit, ASC 730-20-25-8 requires that the obligation be accounted for by the R&D entity as a contract to perform R&D services for others. As a result, any funding received by the reporting entity under the arrangement would generally be recognized through the income statement, the timing of which will depend on the terms and conditions of the arrangement. ASC 730-20 does not include specific guidance on how the funding received in such a scenario should be recognized in the income

statement. As a result, reporting entities should evaluate the nature of the arrangement and its relationship to the entity's normal, ongoing operations in determining how the funding should be recognized in the income statement (i.e., as contra-R&D expense, revenue from a contract with a customer under ASC 606, a collaborative arrangement, other income).

Example PPE 8-9 illustrates the accounting for a direct R&D funding arrangement with no obligation to repay the funding.

EXAMPLE PPE 8-9

Direct R&D funding arrangement with no obligation to repay

Investor Co. partners with Pharma Corp. for the development of a pre-selected drug compound that is in Phase II clinical studies. Investor Co. and Pharma Corp. are not related parties. Funding is paid directly from the Investor Co. to Pharma Corp. (i.e., no separate legal entity is created) and Investor Co. commits up to a specified dollar amount to fund the R&D for the pre-selected compound. At the time of funding, successful development of the compound is not yet probable. Investor Co. will receive royalties from future sales of the compound if and when it is commercialized, contingent upon regulatory approval of the compound. Investor Co. will not receive any repayment if the compound is not successfully developed. Investor Co. has agreed with Pharma Co. on the selection of the compound and the overall development plan and budget but does not participate in any of the development or commercialization activities. The agreement requires Pharma Co. to use its best efforts to execute the development plan until regulatory approval or demonstration of failure. Pharma Corp. has concluded that the arrangement meets one of the derivative scope exceptions.

How should Pharma Corp. account for the funding received from Investor Co.?

Analysis

Given the nature of the development and regulatory process, the activities undertaken as part of the project would meet the definition of R&D in ASC 730-10-20. Based on the current phase of development, Pharma Corp. would likely conclude that R&D risk is substantive at the inception of the arrangement because successful development of the compound is not probable at that time. Accordingly, Pharma Corp. would apply ASC 730-20 to determine whether the funds received represent a liability to repay Investor Co. or an obligation to perform contractual services.

To conclude that a liability does not exist, the transfer of risk involved with the R&D from Pharma Corp. to Investor Co. must be substantive and genuine (i.e., it must not be probable that any of the funds would be repaid regardless of the outcome of the R&D). In this fact pattern, Pharma Corp. has no explicit or implicit obligation to repay any of the funds and there are no substitution rights or other arrangements that require Pharma Corp. to repay any of the R&D funds. As a result, Pharma Corp. would likely conclude that the arrangement is an obligation to perform contractual services. Because Investor Co. is not a customer and performing R&D activities for others is not part of Pharma Corp.'s normal, ongoing operations, Pharma Corp. may conclude that the funds should be recognized as contra-R&D expense in the income statement.

8.3.4.4 R&D funding arrangements – accounting for repayment obligations

ASC 730-20 does not include specific guidance with respect to the subsequent accounting for funds recognized as repayment obligations. In the absence of specific guidance, we believe when an

obligation to repay the funding party has been incurred, the reporting entity should apply the concepts of ASC 470, *Debt*, in accounting for the repayment obligation.

ASC 730-20 also does not address the common situation when the amounts expected to be repaid to a lender exceed the R&D costs to be incurred. If the repayment obligation is expected to exceed the amount of the cash or other proceeds received, such excess should be accounted for not as R&D costs, but instead as interest cost over the estimated period of the obligation, following the guidance of ASC 835, *Interest*.

8.3.4.5 R&D funding arrangements – funding entity accounting

ASC 730-20-25-11 addresses situations in which a funding entity provides a loan or advance to another party that uses the funds to perform R&D. This guidance requires that if repayment of the loan or advance to the funding entity depends solely on the results of the research and development having future economic benefit, the loan or advance should be accounted for as R&D costs incurred by the funding entity. Consistent with the guidance of ASC 730-10-25-2(d), in situations when a reporting entity contracts with another party to perform R&D activities, the costs of services performed should be recorded as R&D costs in the period services are provided. This may require obtaining periodic progress reports and status updates from the third-party in order to assess the level of effort and progress to date.

Further, ASC 730-20-25-13 indicates that nonrefundable advance payments for future R&D activities should be deferred at the time of payment and subsequently recognized as R&D expense as the related goods are provided or services are rendered. These amounts should be reassessed on a periodic basis to determine whether it is probable that the goods or services will be provided under the arrangement. If a reporting entity does not expect that the goods will be provided or services will be rendered, the advance payment should be immediately recognized as an R&D expense.

In cases when interest is incurred on a loan to finance R&D activities, borrowing costs should be expensed as incurred. This is because R&D activities do not result in a qualifying asset for interest capitalization under ASC 835-20-15-5.

Example PPE 8-10 illustrates the accounting for a nonrefundable upfront payment made to another entity to conduct research on a contractual basis.

EXAMPLE PPE 8-10

Accounting for nonrefundable upfront payment to conduct R&D

Pharma Corp enters into a contract with Research Corp, a third-party professional research organization, to perform research activities for a period of three years in connection with a drug compound for a cancer treatment. Pharma Corp pays Research Corp a non-refundable upfront payment of $5 million to carry out the research under the terms of the contract. Research Corp is responsible for providing Pharma Corp monthly updates on the status of research activities performed. Pharma Corp has the ownership rights to all research performed, including the ability to control the research undertaken. Research Corp has no rights to use the rights of its research for its own purposes.

How should Pharma Corp account for the $5 million upfront payment made to Research Corp?

Analysis

The non-refundable upfront payment is for services that will be rendered for future R&D activities under an executory contract. In accordance with ASC 730-20-25-13, the $5 million upfront payment should be recorded as a prepayment and recognized as R&D expense based upon the pattern of performance (i.e., level of effort) as services are rendered by Research Corp. Pharma Corp should reassess each reporting period whether it expects the services to be rendered by Research Corp in order to assess recoverability of the prepayment.

If the payment to Research Corp represented an advance payment for specific materials, equipment, or facilities with no alternative future use, the payment would be recognized as R&D expense in the period of payment.

8.3.4.6 Disclosures – R&D funding arrangements

See FSP 3.6.5 for the presentation and disclosure requirements for research and development arrangements.

8.3.4.7 Accounting for collaborative arrangements

Reporting entities may enter into contractual arrangements to participate in a joint operating activity to develop and commercialize intellectual property (e.g., the development and commercialization of a new drug, software, computer hardware, or a motion picture). Such arrangements, referred to as collaborative arrangements, involve two or more parties that are (1) active participants in the joint operating activity and (2) exposed to significant risks and rewards dependent on the commercial success of the activity. ASC 808-10-15-9 indicates that those arrangements in which one party only provides funding or other financial resources for R&D activities and is not otherwise an active participant in the activities generally would not meet the definition of a collaborative arrangement. Alternatively, R&D arrangements between two parties that involve active co-development or co-marketing may meet the definition of a collaborative arrangement if certain criteria are met.

Reporting entities should consider whether R&D funding arrangements, or part of these arrangements, are within the scope of ASC 808, *Collaborative Arrangements*, when determining the appropriate income statement presentation, classification, and disclosure. See RR 2.4.1 for further discussion on collaborative arrangements.

8.4 Emission allowances

Accounting for emissions allowances can be judgmental and is currently not addressed by authoritative guidance in US GAAP. This section provides interpretive guidance on the accounting for emission allowances.

8.4.1 Accounting considerations for emission allowances

Certain atmospheric gases (e.g., carbon dioxide, methane, nitrous oxide) are called greenhouse gases (GHGs) because they are believed to contribute to the retention of outgoing energy, trapping heat somewhat like the glass panels of a greenhouse. Various governments have created programs to incentivize entities to reduce the level of emissions in manufacturing facilities and the pollution

generated from automotive vehicles. Companies may participate in emission reduction programs to reduce the emission of GHGs, such as by setting emission limits or modifying the emission source.

A government may establish a target limit for the amount of emissions during a period. The term “emission allowance” refers to a tradeable instrument that conveys a right to emit a unit of pollution. Participants may be allocated emission allowances free of charge, or they may be required to purchase allowances from the government (e.g., through government auctions) or other participants. The allowance gives a participant the right to emit a specified amount of gases. Within the automotive industry, the government forces automotive manufactures to reduce the impact of emissions through increased miles per gallon capabilities or through the increased production and sale of zero or low emission vehicles (e.g., electric or hybrid vehicles).

Emission allowances are treated as a separate unit of account when received from the government or purchased from third parties. Entities use emission allowances in various ways, some entities buy and sell emission allowances in the normal course of business to profit from market price changes, whereas others use emission allowances to meet compliance requirements associated with production.

Because of a lack of authoritative guidance, there are various complexities related to the accounting for emissions allowances including but not limited to:

- Reporting entities may use various models to account for emission allowances (generally as an intangible asset or inventory).

- The initial recognition of emission allowances may be at zero cost (i.e., if received from the government) or at fair value.

- Emission allowances purchased and sold on an open market are subject to costing policies (e.g., LIFO, FIFO, average cost) and may be subject to derivative accounting.

See UP 6 for guidance on the accounting models for emissions allowances.

Chapter 9: Environmental obligations —updated March 2021

9.1 Chapter overview – environmental obligations

The primary authoritative guidance on accounting for environmental obligations is contained in ASC 410-30, *Asset Retirement and Environmental Obligations, Environmental Obligations*. ASC 410-30 provides guidance for recognizing a liability for obligations associated with environmental remediation liabilities. This guidance consists principally of three parts: (1) a non-authoritative overview of important environmental laws and regulations, (2) authoritative guidance with respect to the recognition, measurement, and presentation and disclosure of environmental remediation liabilities, and (3) implementation guidance and illustrations.

ASC 410-30 includes guidance governing the measurement of an estimated environmental remediation liability, including which costs to include in the estimate, how to consider the effects of future developments, and how to allocate the liability between involved parties (referred to as potentially responsible parties). The recognition criteria outlined in ASC 410-30 generally follows the guidance of ASC 450-20, *Contingencies, Loss Contingencies*. Although environmental remediation liabilities is not one of the examples discussed in ASC 450, *Contingencies*, these liabilities are nevertheless loss contingencies and the discussion in ASC 450-20-55-10 through ASC 450-20-55-17 is useful in understanding the requirements of ASC 410-30.

The provisions of ASC 410-30 do not apply to the accounting for asset retirement obligations (AROs). Instead, AROs are governed by the authoritative guidance of ASC 410-20, *Asset Retirement and Environmental Obligations, Asset Retirement Obligations*. The scope of ASC 410-30 differs from ASC 410-20 in that ASC 410-30 addresses a liability that results from the improper operation of an asset, whereas ASC 410-20 addresses obligations that arise due to the normal operation of an asset. See PPE 3 for more information on accounting for asset retirement obligations under ASC 410-20.

9.2 Environmental obligation remediation and liability laws

ASC 410-30-05 provides a non-authoritative overview of important environmental laws and regulations in the context of a reporting entity's operations within the United States. This guidance is not intended to provide definitive interpretations of the environmental laws, rules, and regulations discussed. Due to the evolving global regulatory and legal landscape, reporting entities should evaluate current laws, rules, and regulations, as necessary.

See ASC 410-30-05-01 through ASC 410-30-05-24 for the non-authoritative overview of environmental laws, rules, and regulations.

9.3 Scope of the environmental obligation guidance

ASC 410-30 requires that all reporting entities recognize a liability for obligations associated with environmental remediation liabilities. ASC 410-30-15 indicates the types of transactions subject to the environmental obligation guidance.

ASC 410-30-15-1

The provisions of this Subtopic apply to all entities. This Subtopic provides guidance on accounting for environmental remediation liabilities and is written in the context of operations taking place in the United States; however, the accounting guidance is applicable to all the operations of the reporting entity.

ASC 410-30-15-2

The recognition and measurement guidance in this Subtopic should be applied on a site-by-site basis.

ASC 410-30-15-3

The guidance in this Subtopic does not apply to the following transactions and activities:

a. Environmental contamination incurred in the normal operation of a long-lived asset (see Subtopic 410-20 for guidance that will apply if the entity is legally obligated to treat the contamination). Paragraph 410-20-15-3(b) explains that the obligation to clean up the spillage resulting from the normal operation of the fuel storage facility is within the scope of Subtopic 410-20. Additionally, that Subtopic applies if a legal obligation to treat environmental contamination is incurred or assumed as a result of the acquisition, construction, or development of a long-lived asset.

b. Pollution control costs with respect to current operations or on accounting for costs of future site restoration or closure that are required upon the cessation of operations or sale of facilities, as such current and future costs and obligations represent a class of accounting issues different from environmental remediation liabilities.

c. Environmental remediation actions that are undertaken at the sole discretion of management and that are not induced by the threat, by governments or other parties, of litigation or of assertion of a claim or an assessment.

d. Recognizing liabilities of insurance entities for unpaid claims.

e. Natural resource damages and toxic torts (see paragraphs 450-20-55-10 through 55-21).

f. Asset impairment issues.

Although ASC 410-30 is written in the context of a reporting entity with operations in the United States, the guidance applies to all reporting entities applying US GAAP. In addition to United States Federal laws, many companies are also subject to state, local, and foreign environmental laws and regulations. These laws and regulations need to be assessed in determining any environmental liabilities.

ASC 410-30-15-2 indicates that the recognition and measurement criteria for environmental obligations should be applied on a site-by-site basis. Accordingly, the unit of account when recognizing and measuring environmental obligations should be at the individual site level.

9.3.1 Environmental obligation scope exclusion – AROs

ASC 410-30-15-3 excludes environmental contamination incurred through the “normal operation” (including the acquisition, construction, or development) of a long-lived asset. These should be evaluated under ASC 410-20, *Asset Retirement and Environmental Obligations, Asset Retirement Obligations*. See PPE 3 for information on the recognition and measurement of AROs.

9.3.2 *Environmental obligation scope exclusion – management discretion*

ASC 410-30-15-3 excludes from its scope voluntary remediation actions that are undertaken at the sole discretion of management as there is no legal or regulatory obligation to incur these costs. As a reporting entity has the ability to change its remediation plans, including the timing and amount of costs to be incurred, the recognition of a liability is excluded from the scope of ASC 410-30.

9.4 *Recognition and measurement (environmental obligations)*

Environmental remediation liabilities arise when a reporting entity is, or was previously, associated with a site at which remedial actions must take place. Per ASC 410-30-25-3, involvement can occur through a number of activities, including (1) past or present ownership of the site, (2) past or present operation of the site, (3) contribution or transportation of waste to the site.

If one of these types of involvement has occurred on or before the date of the financial statements, ASC 410-30-25-1 requires that a liability for an environmental remediation obligation be recognized when the amount is probable and can be reasonably estimated. This guidance is consistent with that required by ASC 450, *Contingencies*. However, in addition to the recognition requirements under ASC 450, ASC 410-30 includes additional implementation guidance for applying these criteria to environmental remediation obligations. This is because the complexities and legal requirements surrounding hazardous material and waste remediation may pose challenges in terms of evaluating the ASC 450 criteria of "probable" and "reasonably estimable."

9.4.1 *Environmental remediation obligations – "probable"*

ASC 450 requires recognition of liabilities when the event of loss is considered both "probable" and "reasonably estimable." Of the two criteria, the probability threshold generally requires less judgment. Evidence linking a reporting entity to environmental contamination, whether discovered through an internal review or notification of potentially responsible party status by a regulatory agency (e.g., through a notice received from the EPA or another regulatory agency), would suggest a liability is probable. However, notification by a regulatory agency is not a requirement to conclude that the "probable" criterion has been met. If an entity concludes that pollution or contamination of a site has occurred on or before the date of the financial statements and it is probable that remediation will be necessary, the "probable" criterion is considered to have been met, even if notice from a regulatory agency has not been received.

In assessing the probability criterion, ASC 410-30-25-6 indicates that there is a presumption that the outcome of litigation, claims, and assessments against a reporting entity for environmental remediation will be unfavorable if two specified conditions exist.

ASC 410-30-25-6

Given the legal framework within which most environmental remediation liabilities arise, there is a presumption that the outcome of such litigation, claim, or assessment will be unfavorable if both of the following conditions exist:

a. Litigation has commenced or a claim or an assessment has been asserted, or if commencement of litigation or assertion of claim or assessment is probable.

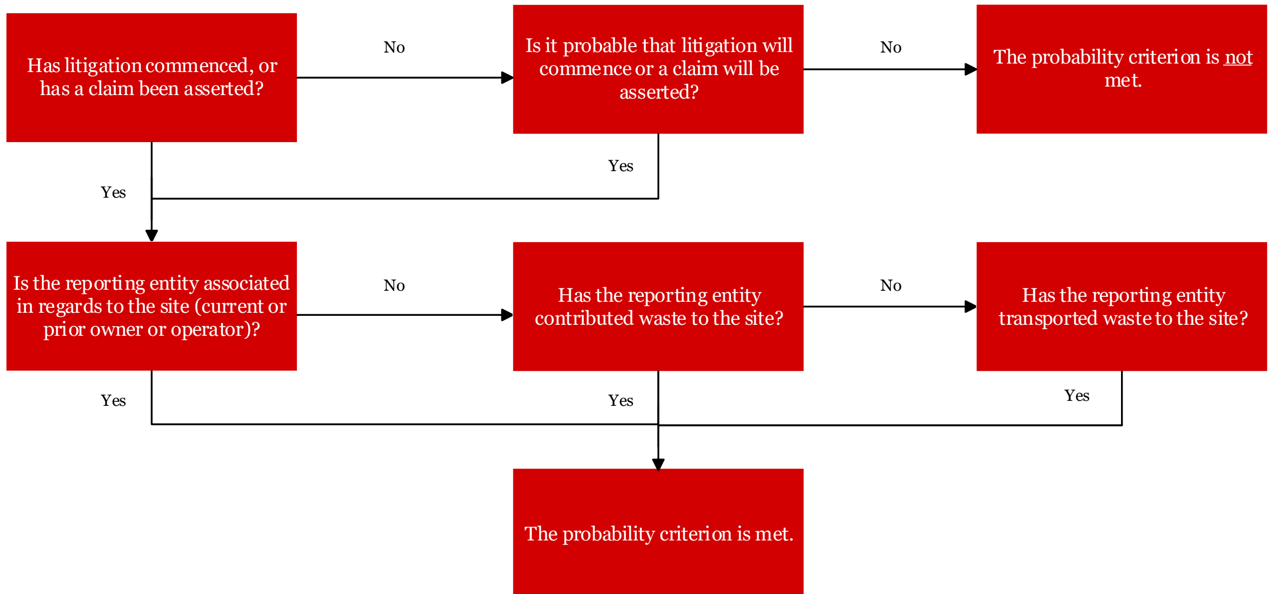
b. The reporting entity is associated with the site – that is, it in fact arranged for the disposal of hazardous substances found at a site or transported hazardous substances to the site or is the current or previous owner or operator of the site.

The presumption may be overcome only by persuasive factual evidence to the contrary (e.g., if the entity was erroneously named as a potentially responsible party). In cases involving on-site waste disposal the determination of whether it is probable that a liability has been incurred by the entity is typically straightforward.

Figure PPE 9-1 is a flowchart summarizing the guidance of ASC 410-30 as to whether the "probable" criterion is met.

Figure PPE 9-1

Assessing whether the "probable" criterion is met



Question PPE 9-1 includes an analysis as to whether the "probable" criterion has been met for an environmental remediation liability.

Question PPE 9-1

A reporting entity is aware of hazardous waste contamination at a particular site. The site is owned by the reporting entity and there is no evidence of contamination to any other person's land. State environmental regulations require the reporting entity to remediate the contamination if state regulators became aware of the contamination. However, there has been no action taken against the reporting entity by these regulators. The reporting entity has currently fenced-in the area to restrict access and has no plans to perform any further remediation efforts in the foreseeable future. Instead, the reporting entity plans to wait until it is forced by the state regulatory agencies to remediate the contamination, which it believes is likely were the agency to become aware of the contamination. No site study has been prepared to assess the cost of remediation. Has the "probable" criterion under ASC 410-30 been met?

PwC response

It is likely that the "probable" criterion under ASC 410-30 has been met as the entity is legally responsible for remediation under currently enacted law and it is probable that a claim would be asserted if state regulators were to discover the contamination. As the reporting entity owns the contaminated site and it is probable that regulatory agencies would assert a claim were they to become aware of the contamination, there is a presumption that the outcome for the reporting entity would be unfavorable. As such, the "probable" criterion has likely been satisfied under ASC 410-30. The reporting entity should also consult with legal counsel to evaluate all facts in determining that the "probable" criterion has been met under ASC 410-30.

9.4.2 Environmental remediation obligations – "estimable"

ASC 410-30-25-7 indicates that given their nature, it may be difficult to estimate the total cost of environmental remediation liabilities. A variety of factors may raise uncertainty as to the total cost of remediation, especially early in the remediation process. Given these challenges, a reporting entity's initial estimates may later require adjustment due to, but not limited to, the factors, which are outlined in ASC 410-30-25-7.

Excerpt from ASC 410-30-25-7

The following are some of the factors that are integral to developing cost estimates:

a. The extent and types of hazardous substances at a site

b. The range of technologies that can be used for remediation

c. Evolving standards of what constitutes acceptable remediation

d. The number and financial condition of other potentially responsible parties and the extent of their responsibility for the remediation (that is, the extent and types of hazardous substances they contributed to the site).

Despite these complicating factors, a reporting entity should attempt to reasonably estimate the cost of environmental remediation when it has determined that an obligation is probable. As the base of knowledge throughout the business community continues to grow concerning environmental remediation costs, it is increasingly difficult for a reporting entity to support delayed recognition of an environmental remediation liability because of an inability to reasonably estimate it.

Given the nature of environmental obligations, a "point" estimate of the total cost for remediation is often difficult to determine. ASC 410-30-25-9 and ASC 410-30-25-10 include guidance for when there is a range of estimates.

ASC 410-30-25-9

An estimate of the range of an environmental liability typically is derived by combining estimates of various components of the liability (such as the costs of performing particular tasks, or amounts allocable to other potentially responsible parties but that will not be paid by those other potentially responsible parties), which are themselves likely to be ranges. For some of those component ranges, there may be amounts that appear to be better estimates than any other amount within the range; for other component ranges, there may be no such best estimates. Accordingly, the overall liability that is recorded may be based on amounts representing the lower end of a range of costs for some components of the liability and best estimates within ranges of costs of other components of the liability.

ASC 410-30-25-10

In the early stages of the remediation process, particular components of the overall liability may not be reasonably estimable. This fact should not preclude the recognition of a liability. Rather, the components of the liability that can be reasonably estimated should be viewed as a surrogate for the minimum in the range of the overall liability.

An environmental remediation liability is typically comprised of several components. For some of these components, the facts may indicate a best estimate within a range. For other components, there may be no best estimate within the range. For still others, there may be no reasonable estimate of the range. As such, the overall liability (i.e., the sum of all of the components) may be based on a combination of amounts representing the low ends for components for which there is a reasonable estimate of a range and, for other components, the best estimate within ranges. Even when the range is very wide, at a minimum, the lower end of the range should be accrued.

This requirement is akin to the recognition criteria of ASC 450-20-30-1, which requires accrual of "the amount that appears to be a better estimate than any other estimate within the range, or accrual of the minimum amount in the range if no amount within the range is a better estimate than any other amount."

It is the reporting entity's responsibility to undertake reasonable measures to comply with the requirements of ASC 450 and ASC 410-30. It is reasonable that the amount of a probable environmental liability would not be determinable immediately upon discovery of the situation and that a reasonable period of time would be required to gather sufficient data to estimate the amount. However, the credibility of "inestimability" as justification for not recording a probable environmental liability diminishes with the passage of time, particularly when applying the components concept prescribed by ASC 410-30-25-9. Generally, some amount would be accrued when involvement in remediating a site is probable.

Question PPE 9-2 outlines considerations for a reporting entity upon notification by a governmental agency that it is one of multiple potentially responsible parties (PRPs) in regard to an environmental waste site.

Question PPE 9-2

A reporting entity has been notified by a governmental agency that it one of several PRPs with regard to an environmental waste site. The reporting entity believes it is not the biggest offender in terms of volume or severity of waste. No site study has been prepared. How should the reporting entity determine the possible effects on its financial statements?

PwC response

Once the reporting entity has confirmed it is associated with the site, ASC 410-30 concludes that the "probable" criterion has been met. The reporting entity should discuss the site with the governmental agency involved to ascertain the total extent of waste, particularly given joint and several liability statutes, and to inquire as to other PRPs involved. The reporting entity should review site operating records or disposal records to determine what materials the reporting entity was likely to have disposed of and in what quantities. The reporting entity may have available past history from similar sites upon which to base estimates of cost. The reporting entity could also engage an environmental

consulting firm to perform a preliminary review of the site. At a minimum, accrual of the estimated cost to perform the remediation study is required.

If the reporting entity is one of many PRPs, but not the "lead" PRP (or in the group of "primary" PRPs), the reporting entity may be subject to the timetable established by the regulatory agency and lead PRP. In such instances, information concerning work related to determining the extent and type of remedial actions, the remedial investigation and feasibility study, and remediation estimates may be available and such estimates would be a starting point for a reporting entity to make an estimate of its share.

9.4.3 Environmental remediation obligations – estimability

There are several factors that may make estimating an environmental remediation liability difficult. Example of these factors include:

- Multiple elements to the remediation action - a remediation action may consist of many elements (e.g., pre-clean-up activities, deciding on and negotiating with governmental authorities the approval of a particular remediation plan, administration of the PRP group activities, the remediation itself, and postremediation monitoring). The cost of each element must be measured to arrive at the total liability.

- Length of time involved - The time between identification of a site, remedial investigation and feasibility study (RI/FS) analysis, clean up, and settlement between PRPs can be lengthy. Depending on the extent and nature of contamination at a site, the RI/FS process can take over a year to complete. Regulatory agency reviews of a PRP submittal introduce additional time. Remediation can take years, and postremediation monitoring may be required for decades. The length of time involved in remediation actions may impact a reporting entity's ability to estimate the liability.

- Various alternatives for remediation - In ascertaining remediation cost, estimates can be affected by the nature, location, and volume of waste, existing remediation standards, and remediation process selected. For example, remediation may include removal and treatment of source material, treatment of ground and water contamination, disposal or destruction of waste material, contamination containment, or a combination of these. RI/FS analysis may outline different alternatives for remediation and costs associated with each methodology can vary significantly. If more than one PRP is involved and/or more than one regulatory agency, deciding between alternatives can be time consuming. However, the least costly alternative establishes the minimum amount of the liability incurred and must be accrued in accordance with ASC 450 and ASC 410-30-25-9. Additionally, during the remediation process, additional sources of contaminants are sometimes discovered that may require different remediation methods and a longer remediation period and ultimately increase total cost. When additional information becomes available, accruals for losses must be adjusted (i.e., change in estimates accounted for in accordance with ASC 250-10-45-17 through ASC 250-10-45-20).

- Technological changes - Remediation methods may change and new technologies may be developed. The potential exists for remediation costs to be reduced by future technological advances. However, there is no basis for reducing current remediation accruals in anticipation of unproven technologies. ASC 410-30-30-15 states that the estimate of the liability should be based on the methodology that is expected to be approved to complete the remediation effort. That

methodology should be the basis for estimating the liability until it is probable that there will be a formal acceptance of a revised methodology.

- Changing standards and regulations - Remediation may be performed to comply with current standards. However, subsequent changes to the law may require further remediation. ASC 410-30-30-15 requires that for the purposes of measuring remediation liabilities, the measurement must be based on enacted laws and adopted regulations and policies. Changes in laws, regulations, and policies should not be anticipated for the purposes of measuring the liability.

- Potential recovery from third parties - A potentially responsible party (PRP) may have potential for recovery from third parties (non-participating PRPs, prior company owners, or insurance). See PPE 9.4.5.4 for guidance surrounding the treatment of potential recoveries.

- Insurance coverage – Many companies assert insurance coverage under prior general liability policies. See PPE 9.4.5.4 for guidance surrounding the treatment of potential recoveries, including insurance recoveries.

9.4.4 Environmental remediation obligations – PRP allocation

Potentially responsible parties (PRPs) may be jointly and severally liable for cleanup and a PRP may be held responsible for the entire cost of cleanup. It may not matter who is the most responsible for the contamination; rather, liability can be ascribed to those who can pay.

Having more than one PRP can complicate the determination of the amount of loss each party will bear. Many Superfund sites involve numerous *PRPs and the EPA may pursue the most responsible and financially viable PRPs, leaving it up to the "primary" PRPs to seek recovery from any other parties*. PRPs fall into one of several categories, as described in ASC 410-30-30-2. The specific category of the PRPs may affect the determination of a reporting entity's allocable share of the joint and several liability. See ASC 410-30-30-1 through ASC 410-30-30-7 for more information.

ASC 410-30-30-2

For purposes of estimating an entity's allocable share of the joint and several remediation liability for a site, those parties that are potentially responsible for paying the remediation liability belong to one of the following five potentially responsible party categories:

a. Participating potentially responsible parties

b. Recalcitrant potentially responsible parties

c. Unproven potentially responsible parties

d. Unknown potentially responsible parties

e. Orphan share potentially responsible parties.

ASC 410-30-30-8 states that an environmental remediation liability is comprised of two elements: (1) the allocable share of the liability for a specific site, and (2) the amounts related to the site that will not be paid by other PRPs or the government (when the liability is joint and severable).

ASC 410-30-30-1 through ASC 410-30-30-7 discusses the issue of allocation among PRPs. However, if a probable range of loss is determinable, the most likely amount within the range should be recorded,

or if no amount is more likely than any other amount, the low end of the range should be recorded in accordance with the measurement guidance in ASC 450.

The larger PRPs are often the best informed of developments at a site and are the first to accrue losses. Thus, an awareness of what other PRPs are doing may be important in determining when enough information is available to permit recognition of a loss. The ability of other PRPs to pay their allocated share should also be reviewed.

Question PPE 9-3 and Question PPE 9-4 outline considerations for determining a reporting entity's (individual PRP's) share of a total environmental remediation obligation.

Question PPE 9-3

A reporting entity is one of many parties involved at a remediation site. A preliminary remediation study has been performed, noting a range of remediation costs under various alternatives of $50-$150 million. How does the reporting entity determine its share of this component of the liability?

PwC response

An estimate of the reporting entity's share may be based on the relative proportion of waste (in terms of weight, volume, or toxicity). In some instances, legal action between PRPs may be protracted. However, steps should be taken to determine a range of probable loss and record the most probable amount in the range; if no amount is a better estimate than any other amount, the low end of the range should be recorded (in accordance with ASC 450-20-30-1). For example, if the reporting entity is responsible for 8-10% of the waste (based on some measurable criteria such as volume), a minimum accrual of 8% of $50 million (the low end of the range) plus other soft costs (such as cost of remediation study, legal fees) would be appropriate. The reporting entity would also be responsible for its share of costs of other PRPs (those responsible for the other 90-92%) that are unable to pay their share of the total obligation. Assessing other PRPs' ability to pay requires a thorough understanding of the legal environment (e.g., whether joint and several liability applies) and the financial condition of other PRPs.

Question PPE 9-4

The EPA has incurred $10 million to perform a Phase I clean-up of a Superfund site. A reporting entity has been notified it is a PRP, along with five other companies. Based on the reporting entity's records, the reporting entity contributed 25% of the hazardous materials dumped at the site. No remediation study has been completed with respect to the remaining clean up; however, additional costs will be incurred. One PRP is in Chapter 7 bankruptcy proceedings; another PRP is disputing that it disposed of any materials at the site. How should the reporting entity account for the claim?

PwC response

Although the eventual percentage responsibility among the PRPs is not yet determinable, the reporting entity can reasonably estimate it has a minimum liability based on its 25% contribution to the site for the Phase I activity. The reporting entity should accrue $2.5 million for the governmental assessment element of the liability. Because of the Chapter 7 filing of another PRP, it may need to accrue more than its allocated share (as there are indications that PRP may not be able to pay their share of the total obligation). Assessing other PRPs' ability to pay requires a thorough understanding of the legal environment (e.g., whether joint and several liability applies) and the financial condition of

other PRPs. With regard to the Phase II remediation, the reporting entity should attempt to estimate the cost based on prior experience or other available data.

9.4.5 *Environmental remediation obligations – benchmarks*

ASC 410-30-25-15 provides the stages (i.e., benchmarks) for environmental remediation liabilities. A reporting entity is required, at a minimum, to evaluate its estimates of environmental remediation liabilities upon the occurrence of each of these benchmarks. The benchmarks discussed in ASC 410-30-25-15 include:

a. Identification and verification of an entity as a potentially responsible party

b. Receipt of unilateral administrative order

c. Participation, as a potentially responsible party, in the environmental remedial investigation-feasibility study

d. Completion of feasibility study

e. Issuance of record of decision

f. Remedial design through operation and maintenance, including postremediation monitoring.

See ASC 410-30-25-15 for a detailed discussion of each of these recognition benchmarks, including the impact on the recognition and measurement of the related environmental remediation liability.

9.4.5.1 *Costs and activities included in environmental obligations*

ASC 410-30-30-10 defines costs to be included in the measurement of remediation liabilities as (a) incremental direct costs of the remediation effort, and (b) costs of compensation and benefits for employees to the extent of time expected to be spent directly on the remediation effort.

Additionally, ASC 410-30-30-11 requires that the remediation effort be evaluated on a site-by-site basis when recognizing and measuring an environmental remediation liability. The implementation guidance in ASC 410-30-55-1 and ASC 410-30-55-2 provide examples of incremental direct costs of the remediation effort that should be included in the measurement of the environmental remediation liability.

ASC 410-30-55-1

This implementation guidance illustrates paragraphs 410-30-30-10 through 30-11. Examples of incremental direct costs of the remediation effort include the following:

a. Fees to outside law firms for work related to determining the extent of remedial actions that are required, the type of remedial actions to be used, or the allocation of costs among potentially responsible parties

b. Costs related to completing the remedial investigation-feasibility study

c. Fees to outside engineering and consulting firms for site investigations and the development of remedial action plans and remedial designs

d. Costs of contractors performing remedial actions

e. Governmental oversight costs and past costs; usually this is based on the cost incurred by the Environmental Protection Agency or other governmental authority dealing with the site

f. The cost of machinery and equipment that is dedicated to the remedial actions and that does not have an alternative use

g. Assessments by a potentially responsible party group covering costs incurred by the group in dealing with a site

h. Costs of operation and maintenance of the remedial action, including the costs of postremediation monitoring required by the remedial action plan.

ASC 410-30-55-2

Examples of employees who may devote a significant amount of time directly to the remediation effort include the following:

a. The internal legal staff that is involved with the determination of the extent of remedial actions that are required, the type of remedial action to be used, and the allocation of costs among potentially responsible parties

b. Technical employees who are involved with the remediation effort.

The costs of services related to routine environmental compliance matters and litigation costs involved in obtaining potential recoveries or reimbursements of costs from other parties are not part of the remediation effort. ASC 410-30-30-14 includes guidance for legal costs incurred relating to potential recoveries.

ASC 410-30-30-14

Litigation costs involved with potential recoveries shall be charged to expense as incurred until realization of the claim for recovery is considered probable and an asset relating to the recovery is recognized, at which time any remaining such legal costs shall be considered in the measurement of the recovery.

The determination of which legal costs are for potential recoveries (i.e., not considered part of the remediation effort) rather than for allocating costs among PRPs or other remediation matters (i.e., considered part of the remediation effort – and therefore included in the measurement of the environmental liability) will depend on specific facts and circumstances. Routine environmental compliance matter costs should be charged to expense as incurred. Legal costs associated with litigation, claims, and assessments not directly related to environmental remediation activities (e.g., lawsuits filed by individuals or groups for health effects of environmental contamination, fines imposed by regulatory agencies) are not within the scope of ASC 410-30 and should instead be evaluated under the framework of ASC 450-20.

9.4.5.2 Discounting environmental remediation liabilities

ASC 410-30-35-12 concludes that discounting environmental remediation liabilities, or components of environmental remediation liabilities, to reflect the time value of money is allowed but not required. Discounting would be allowed when the amount of the obligation and the timing of payments are fixed or reliably determinable. Given the nature of environmental liabilities (e.g., uncertainties in amount of obligation and time period over which these obligations are settled), it may be difficult for a reporting

entity to support that they have met both of the requirements of ASC 410-30-35-12 for the discounting of the liability.

We believe this means that the estimate of the expected costs to be incurred must be based on a site-specific plan for the clean-up and the amount and timing of cash payments must be based on objective and verifiable information. These conditions would not apply to liabilities that are measured based on the lowest amount within a range or on current cost estimates. The undiscounted estimated cash flows should include estimates of inflation and should be computed using explicit assumptions and methods derived from the remediation plan.

When applying the discounting guidance on a component basis, as discussed in ASC 410-30-35-12, certain components of the remediation liability may meet the criteria for discounting, such as the annual operating costs for postremediation monitoring equipment. Other components may not meet the criteria for discounting.

ASC 450-20-S99-1, SAB Topic 5.Y, Question 1 sets forth the discount rate the SEC staff believes is appropriate, which is a settlement rate in an arm's length transaction (if readily determinable). Given that this rate will most likely not be determinable, the SAB sets forth a ceiling on the rate, that is, it should not exceed the interest rate on risk-free monetary assets with maturities comparable to those of the liability. See FSP 11.5.2 for the financial statement disclosure requirements when discounting is applied.

9.4.5.3 Capitalization of environmental remediation costs

Environmental costs should generally be charged to expense in the period incurred. However, there are exceptions that allow for the capitalization of environmental costs to the extent they are recoverable and any one of the criteria included in ASC 410-30-25-18 are met.

ASC 410-30-25-18

Those costs may be capitalized if recoverable but only if any one of the following criteria is met:

a. The costs extend the life, increase the capacity, or improve the safety or efficiency of property owned by the entity. For purposes of this criterion, the condition of that property after the costs are incurred must be improved as compared with the condition of that property when originally constructed or acquired, if later.

b. The costs mitigate or prevent environmental contamination that has yet to occur and that otherwise may result from future operations or activities. In addition, the costs improve the property compared with its condition when constructed or acquired, if later.

c. The costs are incurred in preparing for sale that property currently held for sale.

ASC 410-30-55-18 through ASC 410-30-55-26 include several illustrations of whether costs to treat environmental contamination should be capitalized or charged to expense.

Question PPE 9-5 and Question PPE 9-6 address the capitalization of environmental remediation costs.

Question PPE 9-5

A reporting entity has ground water contamination from waste at its plant. In order to clean up existing contaminated water, a filtration system is installed that also serves to filter water used in current plant operations. Should the cost of the filtration system be capitalized?

PwC response

Yes. As the filtration system benefits future operations by mitigating/preventing additional groundwater contamination that would otherwise result from continuing plant operations and thereby improves the safety of the property in comparison to the original construction, the cost may be capitalized under the first or second criterion of ASC 410-30-25-18.

Question PPE 9-6

A reporting entity has ground water contamination from waste at its plant, which is no longer operating. In order to clean up the existing contaminated water, a filtration system is installed. The reporting entity has met the held for sale criteria for the non-operating plant. Should the cost of the filtration system be capitalized?

PwC response

Yes. The cost of the filtration system should be capitalized as permitted under the third criterion of ASC 410-30-25-18, subject to a recoverability test. See PPE 5.5 for additional information on the impairment of long-lived assets to be disposed of by sale.

9.4.5.4 Accounting for recoveries of environmental costs

ASC 410-30-35-8 requires that an environmental liability be evaluated independent from any potential claim for recovery and the loss arising from the recognition of an environmental liability be reduced only when a claim for recovery from third parties is probable of realization. Further, the guidance stipulates that a rebuttable presumption exists that recovery is not probable of realization in instances when the recovery claim is the subject of litigation.

The amount of a potential recovery should be measured based on all available information. The measurement of the potential recovery should also incorporate the time value of money (i.e., discounting) in situations when the related liability is discounted.

ASC 720-20, *Other expenses, Insurance Costs*, addresses various aspects of the accounting for retroactive insurance contracts and claims-made insurance policies by an insured entity, including an insurance entity that purchases insurance unrelated to its core insurance operations. ASC 720-20 should be considered when assessing the accounting for claim recoveries from insurance companies. See PPE 8.2 for information surrounding the accounting for insurance costs, including insurance recoveries relating to environmental claims.

Probable recoveries should be reflected separately as an asset in the balance sheet and should not be netted against the related environmental liability. This is consistent with the guidance of ASC 210-20, *Balance Sheet, Offsetting*. ASC 410-30-45-2 states that it would be rare that the environmental remediation liabilities, related receivables, and potential recoveries would meet the criteria of ASC 210-20.

Question PPE 9-7 addresses a scenario in which a reporting entity believes certain environmental remediation costs may be covered by a general liability insurance policy.

Question PPE 9-7

A reporting entity has been named as a potentially responsible party in connection with hazardous waste it disposed. The reporting entity believes its general liability insurance in effect at the time should cover any loss. What should the reporting entity record?

PwC response

In accordance with ASC 410-30, assessment of the potential recovery should be independent of the assessment of the remediation obligation; recovery may be recognized only if it is probable of realization. Investigation should be made as to the financial viability of the insurance carrier. The reporting entity should review the policy to determine whether there were exclusions concerning environmental matters, passage of time, or other matters. Determination of "probable" in the case of an insurance recovery generally requires strong evidence, as many insurance companies will choose to litigate rather than pay the claim. ASC 410-30 stipulates the rebuttable presumption that claims subject to litigation are not probable of recovery.

Question PPE 9-8 addresses a scenario in which a reporting entity purchases a retroactive insurance contract to cover certain environmental liabilities.

Question PPE 9-8

A reporting entity purchases a retroactive insurance contract to cover environmental liabilities. The company has a pre-existing accrual for environmental costs of $50 million. It then buys an insurance policy for $30 million to cover that liability (the $20 million difference relates primarily to the fact that the insurance policy is priced to take into consideration the present value of the expected future cash flows). How should the amount paid to the insurance company be reported?

PwC response

ASC 720-20 addresses various aspects of the accounting for retroactive insurance contracts and claims-made insurance policies by an insured entity, including an insurance entity that purchases insurance unrelated to its core insurance operations.

Purchased retroactive insurance contracts that indemnify the insured entity should be accounted for in a manner similar to the way in which retroactive reinsurance contracts are accounted for under ASC 720-20-25-3 through ASC 720-20-25-5. Accordingly, the amounts paid for retroactive insurance should be expensed immediately. If collection of insurance proceeds is probable, a receivable should be established for the expected recoveries related to the underlying insured event. If the receivable established exceeds the amounts paid for the insurance, the resulting gain is deferred. If the amounts and timing of the insurance recoveries can be reasonably estimated, the deferred gain should be amortized using the interest method over the estimated period over which the entity expects to recover substantially all amounts due under the terms of the insurance contract. If the amounts and timing of the insurance recoveries cannot be reasonably estimated, the proportion of actual recoveries to total estimated recoveries should be used to determine the amount of the amortization. Immediate gain recognition and liability derecognition are not appropriate because the liability has not been extinguished per the guidance in ASC 405-20-40-1, *Liabilities, Extinguishment of Liabilities*.

Additionally, the liability incurred as a result of a past insurable event and amounts receivable under the insurance contract do not meet the criteria for offsetting under ASC 210-20.

9.5 Subsequent measurement (environmental obligations)

Given the nature of environmental remediation liabilities, a reporting entity's estimated liability will often evolve over time, as additional information relating to the liability becomes known. If the changes to estimated amounts are the results of new information, they should be considered changes in accounting estimates under ASC 250, and should be recognized in the period in which they occur. Errors in a reporting entity's previously recorded environmental remediation liabilities are not changes in estimates and should be evaluated under the framework of ASC 250. Refer to FSP 30 for presentation and disclosure guidance surrounding accounting changes, including evaluation of changes in accounting estimates and correction of errors.

9.5.1 Ongoing operations costs (environmental obligations)

Many companies incur significant costs in connection with the environmental aspects of ongoing operations. Examples of these costs and the related accounting considerations include:

- Closure or abandonment of facilities - ASC 410-20 addresses the financial accounting and reporting for obligations associated with the retirement of tangible long-lived assets and the associated asset retirement obligations (AROs). See PPE 3 for information surrounding the accounting for AROs.

- General and administrative costs - Costs incurred in connection with compliance and monitoring compliance with existing environmental regulations (e.g., costs of permits, emissions/effluent monitoring, inspections, legal and consulting fees) should generally be expensed as incurred. ASC 450-20-S99-2 indicates that the SEC staff would expect disclosure of a registrant's accounting policy for such costs.

- Fines and penalties - Federal, state, and local regulatory agencies are empowered to impose fines and penalties on companies not in compliance with environmental regulations. Regulatory agencies often levy heavy fines as a means of forcing compliance. Often when companies reach a settlement with regulators in which they agree to rectify the problem, undertake environmentally related capital expenditures, or modify operating practices to reduce environmental impact, the regulators agree to reduce or abate the fines. Thus, the amount of fines ultimately paid may be substantially less than the amount originally assessed. Monetary fines and penalties meet the definition of a loss contingency and should be accrued and expensed following the guidance of ASC 450. However, determining the amount of the loss can be difficult given the potential for reduction or abatement.

- Third-party lawsuits or litigation - Companies are often subject to legal action in connection with environmental releases, property value diminution, and other issues related to ongoing operations. Losses related to litigation meet the definition of a loss contingency and should be accrued following the guidance of ASC 450.

- Disposal of hazardous waste products - Hazardous waste products produced through ongoing operations can be disposed of in a variety of methods. Provided waste is disposed of in accordance

with relevant regulations, the disposal costs should be expensed as incurred and classified as operating expense. Costs to build on-site disposal facilities may be capitalized in accordance with the guidance in ASC 410-30-25-16 through ASC 410-30-25-19. ASC 410-20 requires that an existing legal obligation associated with the retirement of a tangible long-lived asset (e.g., costs associated with the closure and post-closure costs of landfills and certain hazardous-waste storage facilities) be recognized in the period incurred. See PPE 3 for information surrounding accounting for AROs.

- Accidents during ongoing operations - Accidents may occur during ongoing operations, such as tank or pipeline ruptures, inadvertent emissions, spills, leaks or other contamination, or discovery of other non-compliance with environmental regulations. Clean-up costs related to such incidents should be recognized as discussed in PPE 9.4.

- Acquisition of property and equipment designed to reduce or eliminate environmental effects - Costs to acquire and install such property and equipment should be accounted for in accordance with ASC 410-30-25-16 through ASC 410-30-25-19. See PPE 9.4.5.3 for information surrounding the capitalization of property and equipment associated with environmental obligations.

- Redesign of products and process - Companies may incur costs to redesign products and processes to reduce reliance on hazardous materials, minimize waste, and migrate to more environmentally acceptable products. Such costs should be treated in the same fashion as other redesign or similar costs not specifically associated with environmental concerns.

- Indemnification of environmental risks in connection with a lease (prior to adoption of ASC 842) - ASC 840, *Leases*, addresses certain issues associated with the indemnification of environmental risks in connection with a lease. Under ASC 840-10-25-12, lessee indemnification of the lessor for environmental contamination caused by a lessee during the term of the lease would not affect the classification of the lease by the lessee. Parties to the lease agreement would consider the impact of ASC 460, *Guarantees*, for any lease-related indemnifications. However, indemnifications by a lessee for preexisting environmental contamination could affect the classification of the lease by the lessee, based upon the outcome of the lessee's assessment of the likelihood of loss (pursuant to the indemnification clause) at inception of the lease.

- Indemnification of environmental risks in connection with a lease (after adoption of ASC 842) – Under ASC 842-10-55-15, provisions that require lessee indemnification for environmental contamination, whether caused by the lessee during its use of the underlying asset over the lease term or for preexisting environmental contamination, would not affect the classification of the lease. However, parties to the lease agreement would consider the impact of ASC 460, *Guarantees*, for any lease-related indemnifications.

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